ADVANCED NURSING CONCEPTS- I

NAME: **CASTE:**
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For Post RN-B.Sc: (N) First Semester Nursing Students
(Syllabus as per according to the PNC Curriculum)

Written & Composed by:
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Course Syllabus
Title : Advance Concepts in Nursing -1
Time : 6 Credits (3 theory & 3 Clinical)
Placement : Year I, semester I

Course Description
This course focuses on development of advance knowledge and skills in nursing assessment and diagnosis, based upon psychosocial, cultural and spiritual concepts and theories. Also this course is planned to develop an understanding of comprehensive nursing care of an individual, focusing on physical, social, emotional and spiritual needs.

Course objectives
By the end of this course the students will be able to;
1. Utilize Gordon's Functional Health Patterns [FHP] as a tool for assessment of clients and families.
2. Use effective communication skills while interacting with clients, families and other health team members.
3. Perform physical examination of client as a part of nursing assessment.
4. Determine nursing diagnosis based on analysis of assessed data.
5. Use the nursing process while caring of assigned individuals and families.
6. Apply psychosocial, cultural and spiritual concepts in the process of care of assigned individuals and families.
7. Demonstrate professional responsibility and accountability in clinical practice.

Teaching / Learning Strategies
Lecture, tutorial, clinical and self study

Course expectations
1. Self study on assigned readings and active participation in class.
2. Presence in weekly clinical practice.
3. Written nursing care plans in clinical area.
4. Completion of assignments and exams on due dates.

Evaluation criteria
Assignment 20%
Mid Term 30%
Final 50%
As prescribed by the Khyber Medical University, Peshawar.
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Clinical Objectives

One each clinical day the students are expected to;

1. Assess the patient and family using the FHP learnt in the previous classes.
2. Integrate physical examination skills of the previous systems learnt in health assessment classes.
3. Formulate the nursing diagnosis list of patient, based on the assessment and discuss the working NCP.
4. Demonstrate therapeutic interviewing skills.
5. Document evidence of meeting clinical objectives.
6. Perform patient teaching as appropriate.
7. Demonstrate safe and caring clinical practice.

References

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Unit –I
Nursing Process Diagnoses

Nursing diagnosis is a diagnosis may be part of the nursing process and is a clinical judgment about individual, family, or community experiences/responses to actual or potential health problems/life processes. Nursing diagnoses are developed based on data obtained during the nursing assessment.

An actual nursing diagnosis presents a problem response present at time of assessment.

NANDA International:

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The primary organization for defining, dissemination and integration of standardized nursing diagnoses worldwide is NANDA-International formerly known as the North American Nursing Diagnosis Association. For nearly 40 years NANDA-I has worked in this area to ensure that diagnoses are developed through a peer-reviewed process requiring standardized levels of evidence, standardized definitions, defining characteristics, related factors and/or risk factors that enable nurses to identify potential diagnoses in the course of a nursing assessment. NANDA-I believes that it is critical that nurses are required to utilize standardized languages that provide not just terms (diagnoses) but the embedded knowledge from clinical practice and research that provides diagnostic criteria (definitions, defining characteristics) and the related or etiologic factors upon which nurses intervene. NANDA-I terms are developed and refined for actual (current) health responses and for risk situations, as well as providing diagnoses to support health promotion. Diagnoses are applicable to individuals, families, groups and communities. Contributing diagnostic associations include AENTDE (Spain), AFEDI (French language), and JSND (Japan). NANDA-I also has SOME regional networks including Brasil, Peru, Honduras, Nigeria-Ghana and a German-language group. The taxonomy is published in multiple countries and has been translated into 18 languages; it is in use worldwide. The terminology is an American Nurses' Association-recognized terminology, is included in the UMLS, is HL7 registered, ISO-compatible and available within SNOMED CT with appropriate licensure.

Nursing diagnoses are a critical part of ensuring that the knowledge and contribution of nursing practice to patient outcomes are found within the electronic health record and can be linked to nurse-sensitive patient outcomes.

ICNP (International Classification for Nursing Practice) Global

The ICNP (International Classification for Nursing Practice) published by the International Council of Nurses has been accepted by the WHO (World Health organization) family of classifications. ICNP is a nursing language which can be used by nurses to diagnose.

Structure

The NANDA-I system of nursing diagnosis provides for four categories:

1. Actual diagnosis:

A clinical judgment about human experience/responses to health conditions/life processes that exist in an individual, family, or community". An example of an actual nursing diagnosis is: Sleep deprivation.

2. Risk diagnosis:

Describes human responses to health conditions/life processes that may develop in a vulnerable individual/family/community. It is supported by risk factors that contribute to increased vulnerability. An example of a risk diagnosis is: Risk for shock.

3. Health promotion diagnosis:

A clinical judgment about a person's, family's or community's motivation and desire to increase wellbeing and actualize human health potential as expressed in the readiness to enhance specific health behaviors, and can be used in any health state. An example of a health promotion diagnosis is: Readiness for enhanced nutrition'.'

4. Syndrome diagnosis:

A clinical judgment describing a specific cluster of nursing diagnoses that occur together, and are best addressed together and through similar interventions." An example of a syndrome diagnosis is: Relocation stress syndrome.

Process:

1. Conduct a nursing assessment:

collection of subjective and objective data relevant to the care recipient's (person, family, group, community) human responses to actual or potential health problems / life processes.

2. Cluster and interpret cues/patterns:

Assessment data must be clustered and interpreted before the nurse can plan, implement or evaluate a plan to support patient care

3. Generate Hypotheses:

possible alternatives that could represent the observed cues/patterns.

4. Validation & Prioritization of Nursing Diagnoses:

taking necessary steps to rule out other hypotheses, to confirm with the patient(s) the validity of the hypotheses, and to prioritize the list of diagnoses. A focused assessment may be needed to obtain data for one or more diagnoses

5. Planning:

Determining appropriate (realistic) patient outcomes and interventions most likely to support attainment of those outcomes through evidence-based practice

6. Implementation:

Putting the plan of care (nursing diagnoses - outcomes - interventions) into place, preferably in collaboration with the care recipient(s)

7. Evaluation:

Movement toward identified outcomes is continually evaluated, with changes made to interventions as necessary. When no positive movement is occurring, reassessment to reevaluate appropriateness of diagnoses and/or achievability of outcomes must occur.

Nursing process

The nursing process is a modified scientific method. Nursing practice was first described as a four stage nursing process by Ida Jean Orlando in 1958. It should not be confused with nursing theories or Health informatics. The diagnosis phase was added later.

The nursing process uses clinical judgment to strike a balance of epistemology between personal interpretation and research evidence in which critical thinking may play a part to categorize the clients issue and course of action. Nursing offers diverse patterns of knowing. Nursing knowledge has embraced pluralism since the 1970s.

Some authors refer to a mind map or adductive reasoning as a potential alternative strategy for organizing care. Intuition plays a part for experienced nurses.

Characteristics of NCP

The nursing process is a cyclical and ongoing process that can end at any stage if the problem is solved. The nursing process exists for every problem that the individual/family/community has. The nursing process not only focuses on ways to improve physical needs, but also on social and emotional needs as well.

- Cyclic and dynamic
- Goal directed and client centered
- Interpersonal and collaborative
- Universally applicable
- Systematic

The entire process is recorded or documented in order to inform all members of the health care team

Component/Phases of nursing process

The nursing process is goal-oriented method of caring that provides a framework to nursing care. It involves six major steps:

A Assess (what data is collected?)
D Diagnose (what is the problem?)
O Outcome Identification - (Was originally a part of the Planning phase, but has recently been added as a new step in the complete process).
P Plan (how to manage the problem)
I Implement (putting plan into action)
R Rationale (Scientific reason of the implementations)
E Evaluate (did the plan work?)

According to some theorists, this six-steps description of the nursing process is outdated and misrepresents nursing as linear and atomic.

Assessing phase

The nurse completes an holistic nursing assessment of the needs of the individual/family/community, regardless of the reason for the encounter. The nurse collects subjective data and objective data using a nursing framework, such as Marjory Gordon's functional health patterns.

Models for data collection

Nursing assessments provide the starting point for determining nursing diagnoses. It is vital that a recognized nursing assessment framework is used in practice to identify the patient's problems, risks and outcomes for enhancing health. The use of an evidence-based nursing framework such as Gordon's Functional Health Pattern Assessment should guide assessments that support nurses in determination of NANDA-I nursing diagnoses. For accurate determination of nursing diagnoses, a useful, evidence-based assessment framework is best practice.

Methods

- Client Interview
- Physical Examination
- Obtaining a health history (including dietary data)
- Family history/report
- Diagnostic Data
- Observation

Diagnosing phase

Nursing diagnoses represent the nurse's clinical judgment about actual or potential health problems/life process occurring with the individual, family, group or community. The accuracy of the nursing diagnosis is validated when a nurse is able to clearly identify and link to the defining characteristics, related factors and/or risk factors found within the patients assessment. Multiple nursing diagnoses may be made for one client.

Planning phase

In agreement with the client, the nurse addresses each of the problems identified in the diagnosing phase. When there are multiple nursing diagnoses to be addressed, the nurse prioritizes which diagnoses will receive the most attention first according to their severity and potential for causing more serious harm. For each problem a measurable goal/outcome is set. For each goal/outcome, the nurse selects nursing interventions that will help achieve the goal/outcome. A common method of formulating the expected outcomes is to use the evidence-based Nursing Outcomes Classification to allow for the use of standardized language which improves consistency of terminology, definition and outcome measures. The interventions used in the Nursing Interventions Classification again allow for the use of standardized language which improves consistency of terminology, definition and ability to identify nursing activities, which can also be linked to nursing workload and staffing indices. The result of this phase is a nursing care plan.

Implementing phase

The nurse implements the nursing care plan, performing the determined interventions that were selected to help meet the goals/outcomes that were established. Delegated tasks and the monitoring of them is included here as well.

Evaluating phase

The nurse evaluates the progress toward the goals/outcomes identified in the previous phases. If progress towards the goal is slow, or if regression has occurred, the nurse must change

the plan of care accordingly. Conversely, if the goal has been achieved then the care can cease. New problems may be identified at this stage, and thus the process will start all over again.

Benefit of nursing process

The nursing process is a cyclical and ongoing process that can end at any stage if the problem is solved. The nursing process exists for every problem that the individual/family/community has. The nursing process not only focuses on ways to improve physical needs, but also on social and emotional needs as well.

- Cyclic and dynamic
- Goal directed and client centered
- Interpersonal and collaborative
- Universally applicable
- Systematic
- Its focus is holistic, and is based on the clinical judgment of the nurse, using assessment data collected from a nursing framework.
- It is based upon identifiable nursing diagnoses (actual, risk or health promotion) - clinical judgments about individual, family, or community experiences/responses to actual or potential health problems/life processes.
- It focuses on client-specific nursing outcomes that are realistic for the care recipient
- It includes nursing interventions which are focused on the etiologic or risk factors of the identified nursing diagnoses.
- It is a product of a deliberate systematic process.
- It relates to the future

The entire process is recorded or documented in order to inform all members of the health care team

Purposes of NCP

The Purpose of the Written Care Plan as:

- Care plans provide direction for individualized care of the client. A care plan flows from each patient's unique list of diagnoses and should be organized by the individual's specific needs.
- Continuity of care. The care plan is a means of communicating and organizing the actions of a constantly changing nursing staff. As the patient's needs are attended to, the updated plan is passed on to the nursing staff at shift change and during nursing rounds.
- Care plans help teach documentation. The care plan should specifically outline which observations to make, what nursing actions to carry out, and what instructions the client or family members require.
- They serve as a guide for assigning staff to care for the client. There may be aspects of the patient's care that need to be assigned to team members with specific skills.
- Care plans serve as a guide for reimbursement. Medicare and Medicaid originally set the plan in action, and other third-party insurers followed suit. The medical record is used by

the insurance companies to determine what they will pay in relation to the hospital care received by the client. If nursing care is not documented precisely in the care plan, there is no proof the care was provided. Insurers will not pay for what is not documented.

The purpose of students creating care plans is to assist them in pulling information from many different scientific disciplines as they learn to think critically and use the nursing process to problem solve. As a nursing student writes more plans, the skills for thinking and processing information like a professional nurse become more effectively ingrained in their practice.

Discuss the format of nursing care plan

The exact format for a nursing care plan varies slightly from place to place. They are generally organized by four categories: nursing diagnoses or problem list; goals and outcome criteria; nursing orders; and evaluation.

As defined by the the North American Nursing Diagnosis Organization-International (NANDA-I), nursing diagnoses are clinical judgments about actual or potential individual, family or community experiences or responses to health problems or life processes. A nursing diagnosis is used to define the right plan of care for the client and drives interventions and patient outcomes.

Nursing diagnoses also provide a standard nomenclature for use in the Electronic Medical Record (EMR), allowing for clear communication among care team members and the collection of data for continuous improvement in patient care.

Nursing diagnoses differ from medical diagnoses. A medical diagnosis — which refers to a disease process — is made by a physician and will be a condition that only a doctor can treat. In contrast, a nursing diagnosis describes a client's physical, sociocultural, psychologic and spiritual response to an illness or potential health problem. For as long as a disease is present, the medical diagnosis never changes, but a nursing diagnosis evolves as the client's responses change.

The goal as established in a nursing care plan — in terms of observable client responses — is what the nurse hopes to achieve by implementing nursing orders. It is a desired outcome or change in the client's condition. The terms goal and outcome are often used interchangeably, but in some nursing literature, a goal is thought of as a more general statement while the outcome is more specific. For example, a goal might be that a patient's nutritional status will improve overall, while the outcome would be that the patient will gain five pounds by a certain date.

Nursing orders are instructions for the specific activities that will perform to help the patient achieve the health care goal. How detailed the order is depends on the health personnel who will carry out the order. Nursing orders will all contain:

- The date
- An action verb like "monitor," "instruct," "palpate," or something equally descriptive
- A content area that is the where and the what of the order, for example, placing a "spiral bandage on the left leg from ankle to just below the knee"
- A time element will define how long or how often the nursing action will occur
- The signature of the prescribing nurse, since orders are legal documents.

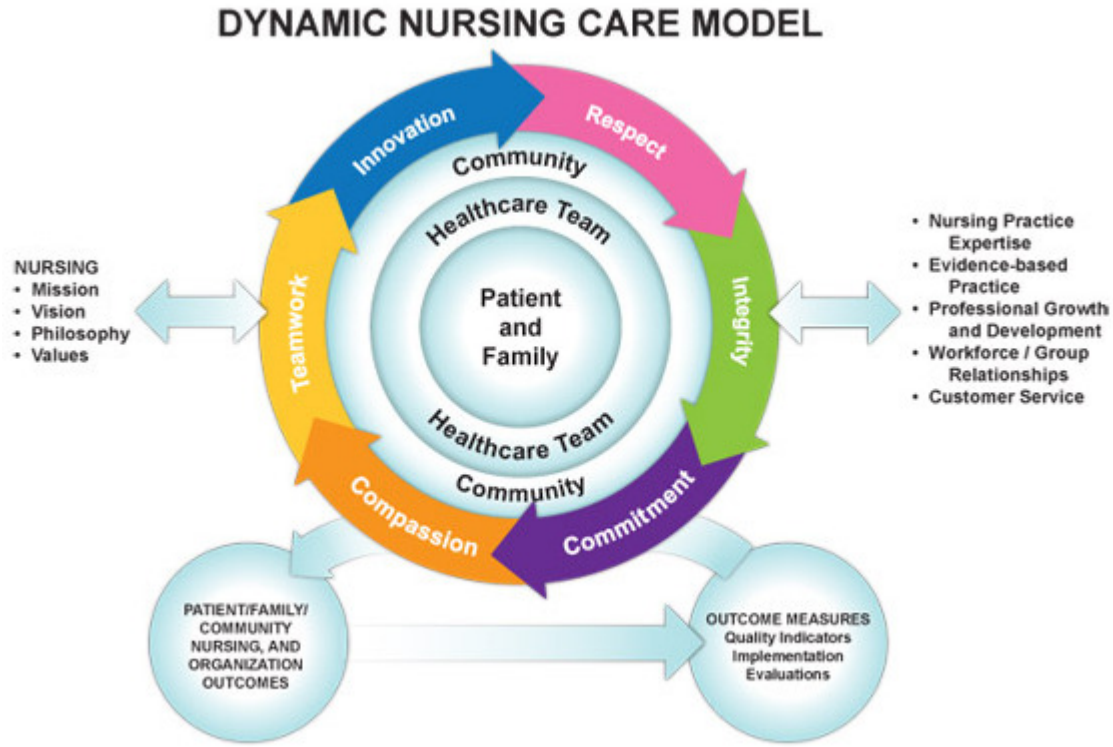
Finally, in the evaluation, the client's health care professionals will determine the progress towards the goal achievement and the effectiveness of the nursing care plan. The

evaluation is extremely important because it determines if the nursing interventions should be terminated, continued or changed.

To help students learn and apply their knowledge, educators often add one more category to care plans. The rationale is the scientific reason for selecting a specific nursing action. Students may be required to cite supporting literature for their plan and rationale.

Care plans teach nursing students how to think critically, how to care for patients on a more personal level, not as a disease or diagnosis. They help teach how to prioritize care and interventions. They are a necessary evil of nursing school, tried and true for teaching future nurses not to care, but how to provide care that will improve the client's health status.

Format of nursing diagnosis Process



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NURSING CARE PLAN (NCP)

Subject: Advanced Nursing Concepts

Name : **Age :** **Sex :** **Occupation :**

Date :

Medical diagnosis :

ASSESSMENT	NURSING DIAGNOSIS	EXPECTED OUTCOMES	IMPLEMENTATION	SCIENTIFIC RATIONALE	EVALUATION
Subjective Data:	.	**S.T.G:**			**S.T.E:**
Objective Data:					
		L.T.G:			**L.T.E:**
Vital Signs:					
Lab: Reports:					

Student Name :

Discipline: **Session: Sept:**

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Unit –II
Theoretical Frame Works

A theoretical framework is a collection of interrelated concepts, like a theory but not necessarily so well worked-out. A theoretical framework guides your research, determining what things you will measure, and what statistical relationships you will look for.

or

A theoretical framework refers to how the researcher or writer of the report not only questions, but ponders and develops thoughts or theories on what the possible answers could be, then this thoughts and theories are grouped together into themes that frame the subject. It is the process of identifying a core set of connectors within a topic and showing how they fit together

Theoretical frameworks are obviously critical in deductive, theory-testing sorts of studies. Surprisingly, theoretical frameworks are also important in exploratory studies, where you really don't know much about what is going on, and are trying to learn more. There are two reasons why theoretical frameworks are important here. First, no matter how little you think you know about a topic, and how unbiased you think you are, it is impossible for a human being not to have preconceived notions, even if they are of a very general nature. For example, some people fundamentally believe that people are basically lazy and untrustworthy, and you have keep your wits about you to avoid being conned. These fundamental beliefs about human nature affect how you look things when doing personnel research. In this sense, you are always being guided by a theoretical framework, but you don't know it. Not knowing what your real framework is can be a problem. The framework tends to guide what you notice in an organization, and what you don't notice. In other words, you don't even notice things that don't fit your framework! We can never completely get around this problem, but we can reduce the problem considerably by simply making our implicit framework explicit. Once it is explicit, we can deliberately consider other frameworks, and try to see the organizational situation through different lenses.

Theory

Theory is a contemplative and rational type of abstract or generalizing thinking, or the results of such thinking. Depending on the context, the results might for example include generalized explanations of how nature works. The word has its roots in ancient Greek, but in modern use it has taken on several different related meanings. A theory is not the same as a hypothesis. A theory provides an explanatory framework for some observation, and from the assumptions of the explanation follows a number of possible hypotheses that can be tested in order to provide support for, or challenge, the theory.

One modern group of meanings emphasizes the interpretative, abstracting, and generalizing nature of theory. For example in the arts and philosophy, the term "theoretical" may be used to describe ideas and empirical phenomena which are not easily measurable. Theory abstracts. It draws away from the particular and empirical. By extension of the philosophical meaning, "theoria" is a word still used in theological contexts to mean viewing through contemplation —

speculating about meanings that transcend measurement. However, by contrast to theoria, theory is based on the act of viewing analytically and generalizing contextually. It is thus based upon a process of abstraction. That is, theory involves stepping back, or abstracting, from that which one is viewing.

A theory can be "normative (or prescriptive), meaning a postulation about what ought to be. It provides "goals, norms, and standards". A theory can be a body of knowledge, which may or may not be associated with particular explanatory models. To theorize is to develop this body of knowledge.

As already in Aristotle's definitions, theory is very often contrasted to "practice" (from Greek praxis, πρ□ξις) a Greek term for "doing", which is opposed to theory because pure theory involves no doing apart from itself. A classical example of the distinction between "theoretical" and "practical" uses the discipline of medicine: medical theory involves trying to understand the causes and nature of health and sickness, while the practical side of medicine is trying to make people healthy. These two things are related but can be independent, because it is possible to research health and sickness without curing specific patients, and it is possible to cure a patient without knowing how the cure worked.

In modern science, the term "theory" refers to scientific theories, a well-confirmed type of explanation of nature, made in a way consistent with scientific method, and fulfilling the criteria required by modern science. Such theories are described in such a way that any scientist in the field is in a position to understand and either provide empirical support ("verify") or empirically contradict ("falsify") it. Scientific theories are the most reliable, rigorous, and comprehensive form of scientific knowledge, in contrast to more common uses of the word "theory" that imply that something is unproven or speculative (which is better defined by the word 'hypothesis'). Scientific theories are distinguished from hypotheses, which are individual empirically testable conjectures, and scientific laws, which are descriptive accounts of how nature will behave under certain conditions.

Concept

Concepts as mental representations, where concepts are entities that exist in the brain. Concepts as abilities, where concepts are abilities peculiar to cognitive agents. Concepts as abstract objects, where objects are the constituents of propositions that mediate between thought, language, and referents.

Model theoretical frame work.

Development of nursing theories

Introduction

- Theories are a set of interrelated concepts that give a systematic view of a phenomenon (an observable fact or event) that is explanatory & predictive in nature.
- Theories are composed of concepts, definitions, models, propositions & are based on assumptions.

- Theory gives planners tools for moving beyond intuition to design and evaluate health behavior and health promotion interventions based on understanding of behavior.[Robert T. Croyle (2005)].
- They are derived through two principal methods; deductive reasoning and inductive reasoning. Nursing theorists use both of these methods.
- Theory is "a creative and rigorous structuring of ideas that projects a tentative, purposeful, and systematic view of phenomena".
- A theory makes it possible to "organize the relationship among the concepts to describe, explain, predict, and control practice"

Definition

- Concepts -

Concepts are basically vehicles of thought that involve images. Concepts are words that describe objects, properties, or events & are basic components of theory.

- Types:
  1. Empirical concepts
  2. Inferential concepts
  3. Abstract concepts
- Models are representations of the interaction among and between the concepts showing patterns.
  - The terms 'model' and 'theory' are often wrongly used interchangeably, which further confounds matters.
  - In nursing, models are often designed by theory authors to depict the beliefs in their theory (Lancaster and Lancaster 1981).
  - They provide an overview of the thinking behind the theory and may demonstrate how theory can be introduced into practice, for example, through specific methods of assessment.
  - Models are useful as they allow the concepts in nursing theory to be successfully applied to nursing practice (Lancaster and Lancaster 1981). Their main limitation is that they are only as accurate or useful as the underlying theory.

- Propositions

Propositions are statements that explain the relationship between the concepts.

- Process

It is a series of actions, changes or functions intended to bring about a desired result. During a process one takes systemic & continuous steps to meet a goal & uses both assessments & feedback to direct actions to the goal.

- A conceptual framework -

Conceptual framework directs how these actions are carried out. The delivery of nursing care within the nursing process is directed by the way specific conceptual frameworks & theories define the person (patient), the environment, health & nursing.

Importance of nursing theories

- Nursing theory aims to describe, predict and explain the phenomenon of nursing (Chinn and Jacobs1978).
- It should provide the foundations of nursing practice, help to generate further knowledge and indicate in which direction nursing should develop in the future (Brown 1964).
- Theory is important because it helps us to decide what we know and what we need to know (Parsons1949).
- It helps to distinguish what should form the basis of practice by explicitly describing nursing.
- The benefits of having a defined body of theory in nursing include better patient care, enhanced professional status for nurses, improved communication between nurses, and guidance for research and education (Nolan 1996).
- The main exponent of nursing – caring – cannot be measured, it is vital to have the theory to analyze and explain what nurses do.
- As medicine tries to make a move towards adopting a more multidisciplinary approach to health care, nursing continues to strive to establish a unique body of knowledge.
- This can be seen as an attempt by the nursing profession to maintain its professional boundaries.

The characteristics of theories

Theories are:

- interrelating concepts in such a way as to create a different way of looking at a particular phenomenon.
- logical in nature.
- generalizable.
- bases for hypotheses that can be tested.
- increasing the general body of knowledge within the discipline through the research implemented to validate them.
- used by the practitioners to guide and improve their practice.
- consistent with other validated theories, laws, and principles but will leave open unanswered questions that need to be investigated.

Basic processes in the development of nursing theories

Nursing theories are often based on & influenced by broadly applicable processes & theories. Following theories are basic to many nursing concepts.

General System Theory

It describes how to break whole things into parts & then to learn how the parts work together in "systems". These concepts may be applied to different kinds of systems, e.g. Molecules in chemistry, cultures in sociology, and organs in Anatomy & Health in Nursing.

Adaptation Theory

It defines adaptation as the adjustment of living matter to other living things & to environmental conditions.

Adaptation is a continuously occurring process that effects change & involves interaction & response.

Human adaptation occurs on three levels :
1. The internal (self)
2. The social (others) &
3. The physical (biochemical reactions)

Developmental Theory
It outlines the process of growth & development of humans as orderly & predictable, beginning with conception & ending with death.
The progress & behaviors of an individual within each stage are unique.
The growth & development of an individual are influenced by heredity, temperament, emotional, & physical environment, life experiences & health status.

Common concepts in nursing theories
Four concepts common in nursing theory that influence & determine nursing practice are:
1. The person (patient).
2. The environment
3. Health
4. Nursing (goals, roles, functions)

Each of these concepts is usually defined & described by a nursing theorist, often uniquely; although these concepts are common to all nursing theories. Of the four concepts, the most important is that of the person. The focus of nursing, regardless of definition or theory, is the person.

Historical perspectives and key concepts
1. Nightingale (1860): To facilitate "the body's reparative processes" by manipulating client's environment
2. Peplau 1952: Nursing is; therapeutic interpersonal process.
3. Henderson 1955: The needs often called Henderson's 14 basic needs

4. Abdellah 1960: The nursing theory developed by Faye Abdellah et al (1960) emphasizes delivering nursing care for the whole person to meet the physical, emotional, intellectual, social, and spiritual needs of the client and family.
5. Orlando 1962: To Ida Orlando (1960), the client is an individual; with a need; that, when met, diminishes distress, increases adequacy, or enhances well-being.
6. Johnson's Theory 1968: Dorothy Johnson's theory of nursing 1968 focuses on how the client adapts to illness and how actual or potential stress can affect the ability to adapt. The goal of nursing to reduce stress so that; the client can move more easily through recovery.
7. Rogers 1970: to maintain and promote health, prevent illness, and care for and rehabilitate ill and disabled client through "humanistic science of nursing"
8. Orem1971: This is self-care deficit theory. Nursing care becomes necessary when client is unable to fulfill biological, psychological, developmental, or social needs.

9. King 1971: To use communication to help client reestablish positive adaptation to environment.
10. Neuman 1972: Stress reduction is goal of system model of nursing practice.
11. Roy 1979: This adaptation model is based on the physiological, psychological, sociological and dependence-independence adaptive modes.
12. Watson's Theory 1979: Watson's philosophy of caring 1979 attempts to define the outcome of nursing activity in regard to the; humanistic aspects of life.

Classification of nursing theories

A. Depending On Function (Polit et al 2001)

1. Descriptive-to identify the properties and workings of a discipline
2. Explanatory-to examine how properties relate and thus affect the discipline
3. Predictive-to calculate relationships between properties and how they occur
4. Prescriptive -to identify under which conditions relationships occur

B. Depending on the Generalisability of their principles

1. Metatheory: the theory of theory. Identifies specific phenomena through abstract concepts.
2. Grand theory: provides a conceptual framework under which the key concepts and

C. Principles of the discipline can be identified.

1. Middle range theory: is more precise and only analyses a particular situation with a limited number of variables.
2. Practice theory: explores one particular situation found in nursing. It identifies explicit goals and details how these goals will be achieved.

D. Based on the philosophical underpinnings of the theories

1. Needs theories.
2. Interaction theories.
3. Outcome theories.
4. Humanistic theories.

1. Needs theories

These theories are based around helping individuals to fulfill their physical and mental needs. Needs theories have been criticized for relying too much on the medical model of health and placing the patient in an overtly dependent position.

2. Interaction theories

- As described by Peplau (1988), these theories revolve around the relationships nurses form with patients.
- Such theories have been criticized for largely ignoring the medical model of health and not attending to basic physical needs.

3. Outcome theories

- Outcome theories portray the nurse as the changing force, who enables individuals to adapt to or cope with ill health.
- Outcome theories have been criticized as too abstract and difficult to implement in practice.

4. Humanistic Theories

- Humanistic theories developed in response to the psychoanalytic thought that a person's destiny was determined early in life.
- Humanistic theories emphasize a person's capacity for self-actualization.
- Humanists believe that the person contains within himself the potential for healthy & creative growth.
- Carl Rogers developed a person –centered model of psychotherapy that emphasizes the uniqueness of the individual.
- The major contribution that Rogers added to nursing practice is the understandings that each client is a unique individual, so, person-centered approach now practice in nursing.

Conclusion

- Theory and practice are related.
- A theory presents a systematic way of understanding events or situations.
- It is a set of concepts, definitions, and propositions that explain or predict these events or situations by illustrating the relationships between variables.
- Theories must be applicable to a broad variety of situations. They are, by nature, abstract, and don't have a specified content or topic area. Like empty coffee cups, theories have shapes and boundaries, but nothing inside. They become useful when filled with practical topics, goals, and problems. [Robert T. Croyle (2005)]

Conceptual approach

Conceptual approaches to learning may fit the different ways students can function in various settings. These approaches include:

- Learning through experience
- Learning through abstract conceptualization by developing strategies and theories
- Learning through active experimentation
- Learning through reflective observation

These approaches can be synthesized into four types of learner:

- Converges: rely on deduction to solve problems
- Diverges: use creative problem solving and view a problem from many perspectives before acting
- Assimilators: employ an inductive approach with schemes and algorithms to organize problem solving
- Hands-on: want to obtain experience as a way of learning

For diagnostic success with typical problem scenarios in the learning process, students who employ the assimilator strategy, using a scheme-inductive reasoning process or pattern recognition, do best at arriving at the correct diagnosis. In practice, not everyone functions the

same, and not all clinical scenarios are equivalent. For example, a "hands-on" approach to learning how to stabilize patients in shock may be the best approach in the emergency room. Creative problem solving may be necessary in research settings**.**

Nursing concepts: Caring in the human health experience

Processes	**Approaches**	**Role Functions**	**Professional Responsibilities**
Leadership	Empowerment		Peer support
Change process	Reconciliation		Career development
Nursing process	Partnership	Practitioner	Economic
Decision making	Presence	Consultant	Organizational
Research process	Grace	Researcher	Legal
Teaching and learning	Justice	Teacher	Political
Collaboration	Service	Manager	Ethical
Physical care	Agape love		Quality review
Interpersonal relationships	Advocacy		

Hope

Allegory of hope; Oil on canvas, Francesco Guardi, 1747, Hope is an optimistic attitude of mind based on an expectation of positive outcomes related to events and circumstances in one's life or the world at large. As a verb, its definitions include: "expect with confidence" and "to cherish a desire with anticipation".

Among its opposites are dejection, hopelessness and despair

Dr. Barbara L. Fredrickson argues that hope comes into its own when crisis looms, opening us to new creative possibilities. Frederickson argues that with great need comes an unusually wide range of ideas, as well as such positive emotions as happiness and joy, courage, and empowerment, drawn from four different areas of one's self: from a cognitive, psychological, social, or physical perspective.

Robert Mattox, social activist and futurist, has proposed a social-change theory based on the hope phenomenon in relation to leadership. Larry Stout postulates that certain conditions must exist before even the most talented leaders can lead change. Given such conditions, Mattox proposes a change management theory around hope, suggesting that a leader can lead change and shape culture within his community or organization by creating a "hopescape" and harnessing the hope system.

Hopelessness

Helplessness is a mental state in which an organism forced to endure aversive stimuli, or stimuli that are painful or otherwise unpleasant, becomes unable or unwilling to avoid subsequent encounters with those stimuli, even if they are escapable, presumably because it has learned that it cannot control the situation. Learned helplessness theory is the view that clinical depression and related mental illnesses may result from a perceived absence of control over the outcome of a situation. Organisms that have been ineffective and less sensitive in determining the consequences of their behaviour are defined as having acquired learned helplessness.

Hopelessness theory refers to the view that depression-prone individuals make internal, stable, and global Attributions to explain the causes of negative events, and external, unstabl e, and specific attributions about positive events. This attributional style results in the individual taking personal blame for negative events in his or her life and leads to helplessness, avoidance, and hopelessness about the future, which promotes further depression.

Anxiety

Anxiety is an unpleasant state of inner turmoil, often accompanied by nervous behavior, such as pacing back and forth, somatic complaints and rumination. It is the subjectively unpleasant feelings of dread over something unlikely[citation needed] to happen, such as the feeling of imminent death. Anxiety is not the same as fear, which is a response to a real or perceived immediate threat; whereas anxiety is the expectation of future threat. Anxiety is a feeling of fear, worry, and uneasiness, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing.[5] It is often accompanied by muscular tension, restlessness, fatigue, and problems in concentration. Anxiety can be appropriate, but when it is too much and continues too long, the individual may suffer from an anxiety disorder.

Aging

Ageing (British English) or aging (American English) is the accumulation of changes in a person over time. Ageing in humans refers to a multidimensional process of physical, psychological, and social change. Some dimensions of ageing grow and expand over time, while others decline. Reaction time, for example, may slow with age, while knowledge of world events and wisdom may expand. Research shows that even late in life, potential exists for physical, mental, and social growth and development. Ageing is an important part of all human societies reflecting the biological changes that occur, but also reflecting cultural and societal conventions. Ageing is among the largest known risk factors for most human diseases.[3] Roughly 100,000 people worldwide die each day of age-related causes.

Age is measured chronologically, and a person's birthday is often an important event. However the term "ageing" is somewhat ambiguous. Distinctions may be made between "universal ageing" (age changes that all people share) and "probabilistic ageing" (age changes that may happen to some, but not all people as they grow older including diseases such as type two diabetes). Chronological ageing may also be distinguished from "social ageing" (cultural age-expectations of how people should act as they grow older) and "biological ageing" (an organism's physical state as it ages). There is also a distinction between "proximal ageing" (age-based effects that come about because of factors in the recent past) and "distal ageing" (age-based differences that can be traced back to a cause early in person's life, such as childhood poliomyelitis).[6] Chronological age does not correlate perfectly with functional age, i.e. two

people may be of the same age, but differ in their mental and physical capacities. Each nation, government and non-government organisation has different ways of classifying age.

Lose-Grieving

Loss is an inevitable part of life, and grief is a natural part of the healing process. The reasons for grief are many, such as the loss of a loved one, the loss of health, or the letting go of a long-held dream. Dealing with a significant loss can be one of the most difficult times in a person's life.

Different Kinds of Loss

Feelings of loss are very personal, and only you know what is significant to you. People commonly associate certain losses with strong feelings of grief. These can include:

- Loss of a close friend
- Death of a partner
- Death of a classmate or colleague
- Serious illness of a loved one
- Relationship breakup
- Death of a family member

Subtle or less obvious losses can also cause strong feelings of grief, even though those around you may not know the extent of your feelings. Some examples include:

- Leaving home
- Illness/loss of health
- Death of a pet
- Change of job
- Move to a new home
- Graduation from school
- Loss of a physical ability
- Loss of financial security

Coping with Grief

Each one of us has an individual style of coping with painful experiences. The list below may help you generate ideas about how to manage your feelings of grief.

- Talk to family or friends
- Seek counseling
- Read poetry or books
- Engage in social activities
- Exercise
- Eat healthy, good foods
- Seek spiritual support
- Take time to relax
- Join a support group
- Listen to music
- Be patient with yourself
- Let yourself feel grief

Caring
Feeling and exhibiting concern and empathy for others

Spirituality

Traditionally spirituality has been defined as a process of personal transformation in accordance with religious ideals. Since the 19th century spirituality is often separated from religion, and has become more oriented on subjective experience and psychological growth. It may refer to almost any kind of meaningful activity or blissful experience, but without a single, widely-agreed definition.
There is no single, widely-agreed definition of spirituality.
According to Waaijman, the traditional meaning of spirituality is a process of re-formation which "aims to recover the original shape of man, the image of God. To accomplish this, the re-formation is oriented at a mold, which represents the original shape: in Judaism the Torah, in Christianity Christ, in Buddhism Buddha, in the Islam Muhammad."

In modern times the emphasis is on subjective experience. It may denote almost any kind of meaningful activity or blissful experience. It still denotes a process of transformation, but in a context separate from organized religious institutions, termed "spiritual but not religious". Houtman and Aupers suggest that modern spirituality is a blend of humanistic psychology, mystical and esoteric traditions and eastern religions.

Waaijman points out that "spirituality" is only one term of a range of words which denote the praxis of spirituality. Some other terms are "Hasidism, contemplation, kabbala, asceticism, mysticism, perfection, devotion and piety

Powerlessness

Powerlessness is defined as lacking the authority or capacity to act

Loneliness

Loneliness is a complex and usually unpleasant emotional response to isolation or lack of companionship. Loneliness typically includes anxious feelings about a lack of connectedness or communality with other beings, both in the present and extending into the future. As such, loneliness can be felt even when surrounded by other people. The causes of loneliness are varied and include social, mental or emotional factors.

Research has shown that loneliness is widely prevalent throughout society among people in marriages, relationships, families and successful careers. It has been a long explored theme in the literature of human beings since classical antiquity. Loneliness has also been described as social pain — a psychological mechanism meant to alert an individual of isolation and motivate him/her to seek social connections

Health
Health is the level of functional or metabolic efficiency of a living organism. In humans, it is the general condition of a person's mind and body, usually meaning to be free from illness, injury or pain (as in "good health" or "healthy"). The World Health Organization (WHO) defined health in its broader sense in 1946 as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Although this definition has been subject to

controversy, in particular as lacking operational value and because of the problem created by use of the word "complete," it remains the most enduring. Other definitions have been proposed, among which a recent definition that correlates health and personal satisfaction. Classification systems such as the WHO Family of International Classifications, including the International Classification of Functioning, Disability and Health (ICF) and the International Classification of Diseases (ICD), are commonly used to define and measure the components of health.

Systematic activities to prevent or cure health problems and promote good health in humans are undertaken by health care providers. Applications with regard to animal health are covered by the veterinary sciences. The term "healthy" is also widely used in the context of many types of non-living organizations and their impacts for the benefit of humans, such as in the sense of healthy communities, healthy cities or healthy environments. In addition to health care interventions and a person's surroundings, a number of other factors are known to influence the health status of individuals, including their background, lifestyle, and economic, social conditions, and spirituality; these are referred to as "determinants of health." Studies have shown that high levels of stress can affect your health

Unit –III
Functional Health Patterns

Gordon's functional health patterns is a method devised by Marjory Gordon to be used by nurses in the nursing process to provide a more comprehensive nursing assessment of the patient.

Gordon’s Functional Health Patterns is a method develops By Marjorie Gordon in 1987 proposed functional health patterns as a guide for establishing a comprehensive nursing data base. By using these categories it’s possible to create a systematic and standardized approach to data collection, and enable the nurse to determine the following aspects of health and human function:

11 Gordon’s Functional Health Patterns

1. Health Perception Health Management Pattern
2. Nutritional Metabolic Pattern
3. Elimination Pattern
4. Activity Exercise Pattern
5. Sleep Rest Pattern
6. Cognitive-Perceptual Pattern
7. Self-Perception-Self-Concept Pattern
8. Role-Relationship Pattern
9. Sexuality-Reproductive
10. Coping-Stress Tolerance Pattern
11. Value-Belief Pattern

Gordon's Functional Health Patterns

Marjorie Gordon (1987) proposed functional health patterns as a guide for establishing a comprehensive nursing data base. These 11 categories make possible a systematic and standardized approach to data collection, and enable the nurse to determine the following aspects of health and human function:

1. Health Perception and Health Management.

Data collection is focused on the person's perceived level of health and well-being, and on practices for maintaining health. Habits that may be detrimental to health are also evaluated, including smoking and alcohol or drug use. Actual or potential problems related to safety and health management may be identified as well as needs for modifications in the home or needs for continued care in the home.

2. Nutrition and Metabolism Assessment is focused on the pattern of food and fluid consumption relative to metabolic need. The adequacy of local nutrient supplies is evaluated. Actual or potential problems related to fluid balance, tissue integrity, and host defenses may be identified as well as problems with the gastrointestinal system.

3. Elimination. Data collection is focused on excretory patterns (bowel, bladder, skin). Excretory problems such as incontinence, constipation, diarrhea, and urinary retention may be identified.
4. Activity and Exercise. Assessment is focused on the activities of daily living requiring energy expenditure, including self-care activities, exercise, and leisure activities. The status of major body systems involved with activity and exercise is evaluated, including the respiratory, cardiovascular, and musculoskeletal systems.

5. Cognition and Perception. Assessment is focused on the ability to comprehend and use information and on the sensory functions. Data pertaining to neurologic functions are collected to aid this process. Sensory experiences such as pain and altered sensory input may be identified and further evaluated.
6. Sleep and Rest. Assessment is focused on the person's sleep, rest, and relaxation practices. Dysfunctional sleep patterns, fatigue, and responses to sleep deprivation may be identified.
7. Self-Perception and Self-Concept. Assessment is focused on the person's attitudes toward self, including identity, body image, and sense of self-worth. The person's level of self-esteem and response to threats to his or her self-concept may be identified.
8. Roles and Relationships. Assessment is focused on the person's roles in the world and relationships with others. Satisfaction with roles, role strain, or dysfunctional relationships may be further evaluated.
9. Sexuality and Reproduction. Assessment is focused on the person's satisfaction or dissatisfaction with sexuality patterns and reproductive functions. Concerns with sexuality may he identified.
10. Coping and Stress Tolerance. Assessment is focused on the person's perception of stress and on his or her coping strategies Support systems are evaluated, and symptoms of stress are noted. The effectiveness of a person's coping strategies in terms of stress tolerance may be further evaluated.
11. Values and Belief. Assessment is focused on the person's values and beliefs (including spiritual beliefs), or on the goals that guide his or her choices or decisions.

Concepts of FHP's

11 Gordon's Functional Health Patterns

1. Health Perception Health Management Pattern
2. Nutritional Metabolic Pattern
3. Elimination Pattern
4. Activity Exercise Pattern
5. Sleep Rest Pattern
6. Cognitive-Perceptual Pattern
7. Self-Perception-Self-Concept Pattern
8. Role-Relationship Pattern
9. Sexuality-Reproductive
10. Coping-Stress Tolerance Pattern
11. Value-Belief Pattern

Health Perception and Health Management. It's focused on the person's perceived level of health and well-being, and on practices for maintaining health. Also evaluated Habits including smoking and alcohol or drug use.

- Contamination
- Disturbed energy field
- Effective therapeutic regimen management
- Health-seeking behaviors (specify)
- Ineffective community therapeutic regimen management
- Ineffective family therapeutic regimen management
- Ineffective health maintenance
- Ineffective protection
- Ineffective therapeutic regimen management
- Noncompliance (ineffective Adherence)
- Readiness for enhanced immunization status
- Readiness for enhanced therapeutic regimen management
- Risk for contamination
- Risk for infection
- Risk for injury
- Risk for perioperative positioning injury
- Risk for poisoning
- Risk for sudden infant death syndrome
- Risk for suffocation
- Risk for trauma
- Risk-prone health behavior

Nutritional Metabolic Pattern it's focused on the pattern of food and fluid consumption relative to metabolic need. Is evaluated the adequacy of local nutrient supplies. Actual or potential problems related to fluid balance, tissue integrity, and host defenses may be identified as well as problems with the gastrointestinal system.

- Adult failure to thrive
- Deficient fluid volume: [isotonic]
- [Deficient fluid volume: hyper/hypotonic]
- Effective breastfeeding [Learning Need]
- Excess fluid volume
- Hyperthermia
- Hypothermia
- Imbalanced nutrition: more than body requirements
- Imbalanced nutrition: less than body requirements
- Imbalanced nutrition: risk for more than body requirements
- Impaired dentition
- Impaired oral mucous membrane
- Impaired skin integrity
- Impaired swallowing
- Impaired tissue integrity
- Ineffective breastfeeding

- Ineffective infant feeding pattern
- Ineffective thermoregulation
- Interrupted breastfeeding
- Latex allergy response
- Nausea
- Readiness for enhanced fluid balance
- Readiness for enhanced nutrition
- Risk for aspiration
- Risk for deficient fluid volume
- Risk for imbalanced fluid volume
- Risk for imbalanced body temperature
- Risk for impaired liver function
- Risk for impaired skin integrity
- Risk for latex allergy response
- Risk for unstable blood glucose

Elimination Pattern. It's focused on excretory patterns (bowel, bladder, skin).

- Bowel incontinence
- Constipation
- Diarrhea
- Functional urinary incontinence
- Impaired urinary elimination
- Overflow urinary incontinence
- Perceived constipation
- Readiness for enhanced urinary elimination,
- Reflex urinary incontinence
- Risk for constipation
- Risk for urge urinary incontinence
- Stress urinary incontinence
- Total urinary incontinence
- Urge urinary incontinence
- [acute/chronic] Urinary retention

Activity and Exercise Pattern. It's focused on the activities of daily living requiring energy expenditure, including self-care activities, exercise, and leisure activities.

- Activity intolerance
- Autonomic dysreflexia
- Decreased cardiac output
- Decreased intracranial adaptive capacity
- Deficient diversonal activity
- Delayed growth and development
- Delayed surgical recovery
- Disorganized infant behavior
- Dysfunctional ventilatory weaning response
- Fatigue

- Impaired spontaneous ventilation
- Impaired bed mobility
- Impaired gas exchange
- Impaired home maintenance
- Impaired physical mobility
- Impaired transfer ability
- Impaired walking
- Impaired wheelchair mobility
- Ineffective airway clearance
- Ineffective breathing pattern
- Ineffective tissue perfusion
- Readiness for enhanced organized infant behavior
- Readiness for enhanced self care
- Risk for delayed development
- Risk for disorganized infant behavior
- Risk for disproportionate growth
- Risk for activity intolerance
- Risk for autonomic dysreflexia
- Risk for disuse syndrome
- Sedentary lifestyle
- Self-care deficit
- Wandering

Cognitive-Perceptual Pattern. It's focused on the ability to comprehend and use information and on the sensory functions. Neurologic functions, Sensory experiences such as pain and altered sensory input.

- Acute confusion
- Acute pain
- Chronic confusion
- Chronic pain
- Decisional conflict
- Deficient knowledge
- Disturbed sensory perception
- Disturbed thought processes
- Impaired environmental interpretation syndrome
- Impaired memory
- Readiness for enhanced comfort
- Readiness for enhanced decision making
- Readiness for enhanced knowledge
- Risk for acute confusion
- Unilateral neglect

Sleep Rest Pattern. It's focused on the person's sleep, rest, and relaxation practices. To identified dysfunctional sleep patterns, fatigue, and responses to sleep deprivation.

- Insomnia
- Readiness for enhanced sleep

- Sleep deprivation

Self-Perception-Self-Concept Pattern its focused on the person's attitudes toward self, including identity, body image, and sense of self-worth.

- Anxiety
- disturbed Body image
- Chronic low self-esteem
- Death anxiety
- Disturbed personal identity
- Fear
- Hopelessness
- Powerlessness
- Readiness for enhanced hope
- Readiness for enhanced power
- Readiness for enhanced self-concept
- Risk for compromised human dignity
- Risk for loneliness
- Risk for powerlessness
- Risk for situational low self-esteem
- Risk for [/actual] other-directed violence
- Risk for [actual/] self-directed violence
- Situational low self-esteem

Role-Relationship Pattern. It's focused on the person's roles in the world and relationships with others. Evaluated Satisfaction with roles, role strain, or dysfunctional relationships.

- Caregiver role strain
- Chronic sorrow
- Complicated grieving
- Dysfunctional family processes: alcoholism (substance abuse)
- Grieving
- Impaired social interaction
- Impaired verbal communication
- Ineffective role performance
- Interrupted family processes
- Parental role conflict
- Readiness for enhanced communication
- Readiness for enhanced family processes
- Readiness for enhanced parenting
- Relocation stress syndrome
- Risk for caregiver role strain
- Risk for complicated grieving
- Risk for impaired parent/infant/child attachment
- Risk for relocation stress syndrome
- Social isolation

Sexuality and Reproduction. It's focused on the person's satisfaction or dissatisfaction with sexuality patterns and reproductive functions.

- Ineffective sexuality patterns
- Rape-trauma syndrome
- Sexual dysfunction

Coping-Stress Tolerance Pattern. its focused on the person's perception of stress and coping strategies Support systems, evaluated symptoms of stress, effectiveness of a person's coping strategies.

- Compromised family coping
- Defensive coping
- Disabled family coping
- Impaired adjustment
- Ineffective community coping
- Ineffective coping
- Ineffective denial
- Post-trauma syndrome
- Readiness for enhanced community coping
- Readiness for enhanced coping
- Readiness for enhanced family coping
- Risk for self-mutilation
- Risk for suicide
- Risk for post-trauma syndrome
- Self-mutilation
- Stress overload

Value-Belief Pattern it's focused on the person's values and beliefs.

- Impaired religiosity
- Moral distress
- Readiness for enhanced religiosity
- Readiness for enhanced spiritual well-being
- Risk for impaired religiosity
- Risk for spiritual distress
- Spiritual distress

Enumerate FHP, according to Gordon

1. Health Perception-Health Function

Before:
-poor health status
-vulnerable to common colds and fever.
-monthly check-ups
-NaHCO3 and Al(OH3) and vitamins (stress tabs)
-self-medication
During:
-very poor, and worse than before
- unable to move and perform ADLs.

2. Nutritional Metabolic Pattern

Before:
-eats 3 to 4 times a day
-usually eats breakfast with rice, egg and noodles
-likes rice, fried fish and anchovies for lunch and for dinner,
-usually eats rice, vegetables and fried fish.
-drinks 5-6 glasses of water a day at about 1200-1400cc.
- fond of eating salty foods and foods high in cholesterol.
During:
-restricted to eat foods high in sodium and cholesterol
-blenderized feeding via nasogastric tube with 1600 kcal in 2000cc volume and 60 grams protein (50% MBV), low purine, high fiber at 170cc every 4 hours
-strict aspiration precaution.

3. Elimination Pattern
Before:
-voided about 5 to 6 times a day with an amount of approximately 500-800 ml/day.
-assess out stool once every other day.
During:
-In the first week of care, the patient had a urinary catheter and voided about 500-600 ml/day.
-In the second week, the patient was wearing a diaper
-voided about 400cc/shift.

4. Activity Exercise Pattern
Before:
-did not exercise
-worked as a stock keeper at a company.
-does washing of the clothes, plates and the rest of the household chores. D
-During strenuous activities, the patient experienced fatigue as verbalized by the SO.
During:
-unable to perform any exercises at all
-needs assistance in performing activities of daily living (ADLs) such as eating and moving.

5. Sleep-Rest Pattern
Before:
-slept for about 5 to 6 hours a day
-Sometimes patient does not feel rested well after sleeping
-usually sleeps at around 10 PM and wakes up at 4 AM.
During:
-intermittent sleep and been very lethargic
-usually opens her eyes and closes after a few minutes.

6. Cognitive-Perceptual Pattern
Before:
-did not have any sensory deficits.
-College level is her highest educational attainment
-did not use a hearing aid or eye glasses

-sensitive to superficial pain and is able to read and write.
During:
-difficulty communicating due to aphasia accompanied by weakness and presence of endotracheal tube.

7. Self-Perception Pattern
-Unavailable

8. Role-Relationship Pattern
Before:
-Bisaya as a primary dialect
-knows how to speak in English and Tagalog
-lives with her husband and child.
During:
-unable to perform her role effectively as a wife because of her illness.
-very dependent on her SO and family

9. Sexuality-Reproductive Pattern
-Unavailable

10. Coping-Areas Management Pattern
Before:
-when there was a stressful event, the patient took stress tabs
-diverting her attention to watching television.
During:
-stressful and debilitating

11. Value belief system
-Roman Catholic
-went to church regularly

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Unit –IV

Health perception / management pattern

The following questions pertain to those asked by the nurse to provide an overview of the individual's health status and health practices that are used to reach the current level of health or wellness.

History (subjective data):
Client's general health? Any colds in past year? If appropriate: any absences from work/school? Most important things you do to keep healthy? Use of cigarettes, alcohol, drugs? Perform self exams, i.e. Breast/testicular self-examination? Accidents at home, work, school, driving? In past, has it been easy to find ways to carry out doctor's or nurse's suggestions? (If appropriate) What do you think caused current illness? What actions have you taken since symptoms started? Have your actions helped? (If appropriate) What things are most important to your health? How can we be most helpful? How often do you exercise?

This pattern is related to the client's perceived pattern of health and or well-being, knowledge of lifestyle and the relationship to health, knowledge of preventive health practices and adherence to medical and nursing prescriptions. Data collection is focused on the person's perceived level of health and well-being, and on practices for maintaining health. Habits that may be detrimental to health are also evaluated, including smoking and alcohol or drug use. Actual or potential problems related to safety and health management may be identified as well as needs for modifications in the home or needs for continued care in the home.

Associated Nursing Diagnoses

Energy Field disturbance: A disruption of the flow of energy surrounding a person's being, which results in a disharmony of mind and spirit.

Growth and Development, Delayed: Altered physical growth, delay or difficulty in exercising skills (motor, social expressive) typical of age group; inability to perform self-care or self-control activities appropriate for age; flat affect; listlessness; decreased responses.

Health Maintenance, Ineffective: Inability to identify, manage, or seek out help to maintain health.

Health Seeking Behaviors; Active seeking (by individual in stable heath) of ways to alter personal health habits and/or environment to move toward higher level of health.

Injury, Risk for (falls, trauma, poisoning, suffocation, aspiration): A risk of injury as a result of the interaction of environmental conditions interacting with the individual's adaptive and defensive resources

Management of Therapeutic Regimen, Ineffective (individual, family, community): Pattern of regulating and integrating into daily living a program for treatment of illness and its sequelae that is unsatisfactory for meeting specific health goals.

Coping, Defensive

Disturbed Body Image: State in which a person experiences or is at risk to experience a disruption in the way (s)he perceives one's body. Negative response to actual or perceived change in structure and/or function.

It's focused on the person's perceived level of health and well-being, and on practices for maintaining health. Also evaluated Habits including smoking and alcohol or drug use.

- Contamination
- Disturbed energy field
- Effective therapeutic regimen management
- Health-seeking behaviors (specify)
- Ineffective community therapeutic regimen management
- Ineffective family therapeutic regimen management
- Ineffective health maintenance
- Ineffective protection
- Ineffective therapeutic regimen management
- Noncompliance (ineffective Adherence)
- Readiness for enhanced immunization status
- Readiness for enhanced therapeutic regimen management
- Risk for contamination
- Risk for infection
- Risk for injury
- Risk for perioperative positioning injury
- Risk for poisoning
- Risk for sudden infant death syndrome
- Risk for suffocation
- Risk for trauma
- Risk-prone health behavior

Definition of health, wellness and illness.

Health is the level of functional or metabolic efficiency of a living organism. In humans, it is the general condition of a person's mind and body, usually meaning to be free from illness, injury or pain (as in "good health" or "healthy"). The World Health Organization (WHO) defined

health in its broader sense in 1946 as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Although this definition has been subject to controversy, in particular as lacking operational value and because of the problem created by use of the word "complete," it remains the most enduring. Other definitions have been proposed, among which a recent definition that correlates health and personal satisfaction. Classification systems such as the WHO Family of International Classifications, including the International Classification of Functioning, Disability and Health (ICF) and the International Classification of Diseases (ICD), are commonly used to define and measure the components of health

Wellness is generally used to mean a healthy balance of the mind, body and spirit that results in an overall feeling of well-being. It has been used in the context of alternative medicine since Halbert L. Dunn, M.D., began using the phrase high level wellness in the 1950s. The modern concept of wellness did not, however, become popular until the 1970s.

The term has been defined by the Wisconsin-based National Wellness Institute as an active process of becoming aware of and making choices toward a more successful existence. This is consistent with a shift in focus away from illness in viewing human health, typical of contexts where the term wellness is used. In other words, wellness is a view of health that emphasizes the state of the entire being and its ongoing development.

illness, a condition of being unhealthy in your body or mind or a specific condition that prevents your body or mind from working normally : a sickness or disease

Belief or perceptions of health and illness compare and contrast.

The Sociology of Health and Illness, alternatively the Sociology of Health and Wellness, examines the interaction between society and health. The objective of this topic is to see how social life has an impact on morbidity and mortality rate, and vice versa. This aspect of sociology differs from medical sociology in that this branch of sociology discusses health and illness in relation to social institutions such as family, employment, and school. The sociology of medicine limits its concern to the patient-practitioner relationship and the role of health professionals in society. The sociology of health and illness covers sociological pathology (causes of disease and illness), reasons for seeking particular types of medical aid, and patient compliance or noncompliance with medical regimes.

Health, or lack of health, was once merely attributed to biological or natural conditions. Sociologists have demonstrated that the spread of diseases is heavily influenced by the socioeconomic status of individuals, ethnic traditions or beliefs, and other cultural factors. Where medical research might gather statistics on a disease, a sociological perspective on an illness would provide insight on what external factors caused the demographics who contracted the disease to become ill.

This topic requires a global approach of analysis because the influence of societal factors varies throughout the world. This will be demonstrated through discussion of the major diseases of each continent. These diseases are sociologically examined and compared based on the traditional medicine, economics, religion, and culture that is specific to each region. HIV/AIDS serves as a common basis of comparison among regions. While it is extremely problematic in certain areas, in others it has affected a relatively small percentage of the population. Sociological factors can help to explain why these discrepancies exist.

There are obvious differences in patterns of health and illness across societies, over time, and within particular society types. There has historically been a long-term decline in mortality within industrialized societies, and on average, life-expectancies are considerably higher in

developed, rather than developing or undeveloped, societies. Patterns of global change in health care systems make it more imperative than ever to research and comprehend the sociology of health and illness. Continuous changes in economy, therapy, technology and insurance can affect the way individual communities view and respond to the medical care available. These rapid fluctuations cause the issue of health and illness within social life to be very dynamic in definition. Advancing information is vital because as patterns evolve, the study of the sociology of health and illness constantly needs to be updated

Health belief model (HBM)

The health belief model is a psychological health behavior change model developed to explain and predict health-related behaviors, particularly in regard to the uptake of health services. The health belief model was developed in the 1950s by social psychologists at the U.S. Public Health Service and remains one of the most well-known and widely used theories in health behavior research. The health belief model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action, and self-efficacy explain engagement (or lack of engagement) in health-promoting behavior. A stimulus, or cue to action, must also be present in order to trigger the health-promoting behavior.

Theoretical Constructs

The following constructs of the health belief model are proposed to vary between individuals and predict engagement in health-related behaviors (e.g., getting vaccinated, getting screened for asymptomatic diseases, exercising).

Perceived Severity

Perceived severity refers to subjective assessment of the severity of a health problem and its potential consequences. The health belief model proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviors to prevent the health problem from occurring (or reduce its severity). Perceived seriousness encompasses beliefs about the disease itself (e.g., whether it is life-threatening or may cause disability or pain) as well as broader impacts of the disease on functioning in work and social roles.For instance, an individual may perceive that influenza is not medically serious, but if he or she perceives that there would be serious financial consequences as a result of being absent from work for several days, then he or she may perceive influenza to be a particularly serious condition.

Perceived Susceptibility

Perceived susceptibility refers to subjective assessment of risk of developing a health problem. The health belief model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in behaviors to reduce their risk of developing the health problem. Individuals with low perceived susceptibility may deny that they are at risk for contracting a particular illness. Others may acknowledge the possibility that they could develop the illness, but believe it is unlikely. Individuals who believe they are at low risk of developing an illness are more likely to engage in unhealthy, or risky, behaviors. Individuals who perceive a high risk that they will be personally affected by a particular health problem are more likely to engage in behaviors to decrease their risk of developing the condition.

The combination of perceived seriousness and perceived susceptibility is referred to as perceived threat. Perceived seriousness and perceived susceptibility to a given health condition depend on knowledge about the condition. The health belief model predicts that higher perceived threat leads to higher likelihood of engagement in health-promoting behaviors.

Perceived Benefits

Health-related behaviors are also influenced by the perceived benefits of taking action. Perceived benefits refer to an individual's assessment of the value or efficacy of engaging in a health-promoting behavior to decrease risk of disease. If an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then he or she is likely to engage in that behavior regardless of objective facts regarding the effectiveness of the action. For example, individuals who believe that wearing sunscreen prevents skin cancer are more likely to wear sunscreen than individuals who believe that wearing sunscreen will not prevent the occurrence of skin cancer.

Perceived Barriers

Health-related behaviors are also a function of perceived barriers to taking action. Perceived barriers refer to an individual's assessment of the obstacles to behavior change. Even if an individual perceives a health condition as threatening and believes that a particular action will effectively reduce the threat, barriers may prevent engagement in the health-promoting behavior. In other words, the perceived benefits must outweigh the perceived barriers in order for behavior change to occur. Perceived barriers to taking action include the perceived inconvenience, expense, danger (e.g., side effects of a medical procedure) and discomfort (e.g., pain, emotional upset) involved in engaging in the behavior.For instance, lack of access to affordable health care and the perception that a flu vaccine shot will cause significant pain may act as barriers to receiving the flu vaccine.

Modifying Variables

Individual characteristics, including demographic, psychosocial, and structural variables, can affect perceptions (i.e., perceived seriousness, susceptibility, benefits, and barriers) of health-related behaviors. Demographic variables include age, sex, race, ethnicity, and education, among others. Psychosocial variables include personality, social class, and peer and reference group pressure, among others. Structural variables include knowledge about a given disease and prior contact with the disease, among other factors. The health belief model suggests that modifying variables affect health-related behaviors indirectly by affecting perceived seriousness, susceptibility, benefits, and barriers.

Cues to Action

The health belief model posits that a cue, or trigger, is necessary for prompting engagement in health-promoting behaviors. Cues to action can be internal or external. Physiological cues (e.g., pain, symptoms) are an example of internal cues to action. External cues include events or information from close others, the media, or health care providers promoting engagement in health-related behaviors. Examples of cues to action include a reminder postcard from a dentist, the illness of a friend or family member, and product health warning labels. The intensity of cues needed to prompt action varies between individuals by perceived susceptibility, seriousness, benefits, and barriers. For example, individuals who believe they are at high risk for a serious

illness and who have an established relationship with a primary care doctor may be easily persuaded to get screened for the illness after seeing a public service announcement, whereas individuals who believe they are at low risk for the same illness and also do not have reliable access to health care may require more intense external cues in order to get screened.

Self-Efficacy

Self-efficacy was added to the four components of the health belief model (i.e., perceived susceptibility, seriousness, benefits, and barriers) in 1988. Self-efficacy refers to an individual's perception of his or her competence to successfully perform a behavior. Self-efficacy was added to the health belief model in an attempt to better explain individual differences in health behaviors.The model was originally developed in order to explain engagement in one-time health-related behaviors such as being screened for cancer or receiving an immunization. Eventually, the health belief model was applied to more substantial, long-term behavior change such as diet modification, exercise, and smoking. Developers of the model recognized that confidence in one's ability to effect change in outcomes (i.e., self-efficacy) was a key component of health behavior change.

Empirical Support

The health belief model has gained substantial empirical support since its development in the 1950s. It remains one of the most widely used and well-tested models for explaining and predicting health-related behavior. A 1984 review of 18 prospective and 28 retrospective studies suggests that the evidence for each component of the health belief model is strong. The review reports that empirical support for the health belief model is particularly notable given the diverse populations, health conditions, and health-related behaviors examined and the various study designs and assessment strategies used to evaluate the model. A more recent meta-analysis found strong support for perceived benefits and perceived barriers predicting health-related behaviors, but weak evidence for the predictive power of perceived seriousness and perceived susceptibility. The authors of the meta-analysis suggest that examination of potential moderated and mediated relationships between components of the model is warranted.

Applications

The health belief model has been used to develop effective interventions to change health-related behaviors by targeting various aspects of the model's key constructs. Interventions based on the health belief model may aim to increase perceived susceptibility to and perceived seriousness of a health condition by providing education about prevalence and incidence of disease, individualized estimates of risk, and information about the consequences of disease (e.g., medical, financial, and social consequences). Interventions may also aim to alter the cost-benefit analysis of engaging in a health-promoting behavior (i.e., increasing perceived benefits and decreasing perceived barriers) by providing information about the efficacy of various behaviors to reduce risk of disease, identifying common perceived barriers, providing incentives to engage in health-promoting behaviors, and engaging social support or other resources to encourage health-promoting behaviors. Furthermore, interventions based on the health belief model may provide cues to action to remind and encourage individuals to engage in health-promoting behaviors. Interventions may also aim to boost self-efficacy by providing training in specific health-promoting behaviors, particularly for complex lifestyle changes (e.g., changing diet or physical activity, adhering to a complicated medication regimen). Interventions can be aimed at

the individual level (i.e., working one-on-one with individuals to increase engagement in health-related behaviors) or the societal level (e.g., through legislation, changes to the physical environment)

Implication of HBM

Implications for Health Behaviors Model

HBM research has been used to explore a variety of health behaviors in diverse populations.

- influenza inoculations,
- Tay-Sachs carrier status screening,
- high blood pressure screening,
- smoking cessation,
- seatbelt usage,
- exercise,
- nutrition,
- breast self-examination.

HIV/AIDS

- sexual risk behaviors
- general population
- homosexual men
- adolescents
- pregnant women

Researchers are suggesting that an individual's perceived ability to successfully carry out a "health" strategy, such as using a condom consistently, greatly influences his/her decision and ability to enact and sustain a changed behavior (Bandura, 1989).

Limitations

General limitations of the HBM include:

a) most HBM-based research has incorporated only selected components of the HBM, thereby not testing the model as a whole;

b) as a psychological model it does not take into consideration other factors, such as environmental or economic factors, that may influence health behaviors;

c) the model does not incorporate the influence of social norms and peer influences on people's decisions regarding their health behaviors (a point to consider especially when working with adolescents on HIV/AIDS issues).

Health promoting behavior

Health promotion has been defined by the World Health Organization's (WHO) 2005 Bangkok Charter for Health Promotion in a Globalize World as "the process of enabling people to increase control over their health and its determinants, and thereby improve their health". The primary means of health promotion occur through developing healthy public policy that addresses the prerequisites of health such as income, housing, food security, employment, and quality working conditions. More recent work has used the term Health in All Policies to refer to the actions to incorporate health into all public policies. There is a tendency among public health officials and governments—and this is especially the case in neoliberal nations such as Canada and the

USA—to reduce health promotion to health education and social marketing focused on changing behavioral risk factors.

Recent work in the UK (Delphi consultation exercise due to be published late 2009 by Royal Society of Public Health and the National Social Marketing Centre) on relationship between health promotion and social marketing has highlighted and reinforce the potential integrative nature of the approaches. While an independent review (NCC 'It's Our Health!' 2006) identified that some social marketing has in past adopted a narrow or limited approach, the UK has increasingly taken a lead in the discussion and developed a much more integrative and strategic approach which adopts a holistic approach, integrating the learning from effective health promotion approaches with relevant learning from social marketing and other disciplines. A key finding from the Delphi consultation was the need to avoid unnecessary and arbitrary 'methods wars' and instead focus on the issue of 'utility' and harnessing the potential of learning from multiple disciplines and sources. Such an approach is arguably how health promotion has developed over the years pulling in learning from different sectors and disciplines to enhance and develop.

The best way to design programs to achieve positive changes in health behavior is to have an understanding of why people behave as they do and what might motivate them to change. Theories and models of health behavior have been developed for this purpose. A theory is a set of interrelated concepts, definitions, and propositions that present a systematic view of events or situations by specifying relations among variables in order to explain and predict the events or situations. Theories can be useful during the various stages of planning, implementing, and evaluating interventions. They can, for example, be used to guide an exploration of why people are or are not consuming a healthful diet or adhering to a therapeutic dietary regimen. Theories can guide the search to understand why people do or do not follow medical advice; to help identify what information is needed to design an effective intervention strategy; and to provide insight into how to design an educational program so it is successful. Thus, theories help to explain behavior, as well as suggest how to develop more effective ways to influence and change behavior. A theory about why a person chooses the foods he or she eats is one step toward successful nutrition management, but some type of change model will also be needed to guide the person toward a healthful diet.

The most widely accepted theories about health behavior have been tested in research and found to be helpful in understanding or predicting health behaviors. Health behavior is, however, far too complex to be explained by a single, unified theory, and some professionals have devised models that draw on a number of theories to help understand a specific problem in a particular setting or context.

Theoretical Models of Health Behavior

No single theory or model dominates research or practice in health-related behavior. Four of the most frequently mentioned theories of health behavior in the late 1990s were the health belief model; social cognitive theory; the stages of change/transtheoretical model; and community organization. These theories focus on a range of factors influencing behavior determinants, including factors within an individual (such as thoughts, feelings, and beliefs), factors in groups or relationships, and factors that exist in organizations, communities, and governments (such as structures, regulations, policies, and laws).

The health belief model was originally developed to explain why people did or did not take advantage of preventive services such as disease screening and immunizations. Its central thesis

is that health behavior is determined by two interrelated factors: a person's perception both of the threat of a health problem and of his or her accompanying appraisal of a recommended behavior for preventing or managing the problem. The model works well, especially for early detection or for some conditions, such as infectious diseases, that people might find frightening, especially if they are uncertain about the effects of treatment methods.

The stages of change model concerns an individual's readiness to change, or to try to change, unhealthful behaviors. Its basic premise is that behavior change is a process and not an event, and that individuals are at varying levels of motivation, or readiness, to change. This means that people at different points in the process of change can benefit from different programs for change, and the programs work best if matched to their stage of readiness.

Social cognitive theory (SCT) is very complex. From this theory's perspective, people and their environments are thought to interact continuously. A basic premise of social cognitive theory is that people learn not only through their experiences, but also by watching the way other people act and the results they achieve. SCT also takes the view that, while people are influenced by the world around them, they can also actively change that world. SCT provides a foundation for several strategies for behavior change, for example the use of role models who carry out a behavior and achieve good results. Another way SCT applies to behavior change is by emphasizing that individuals change their situations by changing their own behavior.

Community organization articulates the process by which community groups identify problems or goals, mobilize resources, and develop ways to reach their goals. It includes several ways of bringing about change, including developing resources and skills; getting specialized help from outside experts; and social action, which involves people joining together for a cause, especially one that involves a particular group that is being greatly affected by a particular problem. Examples of this are AIDS activists, women's health activists working for more research on breast cancer prevention and treatment, and youths developing coalitions to fight the tobacco companies' efforts to attract customers among teenagers.

Important Cross-Cutting Issues and Constructs

The various theories of health-related behavior often overlap. Not surprisingly, these explanations for behavior and models for change share several constructs and common issues.

Behavior Change as a Process. One central idea that has gained wide acceptance is the simple notion that behavior change is a process, not an event, which is the major tenet of the stages of change model. It is important to think of the change process as one that occurs in stages. It is not a question of someone deciding one day to stop smoking and the next day becoming a nonsmoker for life. Likewise, most people won't be able to dramatically change their eating patterns all at once. The idea that behavior change occurs in a number of steps is not particularly new. In fact, various multistage theories of behavior change date back to the 1940s. This theory gained wider recognition toward the end of the twentieth century, however. One example is the diffusion of innovations theory, which distinguishes the diffusion or spread of new behaviors from their adaptation or use by increasing numbers of people.

Changing Behaviors versus Maintaining Behavior Change. Even where there is good initial compliance to a health-related behavior change, a relapse to previous behavior patterns is very common. Undertaking a behavior change and maintaining the change, therefore, require different types of programs and self-management strategies. For example, someone could quit smoking by going "cold turkey," but he or she will probably be tempted again, perhaps at a party where friends are smoking. Maintaining cessation involves developing self-management and coping

strategies, as well as establishing new behavior patterns that emphasize perceived control, environmental management, and improved confidence in one's ability to avoid temptation. A model called the relapse prevention model focuses very specifically on this issue.

Barriers to Actions and Decisional Balance. The concept of barriers to action, or perceived obstacles, is often mentioned in theories of health behavior. An extension of this concept involves what is known as "decisional balance." This idea is called the "net benefits of action" in the health belief model and "pros minus cons" in the stages of change model. These terms all reflect the idea that individuals engage in a relative weighing of the pros and cons of a prospective behavior change. This notion is basic to models of rational decision making, in which people intellectually think about the advantages and disadvantages of engaging in a particular action.

Implications for Public Health

Understanding and improving health-related behavior is critical to the future of public health and to the well-being of individuals, and has become central to public health activities. While policies, laws, and regulations can affect health behaviors, there are also many individual factors that must be considered in these public health efforts.

Change is incremental. Many people have practiced a lifetime of less than optimal health behaviors of one sort or another. It is unreasonable to expect that significant and lasting changes will occur during a short period of time. Public health programs need to identify and maximize the benefits of positive change, pull participants along the continuum of change, and consider changes in educational programs and environmental supports to help people maintain changes over the long term.

Nursing measure for promotion of health lifestyle.

Promoting healthy lifestyles is a challenge for many primary care practices. Although most patients understand the importance of physical activity and healthy eating, many seem unable to change their unhealthy behaviors to reduce weight and improve chronic conditions. Medications often take a predominant role in the treatment of these patients, even though medications alone are rarely completely effective for chronic conditions, and lifestyle changes have been shown to significantly reduce morbidity and mortality rates for most chronic diseases.1 In addition, patients can feel embarrassed and ashamed of their situations, and physicians can feel pressed for time, causing them to avoid the very dialogue they need to embrace in order to facilitate a breakthrough in improved health**.**

Infection control

Infection control is the discipline concerned with preventing nosocomial or healthcare-associated infection, a practical (rather than academic) sub-discipline of epidemiology. It is an essential, though often under recognized and under supported, part of the infrastructure of health care. Infection control and hospital epidemiology are akin to public health practice, practiced within the confines of a particular health-care delivery system rather than directed at society as a whole.

Infection control addresses factors related to the spread of infections within the health-care setting (whether patient-to-patient, from patients to staff and from staff to patients, or among-staff), including prevention (via hand hygiene/hand washing, cleaning/disinfection/sterilization, vaccination, surveillance), monitoring/investigation of

demonstrated or suspected spread of infection within a particular health-care setting (surveillance and outbreak investigation), and management (interruption of outbreaks). It is on this basis that the common title being adopted within health care is "Infection Prevention & Control."

No smoking

The harm of smoking is a hot issue which has being discussed in many countries for a long time. There are 1.2 billion of smokers in this world, which is one-fifth of the world population. The Centers for Disease Control and Prevention reported that adult male smokers lost an average of 13.2 years of life and female smokers lost 14.5 years of life because of smoking. Even though people know that cigarette is bad for health, they still have freedom of smoking. Nowadays, both producing and smoking cigarettes are still free choices especially in America because as Americans we first protect our freedoms and the government gives us rights to choose our own ways of life include the free market economy for producing cigarettes and the freedom of smoking. But cigarettes have nothing good for health. It not only kills the smokers themselves but also harms the non-smokers by breathing second-hand smokers, which should be considered as murder. So governments should make law to stop producing cigarettes completely. Smoking cigarettes may increase the risk of many health problems. According to the 1982 United States Surgeon General's report, "Cigarette smoking is the major single cause of cancer mortality [death] in the United States." Cigarette smoking is the leading cause of 90% of lung cancers which is one of the hardest cancers to treat and others cancers in the mouth, larynx, esophagus, kidney. It may also cause heart disease, aneurysms and stroke, etc. Besides, breathing secondhand smoke is also harmful, just like the 2006 US Surgeon General's report said that the secondhand smoke kills children and adults who don't smoke. So, we should find a way to save the lives of the smokers and protect the non-smokers from smoking. There are already variety ways to control smoking, but none of these ideas can stop smoking completely. For example, people think schools should teach kids and teenagers about the harms of tobacco.

Obesity control

The main treatment for obesity consists of dieting and physical exercise. Diet programs may produce weight loss over the short term, but maintaining this weight loss is frequently difficult and often requires making exercise and a lower calorie diet a permanent part of a person's lifestyle. Success rates of long-term weight loss maintenance with lifestyle changes are low ranging from 2 to 20%. Dietary and lifestyle changes are effective in limiting excessive weight gain in pregnancy and improve outcomes for both the mother and the child.

One medication, orlistat (Xenixal), is current widely available and approved for long term use. Weight loss however is modest with an average of 2.9 kg (6.4 lb) at 1 to 4 years and there is little information on how these drugs affect longer-term complications of obesity. Its use is associated with high rates of gastrointestinal side effects.

The most effective treatment for obesity is bariatric surgery. Surgery for severe obesity is associated with long-term weight loss and decreased overall mortality. One study found a weight loss of between 14% and 25% (depending on the type of procedure performed) at 10 years, and a 29% reduction in all cause mortality when compared to standard weight loss measures. However, due to its cost and the risk of complications, researchers are searching for other effective yet less invasive treatments.

Studies have found significant benefits in mortality in certain populations from weight loss. In a prospective study of obese women with weight related diseases,

intentional weight loss of any amount was associated with a 20% reduction in mortality. In obese women without obesity related illnesses a weight loss of greater than 9 kg (20 lb) was associated with a 25% reduction in mortality. A 2007 review concluded that certain subgroups such as those with type 2 diabetes and women show long term benefits in all cause mortality, while outcomes for men do not seem to be improved with weight loss. A subsequent study has found benefits in mortality from intentional weight loss in those who have severe obesity

Chronic illness

A chronic condition is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time. The term chronic is usually applied when the course of the disease lasts for more than three months. Common chronic diseases include arthritis, asthma, cancer, COPD, diabetes and HIV/AIDS.

In medicine, the opposite of chronic is acute. A chronic course is further distinguished from a recurrent course; recurrent diseases relapse repeatedly, with periods of remission in between.

The non-communicable diseases are also usually lasting medical conditions but are separated by their non-infectious causes. In contrast, some chronic diseases, such as HIV/AIDS, are caused by transmissible infections.

Chronic diseases constitute a major cause of mortality and the World Health Organization (WHO) reports chronic non-communicable conditions to be by far the leading cause of mortality in the world, representing 35 million deaths in 2005 and over 60% of all deaths. Chronic illnesses cause about 70% of deaths in the US and in 2002 chronic conditions (heart disease, cancers, stroke, chronic respiratory diseases, diabetes, Alzheimer's disease, mental illness and kidney diseases) were 6 of the top ten causes of mortality in the general US population. 90% of seniors have at least one chronic disease, and 77% have two or more chronic conditions.

Elderly care

Elderly care, or simply eldercare (also known in parts of the English speaking world as aged care), is the fulfillment of the special needs and requirements that are unique to senior citizens. This broad term encompasses such services as assisted living, adult day care, long term care, nursing homes, hospice care, and home care. Because of the wide variety of elderly care found globally, as well as differentiating cultural perspectives on elderly citizens, cannot to be limited to any one practice. For example, many countries in Asia use government-established elderly care quite infrequently, preferring the traditional methods of being cared for by younger generations of family members.

Elderly care emphasizes the social and personal requirements of senior citizens who need some assistance with daily activities and health care, but who desire to age with dignity. It is an important distinction, in that the design of housing, services, activities, employee training and such should be truly customer-centered. It is also noteworthy that a large amount of global elderly care falls under the unpaid market sector.

Johari window Self aware ness Model

The Johari window is a technique created in 1955 by two American psychologists, Joseph Luft (1916–2014) and Harrington Ingham (1914–1995), used to help people better understand their

relationship with self and others. It is used primarily in self-help groups and corporate settings as a heuristic exercise.

When performing the exercise, subjects are given a list of 56 adjectives and pick five or six that they feel describe their own personality. Peers of the subject are then given the same list, and each pick five or six adjectives that describe the subject. These adjectives are then mapped onto a grid.

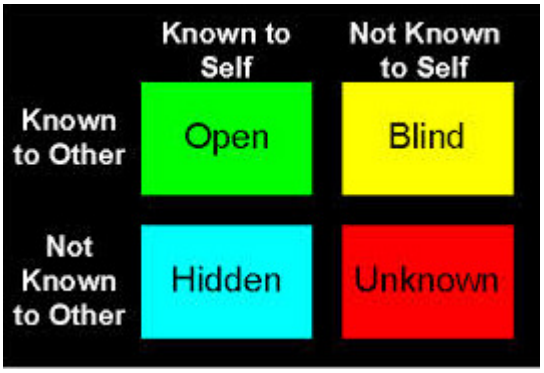
Charles Handy calls this concept the Johari House with four rooms. Room 1 is the part of ourselves that we see and others see. Room 2 is the aspects that others see but we are not aware of. Room 3 is the most mysterious room in that the unconscious or subconscious part of us is seen by neither ourselves nor others. Room 4 is our private space, which we know but keep from others.

1. Open or Arena: Adjectives that are selected by both the participant and his or her peers are placed into the Open or Arena quadrant. This quadrant represents traits of the subjects that both they and their peers are aware of.

2. Hidden or Façade: Adjectives selected only by subjects, but not by any of their peers, are placed into the Hidden or Façade quadrant, representing information about them their peers are unaware of. It is then up to the subject to disclose this information or not.

3. Blind Spot: Adjectives that are not selected by subjects but only by their peers are placed into the Blind Spot quadrant. These represent information that the subject is not aware of, but others are, and they can decide whether and how to inform the individual about these "blind spots".

4. Unknown: Adjectives that were not selected by either subjects or their peers remain in the Unknown quadrant, representing the participant's behaviors or motives that were not recognized by anyone participating. This may be because they do not apply or because there is collective ignorance of the existence of these traits. One facet of interest in this area is our human potential. Our potential is unknown to us, and others.



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Unit –V
Nutrition metabolic pattern concepts

This pattern describes nutrient intake relative to metabolic need.

History (subjective data):

Typical daily food intake? (Describe) Use of supplements, vitamins, types of snacks?
Typical daily fluid intake? (Describe)
Weight loss/gain? Height loss/gain?
Appetite? Breastfeeding? Infant feeding?
Food or eating: Discomfort, swallowing difficulties, diet restrictions, able to follow?
Healing – any problems?
Skin problems: lesions? Dryness?
Dental problems?

Examination (examples of objective data):

Skin assessment, oral mucous membranes, teeth, actual weight/height, temperature.
Abdominal assessment.

Nutritional Metabolic Pattern

It's focused on the pattern of food and fluid consumption relative to metabolic need. Is evaluated the adequacy of local nutrient supplies. Actual or potential problems related to fluid balance, tissue integrity, and host defenses may be identified as well as problems with the gastrointestinal system.

- Adult failure to thrive
- Deficient fluid volume: [isotonic]
- [Deficient fluid volume: hyper/hypotonic]
- Effective breastfeeding [Learning Need]
- Excess fluid volume
- Hyperthermia
- Hypothermia
- Imbalanced nutrition: more than body requirements
- Imbalanced nutrition: less than body requirements
- Imbalanced nutrition: risk for more than body requirements
- Impaired dentition
- Impaired oral mucous membrane
- Impaired skin integrity
- Impaired swallowing
- Impaired tissue integrity

- Ineffective breastfeeding
- Ineffective infant feeding pattern
- Ineffective thermoregulation
- Interrupted breastfeeding
- Latex allergy response
- Nausea
- Readiness for enhanced fluid balance
- Readiness for enhanced nutrition
- Risk for aspiration
- Risk for deficient fluid volume
- Risk for imbalanced fluid volume
- Risk for imbalanced body temperature
- Risk for impaired liver function
- Risk for impaired skin integrity
- Risk for latex allergy response
- Risk for unstable blood glucose

Nutrition and metabolism

NUTRITION AND METABOLISM

I. **WHY WE EAT**

We eat to obtain the nutrients that power the activities of life. The macronutrients that are needed in large amounts include carbohydrates, proteins and lipids, while micronutrients include vitamins and minerals. Metabolism refers to the ways that nutrients are chemically altered and used in anabolism (synthesis reactions) and catabolism (breakdown reactions) to support the activities of life.

Control of eating occurs in the hypothalamus of the brain. Here, a molecule called neuropeptide Y, links messages concerning nutrient use to regulators of food intake.

III **MACRONUTRIENTS**

A. Carbohydrates:

Carbohydrates are organic compounds and include sugars and starches. The energy held in their chemical bonds is used to power cellular processes.

1. **Carbohydrate Sources** See Fig 18.2, page 696.
   a. Complex carbohydrates/polysaccharides
      - starch from grains and vegetables
      - glycogen from meats
      - These foods usually contain rich vitamins and minerals.
   b. Simple carbohydrates
      - disaccharides from dairy products, cane sugar, beet sugar, molasses
      - monosaccharides from honey and fruits.
   c. Cellulose is a structural polysaccharide in plants.
      - Humans do not possess enzymes to digest cellulose.
      - important in providing bulk fiber (roughage) to aid in movement of intestinal contents.
2. Carbohydrate Utilization

a. Monosaccharides absorbed from small intestine are transported to the liver via the hepatic portal vein include:
   - fructose
   - galactose
   - glucose.

b. Liver enzymes See Fig 18.1, page 696.
   - convert fructose and galactose into glucose (oxidation releases energy from glucose in cellular respiration).
   - polymerize excess glucose as glycogen (glycogenesis).
     - The body can only store a certain amount of glycogen, so further excesses of glucose are converted to fat and stored in adipose tissue.

3. Carbohydrate Requirements:
   a. Vary with activity of individual.
      - Some cells need continuous glucose supply to survive.
      - Amino acids may be converted to glucose if glucose is scarce.
      - Average diet includes 200-300 grams carbohydrates daily.
      - Poor nutrition status usually not related to insufficient carbohydrate intake.

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III. **MACRONUTRIENTS** (continued)

B. Lipids

Lipids are organic molecules that include fats, phospholipids, and cholesterol. They supply energy for cellular processes and building blocks for cell membranes, steroid hormones, etc. The most common dietary lipids are the fats called triglycerides.

1. Lipid Sources
   a. Triglycerides
      - **Saturated fats** are found in foods from
        - Mainly animal origin: Meats, Egg, Milk, and Lard.
        - Some plant origin: palm & coconut oil.
      - **Unsaturated fats** are contained in
        - Seeds
        - Nuts
        - Plant oils.

   b. Cholesterol
      - comes from foods of animal origin only.
      - is abundant in liver and egg yolk
      - in trace amounts in whole milk, butter, cheese, and meats.

2. Lipid Utilization See Fig 18.3, page 697.
   a. Triglycerides are broken down into fatty acids and glycerol in the duodenum, and these are absorbed by lacteals in the distal small intestine and are transported to tissues.
      - **Beta Oxidation** decomposes fatty acids into 2-carbon units.
        - These segment are converted to **acetyl CoA**, which enters the Citric acid cycle, where energy is released from their bonds.
      - **Glycerol** becomes an intermediate in glycolysis.

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III. **MACRONUTRIENTS** (continued)

B. **Lipids**:

2. Lipid Utilization: Absorbed lipids are transported to

b. Liver See Fig 18.4, page 698.

- Converts fatty acids from one form to another, except it cannot synthesize linolenic acid (i.e. essential F.A.).
  - Required for the synthesis of phospholipids.
  - Needed for the formation of cell membranes.
  - Needed for the transport of circulating lipids.
  - Good sources include corn, cottonseed & soy oils.
- Other essential FA's
  - linolenic acid
  - arachadonic acid
- Uses free FA's to synthesize a variety of lipids that are then released into the blood (i.e. regulates circulating lipid concentration).
  - Triglycerides
  - Phospholipids
  - Lipoproteins.
- Controls the total amount of cholesterol in the body by:
  - synthesizing cholesterol and releasing it into blood.
  - removing cholesterol from the blood and excreting it into the bile.
  - The liver uses cholesterol to make bile salts:
  - It is not used for energy.
  - It is used for construction of:
    - cell components
    - hormones.

c. Adipose tissue

- Excess lipids are stored in adipose tissue.
- During fasting, stored triglycerides may be hydrolyzed into glycerol and fatty acids and released into blood

B. **Lipids**

3. Lipid requirements
   a. vary among individuals.
   b. The amounts and types needed for health are unknown and are accordingly a "hot" research topic.
   c. Intake must sustain production of fat-soluble vitamins.
   d. American Heart Association: "Diet should not exceed 30% of total daily calories from fat".

C. PROTEINS:

Proteins are organic compounds that serve several functions in human cells. The most important proteins are **enzymes** that regulate metabolism, but others serve roles in structure (i.e. keratin), transport (i.e. hemoglobin), storage (i.e. albumin), movement (i.e. myosin), and energy. The building blocks of proteins are **amino acids.** During starvation (i.e. carbohydrate and lipid sources are depleted), tissue proteins may be used as energy source causing tissue wasting.

1. Protein Sources
   a. From meats, fish, poultry, dairy products, cereals and legumes.
   b. During digestion, proteins are broken into amino acids.

- These amino acids can then be used as
  - building materials for cellular proteins and enzymes.
    See Fig 18.5, page 699.
  - energy sources.
    - Deamination is required before the cell can use amino acids are energy source.
    - See Fig 18.6, page 700.
    - The deaminated portions of amino acids can be
      1. converted to CO_2 and water,
      2. used to produce glucose or fat.
- **Essential amino acids:** See Table 18.3, page 700.
  - Ten in growing children
  - Eight in adults.
  - All must be present simultaneously for growth and tissue repair to occur.

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PROTEINS:

1. Protein Sources
   c. Classified as either complete or incomplete
      - Complete include those from meat, fish, & dairy.
        - ♦ contain adequate amounts of essential amino acids to maintain tissues and promote normal growth and development.
      - Incomplete include protein in corn.
        - ♦ Contain inadequate essential amino acids Tryptophan and lysine and therefore do not maintain tissues or promote growth or development.
2. Nitrogen balance
   a. Catabolism and anabolism of proteins occur simultaneously, but at different rates in different tissues.
      - Overall gain of body proteins equals the overall loss = **dynamic equilibrium.**
      - Because proteins contain such a high content of nitrogen, dynamic equilibrium leads to **nitrogen balance.**

        - ♦ Definition: Nitrogen balance (NB) is a condition when the nitrogen intake (via proteins) equals nitrogen excretion.
          - * Positive NB occurs in growing children, pregnant women and athletes.
          - * Negative NB occurs in starving individuals.
3. Protein requirements
   a. Proteins and amino acids are necessary to build enzymes, hormones, and other cellular proteins.
   b. vary among individuals.
   c. Nutritionists recommend that an average adult take in 0.8g/kg body weight.
   d. Protein deficiencies:
      - tissue wasting
      - decreased levels of plasma proteins:
        - ♦ Albumin: osmotic pressure abnormalities and nutritional edema.
        - ♦ Globulins: decreased immunity.
        - ♦ Fibrinogen: bleeding disorders.

IV ENERGY EXPENDITURES

The amount of potential energy a food contains can be expressed as calories, which are units of heat.

A. Important definitions
   1. **Calorie** = the amount of heat required to raise the temperature of one gram of water by 1 degree Celsius (°C).
   2. **Kilocalorie** = the amount of heat required to raise the temperature of a

kilogram of water by 1 degree Celsius (°C).

a. used to measure food energy
b. in nutritional studies, simply referred to as a calorie.

B. Energy Values of Foods
1. The caloric contents of food can be measured with a "bomb calorimeter" (See Fig 18.7, page 702).
2. Energy yield via cellular oxidation:

a. 1 gram of carbohydrate = 4.1 Calories.
b. 1 gram of protein = 4.1 Calories.
c. 1 gram of fat = 9.5 Calories.

C. Energy Requirements

The energy needs of individuals vary and are based on several factors including the individual's basal metabolic rate, degree of muscular activity, body temperature, and rate of growth.

1. Basal Metabolic Rate (BMR)
   a. BMR measures the rate at which the body expends energy under basal conditions (i.e. awake, at rest, comfortable, et cetera).
   b. Tests of thyroid function can be used to estimate a person's BMR.
   c. BMR is affected by sex, temperature, size, and endocrine activity.
   d. BMR represents the energy necessary to sustain activities of the brain, heart, lungs, kidneys & liver.
   e. BMR maintenance requires the body's greatest energy expenditure.
2. Energy required to support muscular activity: See Table 18.5, page 703.

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IV ENERGY EXPENDITURES

D. Energy Balance

a. Definition: a state of energy balance (EB) exists when caloric intake in the form of food equals caloric output resulting from BMR and muscular activity.

b. Under these conditions, body weight would remain constant.

1. Positive EB = increases body weight
   - Excess of 3500 calories can be stored as a pound of fat.

2. Negative EB = decreases body weight
   - Stored materials are mobilized from tissues for oxidation.

E. Desirable Weight

See Clinical Application 18.1 on pages 704 and 705. This application addresses obesity, however a chart illustrating body mass index (BMI) is helpful in understanding what desirable weight really means. Also see Figure 18.8, page 703.

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V. MICRONUTRIENTS

Micronutrients include vitamins and minerals, which essentially aid our cells in metabolism. As discussed in Chapter 4 of this text, enzymes regulate metabolism however they are not always activated and may require a substance called a coenzyme or cofactor. Vitamins serve as coenzymes and minerals serve as cofactors. In addition, vitamins and minerals may themselves be necessary for important body functions (i.e. bone growth, nerve impulse transmission, muscle contraction, et cetera).

A. VITAMINS

1. General characteristics
   a. organic
   b. required in small amounts, but body cells cannot synthesize vitamins in adequate amounts and therefore they must be obtained from foods.
   c. classified based on solubility
      - Fat soluble vitamins include A, D, E, and K
      - Water-soluble vitamins include the B vitamins and C. fairly resistant to heating (i.e. not destroyed in cooking).
2. FAT-SOLUBLE VITAMINS
   a. **VITAMIN A**
      - occurs in several forms including retinol & retinal.
      - is synthesized from carotenes (See Fig 18.9, page 706).
      - is stored in liver.
      - functions in the production of pigments necessary for **vision**.
   b. **VITAMIN D**
      - is group of steroids in structure.
      - is found in foods such as dairy products.
      - can be produced commercially.
      - can be synthesized by skin (using sunlight).
      - functions as hormone that promotes the intestine's **absorption of calcium and phosphorus** (i.e. bone growth and remodeling).
      - Deficiency in children causes **rickets** (See Fig 18.10, page 707).

V. **MICRONUTRIENTS**

A. **VITAMINS**

2. **FAT-SOLUBLE VITAMINS**

c. **VITAMIN E**

- antioxidants.
- stored in muscle and adipose.
- precise function unknown.
- seems to prevent polyunsaturated and vitamin A oxidation, and stabilize cell membranes.
- may play a role in **defense in aging**, and several other diseases.

d. **VITAMIN K**

- K_1 occurs in foods.
- K_2 occurs in intestinal bacterial flora.
- stored in the liver.
- functions in the production of prothrombin necessary for normal **blood clotting.**
- See box discussing newborn Vitamin K deficiencies on 709.

3. **WATER-SOLUBLE VITAMINS**

a. **VITAMIN B-COMPLEX**

- In general, the B vitamins:
  - occur together in many foods (i.e. complex).
  - function as coenzymes or a part of coenzymes that is necessary for the metabolism of proteins, lipids, or carbohydrates.
  - They aid in either the:
    - synthesis of a macromolecule or
    - the oxidization of a macromolecule.

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V. MICRONUTRIENTS

A. **VITAMINS**

3. **WATER-SOLUBLE VITAMINS**

a. **VITAMIN B-COMPLEX**

- The B vitamins include:
  - **Thiamin** (B_1) aids in cellular respiration (required for pyruvic acid to enter the Krebs Cycle) and aids in the synthesis of the sugar ribose (RNA); Deficiency = **beriberi** (page 709).
  - **Riboflavin** (B_2) includes FAD that transport electrons through the electron transport chain (ETC) & therefore aids in the oxidation of glucose & fatty acids.
  - **Niacin** (Nicotinic Acid) includes NAD and NADP which are important electron carriers in glycolysis, Krebs Cycle and the ETC, as well as for the synthesis of proteins and fats; See Fig 18.11 and 12, page 710; deficiency = **pellagra** (page 710).
  - **Pantothenic Acid** (B_5) functions as part of coenzyme A (i.e. needed for formation of acetyl CoA that enters the Krebs Cycle in cellular respiration).
  - **Vitamin B_6** aids in the synthesis of proteins, certain amino acids, antibodies, and nucleic acids; See Fig 18.13, page 710.
  - **Vitamin B_{12} (**Cyanocobalamin) contains cobalt and is needed for the synthesis of nucleic acids and for the metabolism of carbohydrates and fats; See Fig 18.14, page 711 and pernicious anemia on page 711.
  - **Folacin** (Folic acid) aids in the metabolism of certain amino acids, the synthesis of DNA, and erythropoiesis; deficiencies have been linked to **neural tube defects** during pregnancy.
  - **Biotin** is needed for the metabolism of amino acids and fatty acids and for the synthesis of nucleic acids;

V. MICRONUTRIENTS

A. **VITAMINS**

3. WATER-SOLUBLE VITAMINS

b. Ascorbic Acid (Vitamin C)

- is closely related chemically to monosaccharides (i.e. contains 6 carbons; hexose).
- is needed for the production of the connective tissue collagen (i.e. **bone matrix**, ligaments, tendons, others), the metabolism of certain amino acids, and iron absorption.

- prolonged deficiencies lead to **scurvy**.

V. MICRONUTRIENTS

B. MINERALS

In contrast to carbohydrates, lipids, proteins, and vitamins, which are organic molecules, minerals are very small **inorganic** elements. Humans obtain these essential minerals by eating plants, or by eating herbivorous animals.

1. Characteristics of Minerals
   a. Compose 4% of body weight
      - concentrated in bones & teeth
      - Calcium and phosphorus are the most abundant.
   b. Usually incorporated into organic molecules
      - iron in hemoglobin
      - iodine in thyroxine (T_4).
   c. Some compose of inorganic molecules
      - calcium phosphate of bone.
   d. Some are free ions in the blood:
      - Sodium (Na^+);
      - Chloride (Cl^-);
      - Potassium (K^+).
   e. Present in all body cells where they provide many functions:
      - structure;
      - cofactors for enzymes;
      - maintain osmotic pressure (0.9%);
      - are involved in transmission of nerve impulses;
      - are involved in muscle contraction;
      - are involved in blood clotting;
      - maintain pH.

V. MICRONUTRIENTS

B. MINERALS

Summary Table of **MAJOR** Minerals

Mineral	**Sym-bol**	**Major Trace**	**Primary Distribution**	**Major Function(s)**	**Major Sources**	**Conditions**
Calcium	Ca	Major	Bones & Teeth	Structure of bone/teeth; nerve impulse conduction; muscle contraction	milk;	+ kidney stones - stunted growth
Phosphorus	P	Major	Bones & Teeth	Structure of bone/teeth; ATP; Nucleic acid & proteins	meats; cheese; milk	+ none - stunted growth
Potassium	K	Major	Intracellular Fluid	maintenance of resting membrane potential (RMP)	avocados; bananas; potatoes	+ none - muscular & cardiac problems
Sulfur	S	Major	skin, hair, nails	essential part of amino acids, thiamine, insulin, biotin, and MPS	meats; milk; eggs	+ none - none
Sodium	Na	Major	Extracellular Fluid	maintenance of RMP, electrolyte, water, & pH balance	table salt; cured ham	+ hyperten-sion, edema - cramps, convulsions
Chlorine	Cl	Major	Extracellular Fluid	maintenance of RMP, electrolyte, water, & pH balance	table salt; cured ham	+ vomiting - muscle cramps
Magnesium	Mg	Major	Bones	needed in mitochondria for cellular respiration; ATP/ADP conversion	milk; dairy; legumes	+ diarrhea - neuro-muscular problems

Summary Table of **TRACE** Minerals						
Mineral	**Symbol**	**Major Trace**	**Primary Distribution**	**Major Function(s)**	**Sources**	**Conditions**
Iron	Fe	Trace	Blood	part of hemoglobin	liver	+ liver damage - anemia
Manganese	Mn	Trace	liver, kidneys	occurs in many enzymes	nuts	+ none - none
Copper	Cu	Trace	liver, heart, brain	essential in synthesis of hemoglobin, bone, melanin, myelin	liver; oysters crabmeat	+ rare - rare
Iodine	I	Trace	thyroid	essential in the synthesis of thyroid hormones	iodized table salt	+ thyroid hormone imbalance - goiter
Cobalt	Co	Trace	widely distributed	component of Cyanocobalamin (B_{12})	liver; lean meats	+ heart disease - pernicious anemia
Zinc	Zn	Trace	liver, kidneys, brain	wound healing; part of several enzymes	meats; cereals	+ slurred speech - decreased immunity
Fluorine	F	Trace	bones & teeth	tooth structure	fluorida-ted water	+ mottled teeth - none
Selenium	Se	Trace	liver & kidney	occurs in enzymes	lean meats cereals	+ vomiting, fatigue - none
Chromium	Cr	Trace	widely distributed	essential for use in carbohydrates	liver; lean meats	+ none - none

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VI. HEALTHY EATING

A. **An adequate diet provides sufficient energy and essential nutrients to support**
   1. optimal growth of tissues
   2. maintenance of tissues
   3. repair of tissues.

B. **Individual dietary needs vary greatly**
   1. impossible to devise adequate diet for every human.
   2. Devices to assist consumers in healthy eating include:
      a. Recommended Daily Allowances (RDA)
      b. Recommended Dietary Allowances
      c. Food group plans
      d. Food pyramid, See Fig 18.18 on page 721.
      e. Food labels

C. Malnutrition:
   1. Poor nutrition may be due to either:
      a. Lack of foods or
      b. Failure to make best use of available foods.
      c. Poor nutrition is classified in two ways:
         - Primary = poor diet.
         - Secondary = some characteristic that makes a normal diet inadequate.

D. **Starvation:**
   1. A person can survive 50-70 days without food.
   2. A starving body digests itself.
      a. starts with carbohydrate stores in liver & muscle
      b. continues with protein digestion in many tissues including muscle
      c. continues with fat digestion including adipose but also myelin that surround nerve fibers.
   3. Starvation symptoms are numerous and progress in the following order:
      a. low blood pressure and pulse
      b. chills, dry skin, hair loss
      c. poor immunity
      d. death due to malfunction of vital organ(s).

VI. **HEALTHY EATING (continued)**

D. **Starvation** (continued)

4. In the young, starvation may be due to total vs. specific deficiencies.

a. Marasmus is due to lack of all nutrients.
b. Kwashiorkor is due to a protein deficiency.
c. See Fig 18.19 on page 723 comparing these two deficiencies.

5. In teens or adults, starvation may be self-inflicted as eating disorders:

a. Anorexia Nervosa is self-starvation.

- See introduction to chapter on page 694.
- Read progression of disease on page 723-724.

b. Bulimia nervosa

- characterized by binge eating followed by purging:
  - vomiting or
  - use of laxatives or
  - through excessive exercise.

- See page 724.

VII. LIFE SPAN CHANGES

A. Nutritional and energy requirements change with age and also depend upon
1. medical conditions
2. social and economic conditions.
3. See Table 18.12, page 724.

B. BMR:
1. rises in early childhood
2. declines in mid-late childhood
3. peaks again in adolescence
4. declines with age thereafter.

C. At any age:
1. Weight gain occurs when energy in exceeds energy out
2. Weight loss occurs when energy out exceeds energy in.

KEY TO MACROMOLECULE SUMMARY TABLE

Organic Molecule	Carbohy-drates (sugars)	Lipids (Fats)	Proteins	Nucleic Acids
Composed of what atoms?	C, H, 0	C, H, O	C, H, O, N, S	C, H, O, N, P
Building Blocks (monomers)	Monosaccha-rides or hexoses	Triglycerides: glycerol and 3 fatty acids	amino acids	nucleotides: pentose sugar, phosphate, nitrogen base
Specific types & functions of monomers	glucose, fructose, galactose: energy	TG = energy Phospholipid = cell membrane component Steroid = cell membrane component and chemical messenger (i.e. cholesterol)	20 different amino acids	N/A
Specific types and functions of polymers	Disaccharides: sucrose, lactose, maltose; energy _____ Polysaccharides : Starch (plant); Glycogen (animal); energy storage.	N/A	proteins (>100 amino acids); Many functions: ENZYMES, antibodies, structure, transport, chemical messengers, storage	DNA = deoxyribo-nucleic acid; genetic material; RNA= ribonucleic acid; aids DNA in protein synthesis.
Other		Saturated (only single bonds between C's in fa chain) vs. Unsaturated (at least 1 double bond in fa chain)		DNA controls cellular activity by instructing our cells what proteins to make (i.e. Enzymes).

Key to Metabolism Comparison

	Anabolism SYNTHESIS REACTIONS	**Catabolism DEGRADATION RXN'S**
GENERAL DESCRIPTION	Synthesis involves the building of a large molecule (polymer) from smaller building blocks (monomer).	Degradation involves the breakdown of polymer into individual monomers.
DESCRIPTIVE TERMS	building constructive anabolic	breakdown digestive decomposition catabolic
BOND FORMATION OR BREAKING?	Bonds are formed.	Bonds are broken.
IS ENERGY REQUIRED OR RELEASED? NAME THAT TERM.	Energy is required to form the bond. Endergonic	Energy is released when the bond is broken. Exergonic
HOW IS WATER INVOLVED? NAME THAT TERM.	Water is released when he bond is formed. Dehydration	Water is required to break the bond. Hydrolysis
EXAMPLE	Building a protein from individual amino acids; Building a triglyceride from glycerol and 3 fatty acids, etc.	Breaking a protein into individual amino acids; Breaking starch down into monosaccharides, etc.

KEY TO CELLULAR RESPIRATION SUMMARY TABLE

	GLYCOLYSIS	**CONVERSION STEP**	**KREBS CYCLE**	**ELECTRON TRANSPORT CHAIN**
LOCATION	cytoplasm	mitochondria	mito matrix	mito inner membrane
Oxygen Required?	no	yes	yes	yes
Starting Product	glucose (6-C)	2 pyruvates (2 x 3C)	Acetyl CoA (2 x 2C)	10 NADH 2 $FADH_2$
End-Products	2 pyruvates (2 x 3-C) 2 ATP 2 NADH	2 Acetyl CoA 2 NADH 2 CO_2	6 NADH 2 $FADH_2$ 2 ATP 4 CO_2	30 ATP 4 ATP 4 ATP
TOTAL				38 ATP

Dietary habits

It isn't uncommon for students to "skip meals", normally due to time pressures, stress, lack of money and other priorities. That you care more about your studies, social life and interests than you do about what you eat is easy to understand, but have you thought that by eating healthily, you can have more energy to cope with other aspects of life? Here you will find basic information about what your body needs and some advice for maintaining a healthy diet. The information is largely taken from the Stockholm Healthcare Guide, where you can find out more about food and nutrition.

Your body needs a combination of nutrients every day to function and feel good! The energy you need is individual and depends on your sex and age, and the amount of exercise you get. Healthy eating is a matter of balance. It's what you eat, how much of it you eat and how often you eat that affects your health in the long and short term. Energy and nutrition you obtain from carbohydrates, fat and protein, vitamins and minerals. In addition to this you need water and your stomach needs fibre. But eating well is not enough, for a healthy lifestyle requires exercise as well as good food. You can find out more about this under the Physical Activity tab on the right.

A regular, balanced diet increases your chances of obtaining the energy and nutrients you need during the day. Three meals at roughly 3 to 4-hour intervals is a good rule of thumb. You also need the odd snack, such as an open sandwich, yoghurt and/or fruit. The more evenly you spread out your meals during the day, the more stable your blood sugar will be; in all likelihood, you will then feel less tired and more able to concentrate and resist the temptation to keep nibbling. Don't skip breakfast! A good breakfast should give you 25 to 30 per cent of the energy you need for the day! Try to meet your nutritional needs even during times of stress - that's when you need it most.

Values related to diets

There are two sets of reference values for reporting nutrients in nutrition labeling: 1) Daily Reference Values (DRVs) and 2) Reference Daily Intakes (RDIs). These values assist consumers in interpreting information about the amount of a nutrient that is present in a food and in comparing nutritional values of food products. DRVs are established for adults and children four or more years of age, as are RDIs, with the exception of protein. DRVs are provided for total fat, saturated fat, cholesterol, total carbohydrate, dietary fiber, sodium, potassium, and protein. RDIs are provided for vitamins and minerals and for protein for children less than four years of age and for pregnant and lactating women. In order to limit consumer confusion, however, the label includes a single term (i.e., Daily Value (DV)), to designate both the DRVs and RDIs. Specifically, the label includes the % DV, except that the % DV for protein is not required unless a protein claim is made for the product or if the product is to be used by infants or children under four years of age. The following table lists the DVs based on a caloric intake of 2,000 calories, for adults and children four or more years of age.

Food Componfent	DV
Total Fat	65 grams (g)
Saturated Fat	20 g
Cholesterol	300 milligrams (mg)
Sodium	2,400 mg
Potassium	3,500 mg
Total Carbohydrate	300 g
Dietary Fiber	25 g

Food Componfent	DV
Protein	50 g
Vitamin A	5,000 International Units (IU)
Vitamin C	60 mg
Calcium	1,000 mg
Iron	18 mg
Vitamin D	400 IU
Vitamin E	30 IU
Vitamin K	80 micrograms µg
Thiamin	1.5 mg
Riboflavin	1.7 mg
Niacin	20 mg

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Food Componfent	DV
Vitamin B6	2 mg
Folate	400 µg
Vitamin B12	6 µg
Biotin	300 µg
Pantothenic acid	10 mg
Phosphorus	1,000 mg
Iodine	150 µg
Magnesium	400 mg
Zinc	15 mg
Selenium	70 µg
Copper	2 mg

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Food Componfent	DV
Manganese	2 mg
Chromium	120 µg
Molybdenum	75 µg
Chloride	3,400 mg

In order to calculate the % DV, determine the ratio between the amount of the nutrient in a serving of food and the DV for the nutrient. That is, divide either the actual (unrounded) quantitative amount or the declared (rounded) amount (see next section) by the appropriate DV. When deciding whether to use the unrounded or rounded value, consider the amount that will provide the greatest consistency on the food label and prevent unnecessary consumer confusion. The nutrients in the table above are listed in the order in which they are required to appear on a label in accordance with *21 CFR 101.9(c)*. This list includes only those nutrients for which a DRV has been established in *21 CFR 101.9(c)(9)* or a RDI in *21 CFR 101.9(c)(8)(iv)*.

Over / under weight

Overweight is having more body fat than is optimally healthy. Being overweight is a common condition, especially where food supplies are plentiful and lifestyles are sedentary.

Excess weight has reached epidemic proportions globally, with more than 1 billion adults being either overweight or obese in 2003. In 2013 this increased to more than 2 billion. Increases have been observed across all age groups.

A healthy body requires a minimum amount of fat for the proper functioning of the hormonal, reproductive, and immune systems, as thermal insulation, as shock absorption for sensitive areas, and as energy for future use. But the accumulation of too much storage fat can impair movement and flexibility, and can alter the appearance of the body.

Classification

The degree to which a person is overweight is generally described by body mass index (BMI). Overweight is defined as a BMI of 25 or more, thus it includes pre-obesity defined as a BMI between 25 and 30 and obesity as defined by a BMI of 30 or more. Pre

obese and overweight however are often used interchangeably thus giving overweight a common definition of a BMI of between 25 -30. There are however several other common ways to measure the amount of adiposity or fat present in an individual's body.

Body mass index

The body mass index (BMI) is a measure of a person's weight taking into account their height. It is given by the formula: BMI equals a person's weight (mass) in kilograms divided by the square of the person's height in metres. The units therefore are kg/m2 but BMI measures are typically used and written without units. BMI provides a significantly more accurate representation of body fat content than simply measuring a person's weight. It is only moderately correlated with both body fat percentage and body fat mass (R2 of 0.68). It does not take into account certain factors such as pregnancy or bodybuilding; however, the BMI is an accurate reflection of fat percentage in the majority of the adult population. Body volume index

The body volume index (BVI) was devised in 2000 as a computer, rather than manual, measurement of the human body for obesity and an alternative to the Body volume index uses 3D software to create an accurate 3D image of a person so BVI can differentiate between people with the same BMI rating, but who have a different shape and different weight distribution.

Simple weighing

The person's weight is measured and compared to an estimated ideal weight. This is the easiest and most common method, but by far the least accurate, as it only measures one quantity (weight) and often does not take into account many factors such as height, body type, and relative amount of muscle mass.

Skinfold calipers or "pinch test"

The skin at several specific points on the body is pinched and the thickness of the resulting fold is measured. This measures the thickness of the layers of fat located under the skin, from which a general measurement of total amount of fat in the body is calculated. This method can be reasonably accurate for many people, but it assumes particular fat distribution patterns over the body—which may not apply to all individuals, and does not account for fat deposits not directly under the skin. Also, as the measurement and analysis generally involves a high degree of practice and interpretation, an accurate result requires that a professional perform it. It cannot generally be done by patients themselves.

Bioelectrical impedance analysis

A small electrical current is passed through the body to measure its electrical resistance. As fat and muscle conduct electricity differently, this method can provide a direct measurement of the body fat percentage, in relation to muscle mass. In the past, this technique could only be performed reliably by trained professionals with specialized equipment, but it is now possible to buy home testing kits that let people do this themselves with a minimum of training. Despite the improved simplicity of this process over the years, however, a number of factors can affect the results, including hydration and body temperature, so it still needs some care when taking the test to ensure that the results are accurate.

Hydrostatic weighing

Considered one of the more accurate methods of measuring body fat, this technique involves complete submersion of a person in water, with special equipment to measure the person's weight while submerged. This weight is then compared with "dry weight" as recorded outside the water to determine overall body density. As fat is less dense than muscle, careful application of this technique can provide a reasonably close estimate of fat content in the body. This technique does, however, require expensive specialized equipment and trained professionals to administer it properly.

Underweight is a term describing a human whose body weight is considered too low to be healthy. The definition usually refers to people with a body mass index (BMI) of under 18.5 or a weight 15% to 20% below that normal for their age and height group

Causes

A person may be underweight due to genetics, metabolism, lack of food (frequently due to poverty), or illness.

Being underweight is associated with certain medical conditions, including hyperthyroidism, cancer,or tuberculosis.People with gastrointestinal or liver problems may be unable to absorb nutrients adequately. People with anorexia nervosa become underweight due to self-starvation (often accompanied by excessive exercise).

Formula daily calories requirement according to weight

1. Calculate calories with the number of available online calculators from weight loss sites, the Mayo Clinic and even the American Cancer Society. Most of these calculators operate in the same way:

Choose to input standard or metric measurements.

Input your age, height, weight and gender to receive the number of calories needs for your body.

2. Determine your personal basal metabolic rate or BMR. The BMR is your daily caloric needs needed for your body to perform its basic tasks, such as heart to beat, breathing, digesting, etc. This measurement can help you fine tune the calorie needs of your body with the Harris Benedict formula.

The woman's American measurement BMR equation is: (4.7 x your height in inches) + (4.35 x your weight in pounds) - (4.7 x your age in years). Add 655 to this total for the BMR..

The man's American measurement BMR equation is: (12.7 x your height in inches) + (6.23 x your weight in pounds) - (6.8 x your age in years). Add 66 to the total for the BMR.

The BMR equation in metrics for women is: (9.6 x your weight in kilograms) + (1.8 x your height in centimeters) - (4.7 x your age in years). Add 655 to the total to learn your BMR.

The BMR equation in metrics for men is: 66 + (13.7 x your weight in kilograms) + (5 x your height in centimeters) - (6.8 x your age in years). Add 66 to the total to learn your BMR.

3. Apply the Harris Benedict formula to calculate calories based on your activity level and BMR. All you have to do is multiply the BMR for your body by the number for your activity level.
If you don't exercise or exercise little, multiply the BMR by 1.2 for daily calories.
If you take part in light exercise or sports 1-to-3 days each week, multiply the BMR by 1.375 for daily calories needed.
People who exercise moderately and/or play sports 3-to-5 days a week should multiply their BMR by 1.55
Active people who engage in strenuous sports or hard exercise 6-to-7 days a week need to multiply their BMR by 1.725.
People who engage in very physically challenging jobs or exercise, such as 2-a-day workouts, should multiply their BMR by 1.9 for daily caloric needs.

4. Consider muscle-to-fat ratio in calorie needs. More muscular bodies need more daily calories than average size bodies.
By the same logic, obese people may overestimate daily calories with the Harris Benedict formula.

Unit –VI
Elimination pattern

Elimination
Describes the function of the bowel, bladder and skin. Through this pattern the nurse is able to determine regularity, quality, and quantity of stool and urine.

History (subjective data):
Bowel elimination pattern (describe) Frequency, character, discomfort, problem with bowel control, use of laxatives (i.e. type, frequency), etc.? Urinary elimination pattern (describe) Frequency, problem with bladder control? Excess perspiration? Odour problems? Body cavity drainage, suction, etc.?

Examination (examples of objective data):
If indicated, examine excretions or drainage for characteristics, colour, and consistency. Abdominal assessment.

Elimination concept
Concept Definition Elimination is the excretion of waste products from the kidneys and intestines.

Exemplars
Benign Prostate Hypertrophy (BPH) - urinary retention
Diarrhea – bowel incontinence
Gerontology – urinary incontinence
Paralytic ileus – bowel obstruction
Skills Lab -constipation/impaction/colostomy

1. disruptions in elimination and to promote normal elimination.

Explanation of Elimination Diagram:

Bowel ability (including peristalsis) to expel feces, adequate hydration/intake, and bladder ability to void are Antecedents for the Elimination Concept. These entities/processes must be in place before normal elimination can result. Normal Elimination is defined as the formation, passage and excretion of waste products. The concept of Elimination is optimally operationalized when there is a routine and voluntary passage of formed stool preceded by the urge to defecate at routine interval, and for bladder elimination: the voluntary control or passage of > 30 to 50 cc of urine per hour (child 1-2mL/kg/hour), and homeostasis. These measurements are called Attributes.

When Elimination is occurring optimally there are positive outcomes/consequences. However, if the Antecedents are altered or deviate from normal function for bowel or bladder elimination, negative outcomes/consequences may result. Antecedents causing the negative consequence must be identified to determine corrective intervention. This process also includes an assessment of the Interrelated Concepts. The Interrelated Concepts of Nutrition, Coping, Fluids and Electrolyte Balance, Mobility, and Cognition impact Elimination and Elimination may impact them. The sub-concepts are components within a concept usually used when teaching the concept.
Review the following Nursing Diagnoses

- Bowel incontinence
- Constipation, perceived constipation, risk for constipation
- Diarrhea

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- Dysfunctional gastrointestinal motility, risk for dysfunctional gastrointestinal motility
- Urinary incontinence, functional urinary incontinence, overflow urinary incontinence, reflex urinary incontinence, stress urinary incontinence, urge urinary incontinence, risk for urge urinary incontinence
- Toileting, self-care deficit
- Impaired urinary elimination
- Readiness for enhanced urinary elimination
- Urinary retention

Concept content outline:

Concept: Elimination

Sub Concepts: Physiological Development & Function
Bowel & Bladder Toileting Habits Culture
Genetics-Gender Age Congenital Defects
Nutritional/Fluid Intake
Medications
Diversions

Antecedents: Continent
Bowel ability to expel feces
Normal peristalsis
Bladder ability to void
Adequate hydration/intake

Risk Factors: Immobility
Catheterization or other instrumentation of the urethra or bladder
Change in diet or fluid intake
Pharmacological
Excessive loss of body fluids
Inadequate fluid intake

Assessment: Comprehensive history
Physical assessment
Physical and psychological clinical manifestations
Diagnostic tests

Positive Outcomes:
Homeostasis
Positive Physiologic Growth/Development
Active Lifestyle
Nourishment
Positive socialization
Positive self-esteem
Comfort

Negative-Outcomes:

Physiological

Psychological

Clinical Management:

- Nursing interventions
- Collaborative interventions
- Pharmacological therapy
- Procedural therapies
- Diagnostic studies

Exemplars: Benign Prostate Hypertrophy (BPH) – Urinary retention

Diarrhea – bowel incontinence

Gerontology – urinary incontinence

Paralytic ileus – bowel obstruction

CONCEPT ANALYSIS DIAGRAM (TEXAS) – ELIMINATION

Nursing Care

- Directed toward what contributes to a normal concept and is thereby related to all factors involved in or with the concept. Not always needed to have a normal outcome.

Attributes

- Defining characteristics of the concept
- What must occur for the concept to exist

Antecedents

- What precedes the concept for it to exist
- Events or incidents that must happen before the concept

Consequences

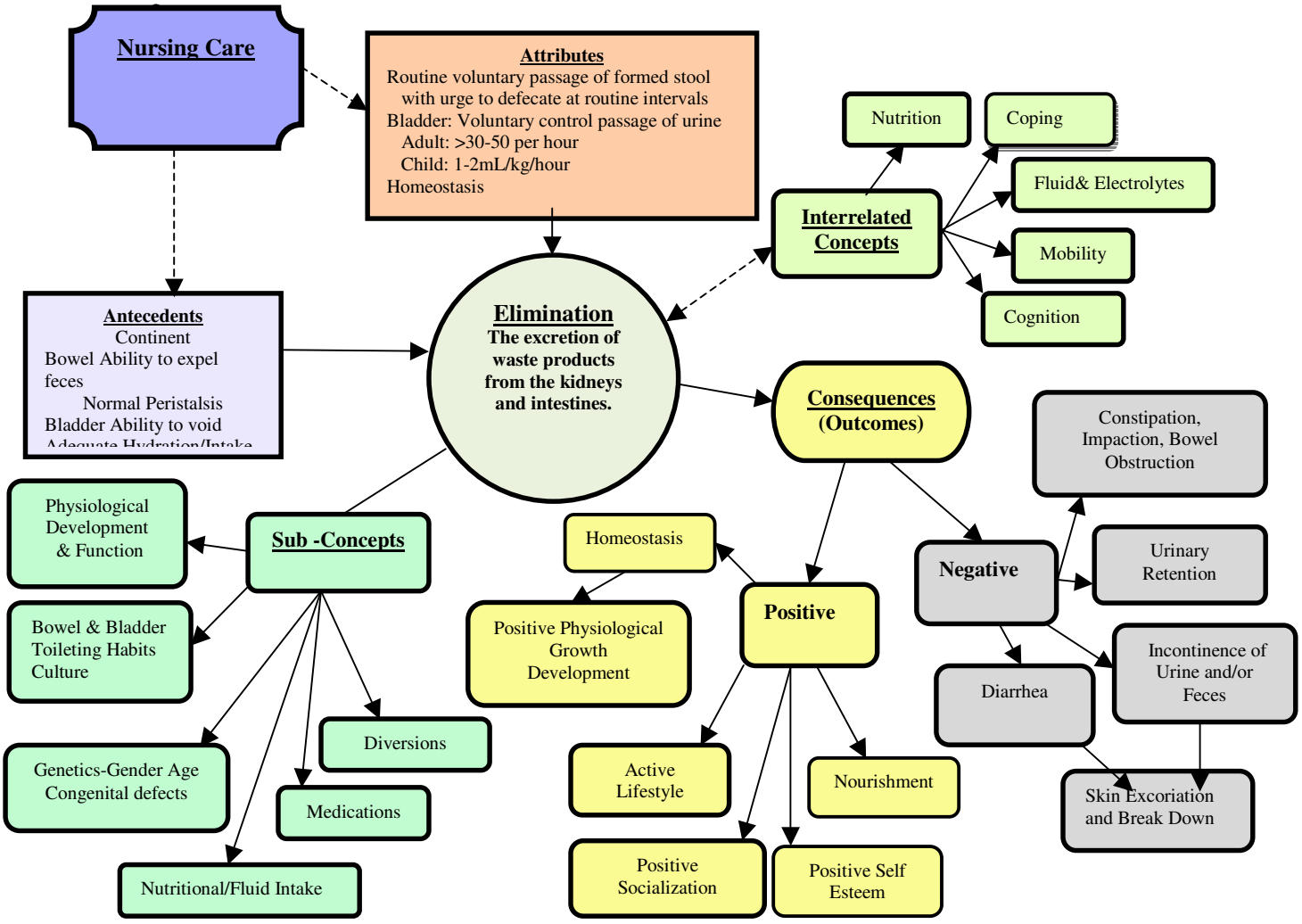
- Untoward events or outcomes that occur due to malfunction within the concept
- Positive events or outcomes that occur due to proper functioning within the concept

Interrelated Concept

- Concepts which can affect change in the other
- Concepts which work together to ensure a normal process
- Concepts which if depleted or impaired can cause a negative consequence in the other

Sub- Concept

Critical components of major concept



Anatomy and physiology of bladder and bowl elimination.

(includes Defecation and urination, Colostomy care, Catheterization, Enemas, Bladder training, Kegal exercise, Bowel training)

Removals of body waste via the intestinal and urinary tracts — **elimination** — is a complex function that is vital to health. Elimination involves intricate physiologic and psychological interrelationships and is affected by an individual's lifestyle, health status, and emotional state. Both bowel and urinary elimination are discussed in this chapter. Alterations in elimination influence well-being and may indicate a change in health status. Examples of commonly experienced alterations in elimination are constipation when traveling away from home and urinary frequency at times of stress.

Nurses need to acquire skill in collecting data about urinary and bowel function to identify alterations that can be corrected by nursing implementation planned in collaboration with other members of the health care team, the patient and family, from whom comprehensive information is elicited. For effective data collection, nurses need to

apply knowledge of basic anatomic structures and physical functions related to elimination as well as assessment communication and physical assessment techniques. Analysis of a comprehensive elimination database may yield nursing diagnoses of altered elimination. Once nursing diagnoses are established, nurse and patient together plan approaches that will promote optimal elimination.

This chapter provides a basis for the understanding of elimination function, assessment of elimination, and management of common elimination problems.

Section I Urinary Elimination

Elimination from urinary tract is usually taken for granted. When the urinary system fails to function properly, virtually all organ systems will be eventually affected. Clients with alterations in urinary elimination may also suffer emotionally from baby image changes. The nurse provides understanding and sensitivity to all clients' needs. The nurse must understand the reasons for problems and find acceptable solutions.

Anatomy and Physiology

Urinary elimination depends on effective function of four urinary tract organs: kidneys, ureters, bladder, and urethra. Kidneys remove wastes from the blood to form urine. Ureters transport urine from the kidneys to the bladder. The bladder holds urine until the urge to urinate develops. Urine leaves the baby through the urethra. All organs of the urinary system must be intact and functional for successful removal of urinary wastes.

Kidneys

Kidneys are paired, reddish brown and bean-shaped. It locates on either side of the vertebral column behind the peritoneum and against deep muscles of the back. The kidneys extend to the twelfth thoracic and third lumbar vertebrae. Normally the left kidney is 1.5 to 2cm higher than the right because of the anatomical position of the liver. Each kidney typically measures approximately 12 by 7cm and weighs 120 to 150g. Each kidney is covered by a tough capsule and surrounded by a cushion of fat.

Kidneys filter the blood and remove metabolic wastes. Blood reaches each kidney by a renal (kidney) artery that branches from the abdominal aorta. The renal artery enters the kidney at the hilum. The nephron is the basic unit of the kidney structure. It forms the urine. The nephron is composed of the glomerulus, Bowman's capsule, proximal convoluted tubule, loop of Henle, distal tubule and collecting duct.

Through the afferent arterioles blood reaches nephrons. A cluster of these blond vessels forms the capillary network of the glomerulus, which is the initial site of filtration of the blood and the beginning of urine formation. The glomerular capillaries are porous, allowing filtration of water and substances such as glucose, amino acids, urea, creatinine, and major electrolytes into Bowman's capsule. Large proteins and blood cells, however, are too large to across the membrane normally. The presence of large proteins in the urine (proteinuria) is a sign of glomerular injury. The glomerulus filters approximately 125 mL of filtrate per minute. Initially the filtrate closely approximates blood plasma minus the large proteins.

The glomerular filtrate is not all excreted as urine. About 99% of the filtrate is reabsorbed into the plasma, with the remaining 1% excreted as urine. Thus the kidneys are very important to the balance of fluid and electrolyte. Although output does depend on intake, the normal adult 24-hour output of urine is about 1500 to 1600 mL. An output of less than 30 mL per hour may indicate renal alterations. The kidneys also produce several hormones, such as erythropoietin, rennin, which are vital to production of red blood cells (RBCs), blood pressure regulation, and bone mineralization.

Ureters

Once the urine is formed in the kidneys, it moves through the collecting ducts into the calyces of the renal pelvis. A ureter joins each renal pelvis to the urinary bladder. The ureters are from 25 to 30cm long and about 1.25cm in diameter in the adult. They extend retroperitoneally to enter the urinary bladder in the pelvic cavity at the ureterovesical junction. Urine draining from the ureters to the bladder is usually sterile.

The wall of the ureter is composed of three layers of tissue. The inner layer is a mucous membrane continuous with the lining of the renal pelvis and urinary bladder. The middle layer consists of smooth muscle fibers that transport urine through the ureters by peristaltic waves stimulated by distention with urine. An outer layer of fibrous connective tissue supports the ureters.

Bladder

The urinary bladder is a hollow, distensible, muscular organ that served as a reservoir for urine and as the organ of excretion. When empty, the bladder lies in the pelvic cavity behind the symphysis pubis, in men the bladder lies against the anterior wall of the rectum and in women it rests against the anterior wall of the uterus and vagina.

When the bladder is filled with urine, it expands. Pressure within the bladder is usually low, even when partly full, a factor that protects against infection. The capacity is approximately 600 mL of urine, although a normal voiding is about 300 mL.

When the bladder is full, the dome of the bladder may expand and extends above the symphysis pubis, in extreme situations it may extend to as high as the umbilicus.

The trigone at the base of the bladder is a triangular area marked by the ureter openings at the posterior corners and the opening of the urethra at the anterior inferior corner. The trigone (a smooth triangular area on the inner surface of the bladder) is at the base of the bladder. An opening exists at each of the trigone's three angles. Two are for the ureters, and one is for the urethra.

The wall of the bladder is made up of four layers: the inner mucous coat, a submucous coat of connective tissue, a muscular coat, and an outer serous coat. The muscular layer has bundles of muscle fibers that form the detrusor muscle. Parasympathetic nerve fibers stimulate the detrusor muscle during urination. The internal urethral sphincter, made of a ringlike band of muscle, is at the base of the bladder where it joins the urethra. The sphincter prevents escape of urine from the bladder and is under voluntary control.

Urethra

The urethra extends from the bladder to the urinary meatus (opening). Normally the turbulent flow of urine through the urethra washes it free of bacteria. Mucous membrane lines the urethra, and urethral glands secrete mucus into the urethral canal. The mucus is believed to be bacteriostatic and forms a mucous plug to prevent entrance of bacteria. Thick layers of smooth muscle surround the urethra. In addition, the urethra descends through a layer of skeletal muscle called the pelvic floor muscles. When these muscles are contracted, it is possible to prevent urine flow through the urethra.

The urethra differs in males and females. In women the urethra is approximately 4 to 6.5cm long. The external urethral sphincter, located about halfway down the urethra, permits voluntary flow of urine. The short length of the urethra predisposes women to infection. Bacteria can easily enter the urethra from the perineal area. In men the urethra, which is both a urinary canal and a passageway for cells and secretions from reproductive organs, is 20cm long. The male urethra has three sections: the prostate urethra, the membranous urethra, and the cavernous or penile urethra.

In a female the urinary meatus (opening) is located between the labia minora, above the vagina and below the clitoris. In a male the meatus is located at the distal end of the penis.

Act of Urination

The process of empting the bladder is known as urination; it also is called voiding or micturition. Several brain structures influence bladder function, including the cerebral cortex, thalamus, hypothalamus, and brain stem. Together they suppress contraction of the bladder's detrusor muscle until a person wishes to urinate or void. Once voiding occurs, the response is a contraction of the bladder and coordinated relaxation of pelvic floor muscles.

The bladder normally holds as such as 600 mLof urine. However, the desire to urinate can be sensed when the bladder contains a smaller amount of urine (150 to 200 mL in an adult and 50 to 200 mL in a child). As the volume increases, the bladder walls stretch, sending sensory impulses to the micturition center in the sacral spinal cord. Parasympathetic impulses from the micturition center stimulate the detrusor muscle to contract rhythmically. The internal urethral sphincter also relaxes so that urine may enter the urethra, although voiding dose not yet occur. As the bladder contracts, never impulses travel up the spinal cord to the pons and cerebral cortex. A person is thus conscious of the need to urinate. Older children and adults can respond to or ignore this urge, thus making urination under voluntary control. If the person chooses not to void, the external urinary sphincter remains contracted, and the micturition reflex is inhibited. However, when a person is ready to void, the external sphincter relaxes, the micturition reflex stimulates the detrusor muscle to contract, and efficient emptying of the bladder occurs.

If the urge to void has been ignored repeatedly, the bladder capacity may be reached and the resulting pressure on the sphincter may make continued voluntary control impossible.

Damage to the spinal cord above the sacral region causes loss of voluntary control of urination, but the micturition reflex pathway may remain intact, allowing urination to occur reflexively. This condition is called a reflex bladder. If bladder emptying is

hindered by chronic obstruction (such as prostate enlargement), over time the micturition reflex becomes nonfunctional and severe urinary retention occurs.

Normal Urination

Normal Patterns

Patterns of urinary elimination vary among individuals, but most people void about five times a day while they are awake. They usually void initially upon waking, after meals, and at bedtime. Normally, voiding at night is minimal because of the reduced renal blood flow during rest, the kidney's ability to concentrate urine, and the decreased fluid intake as bedtime approaches. Urination is considered a private matter in most cultures.

Characteristics of Normal Urine

Color. Urine is usually light yellow due to the presence of the pigment urochrome. Depending on the specific gravity, normal urine may range from pale to deep yellow. Urine should be clear; the waste products are not usually visible, unless the urine is alkaline, which causes some phosphates and urates to settle out. Factors causing a change in urine color and clarity include disease, dietary intake, and hydration status. Medications, disease, diet, and fluid intake may alter the color and clarity of urine. Many drugs can alter the color of urine; among these are multivitamins, iron preparations, and some diuretics. Color changes may range from pink, red, or orange to dark brown or black.

Odor. Freshly voided urine should have a slightly aromatic odor; a foul odor may be a result of ammonia because bacteria convert urea to ammonia.

Amount. Daily urine production varies with age, fluid intake, and health status. Infants and children excrete large volumes of urine in relation to their size. A 6-month-old infant excretes between 400 to 500 mL of urine daily. In comparison, an adult normally voids 1200 to 1500 mL of urine a day, usually voiding 150 to 600 mL at a time. Urine output of less than 30 mL per hour should be reported immediately to a physician. Urine production of more than 55 mL per hour in an adult or more than 2000 mL a day is excessive. It may be caused by increased fluid intake, certain kidney disorders, endocrine diseases, or the use of diuretics.

Clarity. Normal urine appears transparent at voiding. If urine stands several minutes in a container becomes cloudy. Freshly voided urine in clients with renal disease may appear cloudy or foamy because of high protein concentrations. Urine also appears thick and cloudy as a result of bacteria.

Factors Affecting Urination

Among the factors that affect urinary elimination are fluid intake, age, health status, medications, and emotional state.

Fluid Intake

Because the kidneys provide the main control for fluid homeostasis, fluid intake influences urine production and thus micturition. Water-induced diuresis occurs when an individual drinks a large amount. The fluids increase the circulating plasma volume and thus the amount of glomerular filtrate, resulting in increased urine production. Decreasing fluid intake decreases urine output. Patients who complain of urinary frequency (voiding an increased number of times during the day or night) often cut back their fluid intake so as to decrease the need for urination. However, this requires patient teaching on the nurse's part, because decreasing fluid intake can cause problems such as dehydration.

Certain fluids, such as alcohol and caffeine-containing drinks, inhibit the release of antidiuretic hormone (ADH), thereby directly influencing urine output. Cells in the renal tubules do not reabsorb water when ADH release is inhibited. Cola, cocoa tea and coffee all increase diuresis and micturition. Additionally, some foods high in water content, such as fruits and vegetables, may also increase urine output. If the body becomes depleted of fluid through perspiration, respiration, or digestion, water is reabsorbed by the glomeruli, urine becomes more concentrated, and output is decreased.

Age

Age influences both urinary production and urine excretion. Changes associated with age occur in the kidneys, bladder, and muscles and nerves that affect micturition.

Infants. Infants (birth to 1 year) cannot concentrate urine effectively. Therefore, they excrete large volumes of urine in relation to their size. The kidneys start excreting urine in utero between the 11th and 12th week of development, but the placenta carries out fetal regulatory and excretory function until birth.

Children. Between 1 and 2 years of age, a child's kidneys can concentrate as much urine as an adult's and urine takes on the characteristic yellow-amber color. Control of urination begins between 2.5 to 3 years of age, but nighttime control may not be achieved until age 4 or 5. Girls are often able to gain urine control sooner than boys. During childhood, the kidneys and bladder grow in proportion to the rest of the body.

Adolescents and Adults. Renal filtration of the blood and micturition are usually maintained at full capacity through age 50. Diseases of the urinary tract and metabolic and cardiovascular problems can alter kidney function in the adult, as can other factors discussed below.

Older Adults. Adults older than 65 years frequently experience changes in urinary elimination. Age-related changes in the kidney result in a decreased adaptive capacity. Changes in the nephrons, proximal and distal convoluted tubules, and renal blood vessels produce diminished renal blood flow and glomerular filtration rate, as well as decreased ability to concentrate urine. The elderly therefore require greater amounts of fluid intake to excrete a given amount of metabolic waste. In healthy elderly people, control of fluid volume and excretion is usually effective, in spite of these changes. However, older adults are susceptible to kidney and urinary problems when stressed by injury or disease.

The ureter, bladder and urethra also reflect the aging process. Urination often becomes a concern for the elderly, because decreased bladder capacity, combined with poor ability to concentrate urine, leads to more frequent urination. This can disrupt sleep patterns and create risks for injury when elderly people walk to the bathroom in semidarkness or when

not fully awake. Vision or mobility problems, also common among older individuals, compound the problem.

Elderly women are also at risk for bladder infections and stress incontinence because relaxation of perineal support structures interferes with complete emptying and external sphincter control. Periodic dribbling of urine may also be related to these changes. In men, prostatic hypertrophy (enlargement) often causes difficulties initiating urination. Incontinence dose not occur because of aging, although some diseases may compromise urinary control. Other urination problems in the elderly are related to chronic diseases of other body systems. For example, arthritis may make getting to the bathroom and getting on and off the toilet difficult.

Health Status

Disease, surgical procedures, medications, and diagnostic examinations often alter urinary elimination patterns.

Diseases. Pathology involving the urinary system may affect urinary elimination or urine production. Hereditary anomalies, infection, cancer, and obstruction can all occur in the renal system. They may produce changes ranging from production alterations, such as release of large amounts of poorly concentrated urine, to blockages that result in obstruction of urinary outflow.

Cardiovascular, respiratory, and neuromuscular system pathology may alter urine production or affect a person's ability to void or to get to the toilet. Neuromuscular diseases may lead to loss of bladder tone and inability to control urination. Cardiovascular disease such as hypertension may cause changes in the blood flow to the kidneys, which can lead to decreased production of urine. Because the respiratory system and the renal system together maintain acid-base balance, diseases of the respiratory system affect the renal system. If both systems are impaired, acid-base balance may be severely compromised.

Surgery. Surgery alters urinary elimination in several ways. First, surgery initiates a stress response in which vasopressin (ADH), epinephrine, and renin levels are increased. These hormones increase vascular resistance, promote fluid retention, and therefore decrease urine output. Surgery also contributes to reduced urine output for two reasons: hypovolemia resulting from the npo (nothing by mouth) state prior to surgery, and blood and fluid loss during surgery. Anesthetics, anticholinergics, narcotics, and sedatives used before, during, and after surgery may interfere with voiding in the postoperative period. Anesthesia and other drugs such as narcotics and sedatives, which alter levels of consciousness, may make it difficult for an individual to realize the bladder is full, resulting in retention or incontinence. These same medications may also make it difficult to get on a bedpan or stand to void in a urinal. To help reduce these problems, an indwelling (Foley) catheter is often placed before surgery.

Surgical or diagnostic procedures that involve instrumentation of the urinary tract, lower abdomen, or pelvic region may impair urination because of trauma and inflammation to tissues. Aftereffects of surgery include obstruction of urine flow, interference with the relaxation of sphincters and muscles, pain during voiding, and bleeding from the urinary tract.

Medications. A number of medications can alter normal urinary function, causing, for example, changes in urine characteristics, production, and elimination from the bladder. Diuretics are medications that increase urine excretion.

Because of its waste excretion, the kidney is especially vulnerable to toxicity from drugs. Although some drudge rarely cause nephrotoxicity, antibiotics (especially aminoglycocides, tetracycline's, sulfonamides, and vancomycin); diuretics; and anesthetics are frequently toxic to the kidney. Signs of nephrotoxicity include increased blood urea nitrogen (BUN) and serum creatinine levels, decreased urine output, edema, weight gain, hematuria, and albuminuria.

Emotional State

Individuals under acute stress often experience urinary urgency and frequency. The sympathetic nervous system, which is active during stress, promotes internal sphincter relaxation, therefore stimulating the urge to void even though the bladder is not full. Paradoxically, acute stress may also interfere with relaxation of the external sphincter and perineal muscles. When this occurs, complete emptying of the bladder is difficult or impossible, despite the frequent urge to void. If stress is prolonged (for several hours, for example), urine production is suppressed because of decreased circulation to the kidneys. In this situation, the urge to urinate may be delayed until the stress is resolved.

For some individuals, lack of privacy or anxiety associated with illness and hospitalization may disrupt normal voiding patterns. Incomplete emptying of the bladder or inability to initiate voiding is common.

Altered Urinary Elimination

Alterations in urination comprise a broad category of problems, such as incontinence, retention, dysuria, anuria, and oliguria. Some alterations in elimination result from alterations in urine production. These include conditions such as anuria and oliguria, which nurses monitor but for which the physician prescribes specific treatments.

Urinary Incontinence

Urinary incontinence is the loss of control over voiding. The individual is unable to stop the passage of urine from the bladder. The problem may be temporary, as in the acutely ill patient who is unconscious, or it may be permanent because of neuromuscular damage. The flow of urine may be almost continuous or it may occur sporadically. Incontinence can be treated and in most cases controlled through nursing and medical interventions. The impact of incontinence is immense; it affects not only the patient and family but also health care workers and the health care industry as well.

There are several types of incontinence, each with a different etiology. Risk factors include infection of or trauma to the urinary tract; change in tissue and muscle tone after childbirth, with aging, and after weight loss or gain; neuromuscular conditions that interfere with the transmission of sensory or motor impulses for urination; medications

that increase urinary frequency or change sensory input; and psychological factors such as anxiety, fear, confusion, or disorientation.

Incontinence can be devastating to patients and their families personally, socially, and financially. Patients may suffer from embarrassment, social isolation, depression, anxiety, or impaired skin integrity. The family responsible for the physical care of an incontinent family member often experiences physical strain and mental worry. If the patient is institutionalized, the family may be torn about the decision, and the patient may feel betrayed.

Although incontinence can affect individuals at any age it is most often seen in the elderly. Urinary incontinence is prevalent in older women; at least 50 percent of residents in nursing homes suffer from incontinence. Certain conditions, such as impaired mobility and impaired cognition, are often associated with incontinence. Many patients who have suffered strokes are incontinent, especially when cortical function is impaired. However, although incontinence affects the elderly more than other groups, it is not invariably associated with the aging process.

Enuresis and Nocturia

The involuntary loss of urine beyond the age when bladder control is usually achieved is called enuresis. Enuresis is further defined as nocturnal, diurnal, or both.

Nocturnal enuresis is the loss of urine during sleep after the age of 4 or 5, when most children can avoid nighttime voiding. This condition may continue into the teen years and, rarely, into adulthood. Diurnal enuresis is the loss of urine during the day. This latter condition often occurs because a child delays voiding too long because of play or other distractions, but may be secondary to pathology.

Nocturia, in contrast, is excessive voiding at night; the individual is aware of the need to urinate and gets up to void. It is not unusual for some people to get up once night to void, but when an individual's pattern changes, so that awakening for urination repeatedly occurs several times per night, the change should be assessed.

Age, stress, disease, and medications can play a role in both enuresis and nocturia. Heredity seems to play a role in enuresis because there is an increased incidence among close relatives of those who have experienced it. Other physiologic psychological, and environmental factors thought to contribute to enuresis include food allergies, small bladder capacity, urinary tract infection, fluid intake after dinner, and inaccessibility to toilet facilities. Common causes of nocturia include pregnancy, urinary tract infection, stress, diuretics and increased fluid intake. In men older than 50 years, prostate enlargement contributes to nocturia. It is also felt that decreased bladder tone, chronic diseases such as congestive heart failure and diabetes, and use of diuretics play a significant role in nocturia that occurs with aging.

Safety is a concern for both adults and children who awake at night to go to the bathroom. Many accidents occur when sleepy individuals get up to go to the bathroom. Additionally, enuresis is often a source of embarrassment. Bedwetting may create feelings of isolation and altered self-concept. It is important that the family be understanding of the alteration, because it can be a source of frustration, anxiety, isolation, and behavioral problems for the child.

Frequency, Urgency, and Dysuria

Normally, urination occurs painlessly and effortlessly about five times a day, and most people can hold about 150 mL of urine in the bladder without feeling a strong desire to void. Urinary frequency refers to urination at more frequent intervals. The amount voided may be either large or small; the term refers only to the number of times one voids in 24 hours. Urgency is a sudden strong desire to urinate. The urge to void may be so strong that it leads to incontinence. Dysuria means difficult or painful urination. Individuals may complain of discomfort during, before, or immediately after voiding. Frequency, urgency, and dysuria may occur separately or in combination.

Pregnancy, increased fluid intake, diuretics, and urinary tract infections are common causes of frequency. Urgency is a common complaint during stress or urinary tract infections, when it is associated with weak external sphincter control. Dysuria is common in any condition that causes trauma or inflammation of the bladder or urethra. When individuals complain of any of these symptoms, it is important to question them about other concerns, such as hesitancy (difficulty in initiating voiding), hematuria (blood in the urine), and pyuria (pus in the urine).

Frequency, urgency, and dysuria may cause minor problems for a patient or they may be a main source of concern. These problems may disrupt activities of daily living and lead to embarrassment. Patients often attempt to reduce fluid intake to control these problems, but usually this dose not solve the problem and may even make it worse.

Oliguria, Anuria, and Polyuria

Oliguria is urine production of less than 30 mL an hour. Anuria refers to producing less than 100 mL of urine in a day. Oliguria and anuria are signs that the kidneys are not working or are not adequately perfused. Polyuria is the production of large amounts of urine in relation to fluid intake; it dose not refer to the frequency or time interval of urination. polyuria, however, may accompany frequency.

A variety of metabolic, urologic, and cardiovascular disorders manifest themselves as disturbances in the normal output of urine. Kidney disease, heart failure, severe burns, and shock can cause anuria or oliguria. Oliguria may also be present in dehydration. Causes of polyuria include diabetes mellitus, diabetes insipidus, kidney disease, diuretics, and increased fluid intake, especially fluids containing alcohol and caffeine.

Persons experiencing anuria or oliguria are often acutely ill. Fluid and electrolyte and acid-base imbalances, along with retention of metabolic wastes, cause edema, respiratory difficulty, and confusion. Renal failure may be present or impending. Shock or dehydration may also be present. The individual in shock appears pale and weak; the skin is usually cool and clammy. In dehydration, the skin feels hot and dry with decreased turgor. Anuria is a grave sign indicating that death may ensue if circulatory status or waste product removal is not improved.

The individual with polyuria may appear healthy or may have few complaints, but the nurse should assess for thirst and weight loss and determine whether excessive fluid intake is a factor.

Retention

Urinary retention is a state in which the individual cannot initiate or complete evacuation of accumulated urine from the bladder. Urinary retention may be acute or chronic. Chronic retention may persist over a period of months and may be irreversible. Chronic retention is sometimes referred to as "overflow incontinence" or "paradoxical incontinence," because patients are unable to void until the intra-abdominal pressure increases to such a degree that urine is involuntarily voided.

Acute retention may occur after surgery, diagnostic procedures involving the urinary tract, delivery of a baby, and with obstruction in the urinary system. Medications that may cause retention include anesthesia, opiates, sedatives, antihistamines, and anticholinergics. Social factors or emotion may also play a part in retention. Fear, stress, and pain may produce anxiety and tension, resulting in urinary retention.

Chronic retention is classified according to one of two causes: (1) weak or absent detrusor contraction or (2) bladder outlet obstruction. Factors that contribute to altered detrusor muscle contraction include chronic bladder distension, as with prostate enlargement, or impairment of the sensory and motor branches of reflex arc, as found after spinal cord damage. Factors that contribute to bladder outlet obstruction include strictures and prostatic hypertrophy.

Urinary retention can be a significant threat to well-being. In some cases of chronic retention, bladder-training programs can restore near-normal elimination patterns; however, some patients with chronic retention require a permanent indwelling catheter or must learn intermittent self-catheterization. These latter interventions may create significant body-image alterations.

Health Promotion

To assist the client to understand and participate in self-care practices that will preserve and protect healthy urinary system function is the focus of health promotion. This focus can be achieved using several means.

Client Education

Client education is important for the success of therapies aimed at eliminating or minimizing urinary elimination problems. For example, clients who practice poor hygiene benefit from learning about normal sterility of the urinary tract and ways to prevent infection. It may also be useful to discuss the basic mechanism for urine production and voiding for clients with elimination alterations. Clients learn the significance of symptoms of urinary alterations so that early preventive health care can be initiated.

When giving nursing care, the nurse can easily incorporate teaching. For example, if the nurse is attempting to increase the client's fluid intake, a good time to discuss the benefits is while giving fluids with medications or meals. The nurse may be more successful in teaching about perineal hygiene while giving a bath or performing catheter care.

Promoting Normal Micturition

Many urination problems can be prevented by maintaining normal urinary elimination. Many nursing measures have been designed to promote normal voiding in clients at risk for urination difficulties and in clients with established urination problems. The nurse can initiate many of these measures independently.

Stimulating Micturition Reflex. The client can void only if he can feel the urge to urinate, can control the urethral sphincter, and can relax during voiding. The nurse can help a client learn to relax and stimulate the reflex to void by assuming the normal position for voiding. A woman is better able to void in a squatting or sitting position. This position promotes contraction of the pelvic and intraabdominal muscles that assist in sphincter control and bladder contraction. If the client is unable to use toilet facilities, the nurse positions the client in a squatting position on a bedpan or bedside commode. A man voids more easily in the standing position. If the man cannot reach toilet facilities, he may stand at the bedside and void into a urinal (a metal or plastic receptacle for urine).

Sensory stimuli are another measure to promote relaxation and the ability to void. The sound of running water helps many clients void through the power of suggestion. Stroking the inner aspect of the thigh may stimulate sensory nerves and promote the micturition reflex. Placing the client's hand in a pan of warm water often promotes voiding. It is easier for a person to relax and void when sitting on a bedpan that has been warmed. The nurse can also pour warm water over the client's perineum and create the sensation to urinate. If urine output is to be measured, the nurse must first measure the volume of water to be poured over the perineal area. Offering fluids the client will drink may also promote voiding.

Maintaining Elimination Habits. Many clients promote normal voiding by following routines. In a hospital or long-term care facility the nurse's routines may conflict with those of clients. Integrating clients' habits into the care plan fosters normal voiding and will assist in preventing problems related to urination.

Maintaining Adequate Fluid Intake. Maintaining good fluid intake is a simple method of promoting normal micturition. A client with normal renal function who dose not have heart disease or alterations requiring fluid restriction should drink 2000 to 2500 mL of fluid daily.

When fluid intake is increased, the excreted urine flushes out solutes or particles that may collect in the urinary system. Because a client may be unwilling to drink 2500 mL of water daily, the nurse should encourage fluids that the client prefers. Many vegetables and fruits also have a high fluid content. At home it may help to set a schedule for drinking fluids (e. g. with meals or medications). To minimize nocturia, fluids should be avoided 2 hours before bedtime.

Promoting Complete Bladder Emptying. It is normal for the client to remain a small amount of urine in the bladder after voiding because urinary sphincters close (residual urine) conditions. The sphincters provide more pressure than the pressure of urine remaining in the bladder. Thus persons normally remain continent and dry. Urinary incontinence may occur because pressure in the bladder is too great or because the sphincters are too weak. Urinary retention occurs from a strong or contracted sphincter or a weak detrusor muscle that prevents normal bladder emptying.

Restorative Care

The client may regain normal urinary voiding function through special activities such as bladder retraining or habit training. If either of those activities is not possible, then self-catheterization may restore a measure of control to the client.

Strengthening Pelvic Floor Muscles. It is useful for clients who have difficulty starting or stopping the urine stream to do pelvic floor exercises. Pelvic floor exercises, also known as Kegel exercises, improve the strength of pelvic floor muscles and consist of repetitive contractions of muscle groups. A client begins these exercises during voiding to learn the technique. They are then practiced at nonvoiding times. Improvement is usually gradual. Clients should be alert and motivated to perform the exercises. The client must continue to use these exercises to maintain effectiveness.

Bladder Retraining. To restore a normal pattern of voiding by inhibiting or stimulating voiding is the goal of bladder retraining. For bladder retraining to be successful, clients must be alert and physically able to follow a training program. The program includes education, scheduled voiding, and positive reinforcement. Bladder function may be temporarily disrupted after a period of catheterization.

First the nurse need assess the client's current pattern of urination. This information allows the nurse to plan a program that often takes 2 weeks or more to learn.

Although the program may be started in the hospital or rehabilitation unit it may need to be continued in an extended care facility or at home. If the client has an underlying UTI, this should be treated at the same time. The following measures may help the incontinent client gain control over urination and are part of restorative and rehabilitative care: (a) Learning exercises to strengthen the pelvic floor; (b) Initiating a toileting schedule on awakening, at least every 2 hours during the day and evening, before getting into bed, and every 4 hours at night (individualizing time frame as needed); (c) Using methods to initiate voiding (e. g. running water and stroking the inner thigh); (d) Using methods to relax to aid complete bladder emptying (e. g. reading and deep breathing); (e) Never ignoring the urge to void (only if problem involves infrequent voiding that result in retention); (f)Minimizing tea, coffee, alcohol, and other caffeine drinks; (g) Taking prescribed diuretic medication or fluids that increase diuresis (such as tea or coffee) early in the morning; (h) Progressively lengthening or shortening periods between voiding as appropriate for control of specific cause of incontinence; (i)Offering protective undergarment to contain urine and reduce the client's embarrassment.

Providing positive reinforcement when continence is maintained. These guidelines help the client to establish a routine for voiding and control factors that might increase the number of incontinent episodes.

Habit Training. Habit training can help a client with functional incontinence. It can help clients improve voluntary control over urination.

It is the nurse's responsibility to help the client to the bathroom before incontinent episodes occur. Fluids and medications are timed to prevent interference with the toileting schedule. Clients with moderate or severe mental or physical dysfunction can benefit. When combined with positive reinforcement to reward successful voiding, this approach is also called prompted voiding.

Self-Catheterization. Learning to perform self-catheterization is important for some clients with chronic disorders such as spinal cord injury. The nurse teaches the client the structures of the urinary tract, clean versus sterile technique, the importance of adequate

fluid intake, and the frequency of self-catheterization. Generally, the goal is to have clients perform self-catheterizations every 6 to 8 hours, but the schedule should be individualized.

Maintenance of Skin Integrity. The skin can be irritated by the normal acidity of urine. Urine allowed to be in contact with the skin becomes alkaline, causing encrustations or precipitates to collect on the skin, fostering breakdown. Continuous exposure of the perineal area or skin around an ostomy leads to gradual maceration and excoriation. Washing with mild soap and warm water is the best way to remove urine from skin. Body lotion keeps skin moisturized and petroleum-based ointments provide a barrier to the urine. Clients who wet their clothing should receive partial baths and dry clothing after voiding.

The physician may prescribe a cream or spray containing steroids to reduce inflammation when the skin becomes irritated or inflamed. If fungal growth develops, the antifungal drug nystatin, available in cream or power, is effective.

Because urine drains continuously from the ostomy site, the client with an ostomy has a special hygiene problem. Skin barriers provide a layer of protection between the client's skin and ostomy pouch. It is important that the appliance fit snugly against the skin's surface around the stoma to prevent constant exposure to urine. Abdominal skin that remains in contact with urine for extended periods of time will break down. If breakdown occurs, the pouch system will not adhere to the denuded tissue, and leakage becomes a major problem, causing additional skin breakdown. Urine is constantly produced, so the pouch may need frequent emptying throughout the day and may need to be connected to a larger drainage bag for nighttime use.

Promotion of Comfort. Clients with urinary alterations become uncomfortable as a result of the symptoms of urinary problems. Frequent or unpredictable voiding, dysuria, and painful distention are sources of discomfort.

If the incontinent client can have clean, dry clothing, they can gain comfort. When stress incontinence is the problem, a protective pad offers protection against soiling. Wet clothing adheres to the skin and can cause rubbing and irritation.

Giving urinary analgesics that act on the urethral and bladder mucosa can relieve dysuria, burning, and itching.

A warm sitz bath may provide pain relief for the client has local discomfort from an inflamed urethra. The warm water soothes inflamed tissues near the urethral meatus by improving blood supply. The client is often relaxed after a sitz bath, so voiding occurs easily. Pain of distention cannot be relieved unless the client is able to empty the bladder. Interventions that stimulate micturition or intermittent catheterization may be the only sources of pain relief.

Catheterization

Catheterization of the bladder involves introducing a rubber or plastic tube through the urethra and into the bladder. The catheter provides a continuous flow of urine in clients unable to control micturition or those with obstructions. It also provides a means of assessing hourly urine outputs in hemodynamically unstable clients. Because bladder catheterization carries the risk of UTI and trauma to the urethra, it is preferable to rely on other measures for either specimen collection or management of incontinence.

Types of Catheterization. There are two forms of catheter insertion that are intermittent and indwelling retention catheterization. With the intermittent technique a straight single-use catheter is introduced long enough to drain the bladder (5 to 10 minutes). When the bladder is empty, the nurse immediately withdraws the catheter. Intermittent catheterization can be repeated as necessary, but repeated use increases the risks of trauma and infection. An indwelling or Foley catheter remains in place for a longer period until a client is able to void completely and voluntarily or as long as accurate hourly measurements are needed. It may be necessary to change indwelling catheters periodically.

The straight single-use catheter has a single lumen with a small opening about 1.3cm from the tip. Urine drains from the tip, through the lumen, and to a receptacle. An indwelling Foley catheter has a small inflatable balloon that encircles the catheter just below the tip. When inflated, the balloon rests against the bladder outlet to anchor the catheter in place. The indwelling retention catheter also has two or three lumens within the body of the catheter. One lumen drains urine though the catheter to a collecting tube. A second lumen carries sterile water to and from the balloon when it is inflated or deflated. A third (optional) lumen may be used to instill fluids or medications into the bladder.

A third type of catheter has a curved tip. A Coude catheter is used on male clients who may have enlarged prostates that partly obstruct the urethra. The Coude catheter is less traumatic during insertion because it is stiffer and easier to control than the straight-tip catheter.

Catheters have many different diameters to fit the size of a client's urethral canal.

Indications for catheterization. There are many indications for the client to insert a catheter. When catheterization time will be short and minimizing infection is a priority, the intermittent method is best. Intermittent catheterization is also preferred for persons with spinal cord injuries who have no bladder control. By intermittently draining the bladder on a routine basis, these clients have fewer infections. Indwelling catheterization is used when long-term bladder emptying is necessary.

Closed Drainage Systems. In order to minimize the risk of infection, after inserting an indwelling catheter, the nurse maintains a closed urinary drainage system to minimize the risk of infection. Urinary drainage bags are plastic and can hold about 1000 to 1500 mL of urine. The bag should hang on the bed frame or wheelchair. Never hang the bag on the bed rail as it can be accidentally raised above the level of the bladder.

The nurse or client carries the bag the below the client's waist when the client ambulates. The drainage bag should never be raised above the level of the client's bladder. Urine in the bag and tubing can become a medium for bacteria, and infection is likely to develop if urine flows back into the bladder.

Generally for most drainage bags, there is an antireflux valve to prevent urine in the bag from reentering the drainage tubing and contaminating the client's bladder. A spigot at the base of the bag provides a means for emptying the bag. The spigot should always be clamped, except during emptying. To keep the drainage system patent the nurse checks for kinks or bends in the tubing, avoids positioning the client on the drainage tubing, and observes for clots or sediment that may occlude the collecting tubing.

Routine Catheter Care. Clients with indwelling catheters need many special care. Nursing measures are directed at preventing infection and maintaining unobstructed flow of urine through the catheter drainage system.

a. Perineal Hygiene. Buildup of secretions or encrustation at the catheter insertion site is a source of irritation and potential infection. Nurses provide perineal hygiene at least twice daily or as needed for a client. Soap and water are effective in reducing the number of organisms around the urethra. The nurse must not accidentally advance the catheter up into the bladder during cleansing or risk introducing bacteria.

b. Fluid Intake. All clients with catheters should have a daily intake of 2000 to 2500 mL if permitted. This can be met through oral intake or intravenous infusion. A high fluid intake produces a large volume of urine that flushes the bladder and keeps catheter tubing free of sediment.

c. Catheter Care. In addition to routine perineal hygiene, many institutions recommend that client with catheters receive special care 3 times a day and after defecation or bowel incontinence to help minimize discomfort and infection.

d. Prevent Infection. There are many ways for a catheterized client to develop the infection. Maintaining a closed urinary drainage system is important in infection control. A break in the system can lead to introduction of microorganisms. Sites at risk are the site of catheter insertion, the drainage bag, the spigot, the tube junction, and the junction of the tube and the bag.

In addition, the nurse monitors the patency of the system to prevent pooling of urine within the tubing. Urine in the drainage bag is an excellent medium for microorganism growth. Bacteria can travel up drainage tubing to grow in pools of urine. If this urine flows back into the client's bladder, an infection will likely develop.

Catheter Irrigations and Instillations. Sometimes it is necessary to irrigate or flush a catheter in order to maintain the patency of indwelling urinary catheters. Blood, pus or sediment can collect within tubing and result in bladder distention and the buildup of stagnant urine. Instillation of a sterile solution ordered by the physician clears the tubing of accumulated material. For clients with bladder infections, a physician may order bladder irrigations to include instillation of antiseptic or antibiotic solutions to wash out the bladder or treat local infection. In both irrigations, sterile aseptic technique is followed.

Before performing irrigation, the nurse assesses the catheter for blockage. If the amount of urine in the drainage bag is less than the client's intake or less than the output during the previous shift, blockage can be expected. If urine does not drain freely, the nurse milks the tubing. Milking is done by gently squeezing then releasing the drainage tube in an alternating fashion. The nurse should always milk from the client to the drainage bag so a clot or sediment will not be forced back into the catheter.

During intermittent irrigations or instillations, it is important to keep the system close. This technique is effective for irrigating a partially blocked catheter or for bladder instillations. Compared with repeated irrigations, a single intermittent irrigation is safer and less likely to introduce infections into the urinary tract. There are two additional methods for catheter irrigation. One is a closed bladder irrigation system. This system provides for frequent intermittent irrigations or continuous irrigation without disruption of the sterile catheter system through use of a three-way catheter. This method is used most often in clients who have had genitourinary surgery and are at risk for blood clots

and mucus fragments occluding the catheter. The other system involves opening the closed drainage system to instill bladder irrigations. This technique poses greater risk foe causing infection. However, it may be needed when catheters become blocked and it is undesirable to change the catheter (e. g. after recent prostate surgery).

Removal of Indwelling Catheter. The nurse should promote normal bladder function and prevent trauma to the urethra when removing an indwelling catheter.

When removing a catheter, the nurse requires a clean, disposable towel; a trash receptacle; and a sterile syringe the same size as the volume of solution within the catheter's inflated balloon. Disposable gloves are also recommended. The end of each catheter contains a label that denotes the volume of solution (5 to 30 mL) within the balloon.

The nurse positions the client in the same position as during catheterization when removing a catheter. Some institutions recommend collecting a sterile urine specimen at this time or sending the catheter tip for culture and sensitivity tests. After removing the tape, the nurse places the towel between a female client's thighs or over a male client's thighs. The nurse inserts the syringe into the injection port. Most ports are self-sealing and require that only the tip of the syringe be inserted. The nurse slowly withdraws all of the solution to deflate the balloon totally. If a portion of the solution remains, the partially inflated balloon will traumatize the urethral canal as the catheter is removed. After deflation the nurse explains that the client may feel a burning sensation as the catheter is withdrawn. The nurse then pulls the catheter out smoothly and slowly.

If the catheter has been in place several days or weeks, it is normal for the client to experience some dysuria. Until the bladder regains full tone, the client may also experience frequency of urination or urinary retention.

It is important for the nurse to assess the client's urinary function. The nurse can do this by noting the first voiding after catheter removal and documents the time and amount of voiding for the next 24 hours. If amounts are small, frequent assessment of bladder distention is necessary. If over 8 hours elapse without voiding, it may become necessary to reinsert the catheter.

Urine Testing

Urine specimens for laboratory testing are often collected by the nurse. The type of test determines the method of collection. All specimens are labeled with the client's name, date, and time of collection. Specimens should be transported to the laboratory in a timely fashion to ensure accuracy of test results.

Specimen Collection

Generally the nurse collects several kinds of urine specimen, which are random, clean-voided or midstream, sterile, and timed specimens.

Random Specimen. The nurse can collect a random routine urine specimen with a client voiding naturally or from a Foley catheter. The specimen should be clean but need not be sterile. Random specimens are used for urinalysis testing or measurements of specific gravity, pH, or glucose levels.

The client voids into a clean urine cup, urinal, or bedpan. Many clients are able to do this independently. However, mobility restrictions or poor vision may require the nurse to assist. It is easier to collect a specimen if the client drinks a glass of fluid 30 minutes before the procedure. A client should void before defecating so that feces do not contaminate the specimen. Female clients are also instructed not to place toilet tissue in the bedpan. After the specimen is collected the nurse places the lid tightly on the specimen container, washes off any urine that splashed on the outside of the container, and sends the labeled specimen promptly to the laboratory.

Clean-Voided or Midstream Specimen. The nurse instructs the client on the method for obtaining a clean-voided specimen in order to obtain a specimen relatively free of the microorganisms growing in the lower urethra.

Sterile Specimen. Obtaining a urine specimen from an indwelling catheter is another method for collecting specimen for culture. It is no longer recommended to catheterize a client just to obtain a specimen because of the high risk of causing an infection. A urine specimen is also not collected for culture from a urine drainage bag unless it is the first urine drained into a new sterile bag. Bacteria grow rapidly in the drainage bags and could cause a false measurement.

For an indwelling retention catheter, the nurse uses a sterile syringe to withdraw urine. The nurse washes hands and applies sterile gloves to prevent transmission of microorganisms. Syringe with a small-gauge needle is best to prevent creation of a permanent hole in the catheter port. However, if blood is suspected in the urine, a large-bore needle prevents breakdown of RBCs during withdrawal of the specimen. Some urinary catheters have special ports to withdraw specimens. First, the nurse clamps the tubing just below the site chosen for withdrawal, allowing fresh, uncontaminated urine to collect in the tube. The nurse then wipes the catheter or port with an antimicrobial swab. Inserting the needle at a 30-degree angle ensures entrance into the catheter lumen. While aspirating 3 to 5 mL of urine the nurse must be careful not to raise the tubing, which would cause urine to flow back into the bladder.

After obtaining the specimen the nurse transfers the urine into a sterile container using sterile aseptic technique. The nurse removes the gloves, properly disposes of equipment, and washes hands to reduce the transfer of microorganisms to other clients and health care workers.

Timed Urine Specimens. Some tests of renal function and urine composition require collection of urine over 2-, 12-, or 24-hour intervals. For example measuring levels of adrenocortical steroids or hormones, creatinine clearance, or protein quantitation tests.

After the client urinates, the timed collection period begins. The nurse indicates the starting time and stopping time on the collection container and on the laboratory requisition. The client then collects all urine voided in the timed period.

Each voiding is collected in a clean container and immediately emptied into the larger container. Some tests require the client to void at specific times. Each specimen must be free of feces or toilet tissue.

Any missed specimens will make test results inaccurate. The nurse should remind the client to void before defecating so that urine is not contaminated by feces. The collection container may contain a preservative or require refrigeration. The client should void the last specimen at the end of the timed period.

Urine Collection in Children. Collecting specimen from infants and children is often difficult. They have difficulty voiding on request. So offering them fluids 30 minutes before requesting a specimen may help. The nurse must use terms for urination that the child can understand. A young child may be reluctant to void in unfamiliar receptacles. A potty-chair or specimen hat placed under the toilet seat is usually effective. The nurse must use special collection devices for infants or toddlers who are not toilet trained. Clear plastic, single-use bags with self-adhering material can be attached over the child's urethral meatus. Specimens should not be obtained by squeezing urine from the diaper material.

Section II Bowel Elimination

The function of bowel elimination is to rid the body of undigested waste once nutrients and water have been absorbed for use by the body. These functions are mainly carried out in the lower gastrointestinal (GI) tract, which consists of the colon, rectum, and anal canal. Although the large intestine is primarily responsible for bowel elimination, the entire gastrointestinal tract plays a role.

Anatomy and Physiology

Upper GI Tract

The entire gastrointestinal tract is essential to the process of bowel elimination. Following ingestion of food, nutrients are mechanically and chemically broken down by enzymes in the mouth and stomach. The partially digested food then moves along the tract to the small intestine, where most nutrients are absorbed.

Colon

The colon is a tubular structure of muscle lined with mucous membrane extending 1.5m (5ft) from cecum to anal canal. It consists of the cecum; ascending, transverse, and descending colon; sigmoid colon; rectum; and anus. The functions of the colon are (1) absorption of water and nutrients (2) fecal elimination.

The colon absorbs large quantities of water (as much as 2.5L) in 24 hours. Up to 55 milliequivalents (mEq) of sodium and 23 mEq of chloride are absorbed daily. The speed at which the colonic contents move determines how much water is absorbed from the chyme.

Fecal elimination is accomplished by moving the chyme ─ normally a soft, formed prefecal mass ─ along the colon into the rectum and anal canal. Peristalsis, a wavelike muscular contraction along the length of the colon advances the colon contents. Mass peristalsis occurs about 1 hour after a meal. This knowledge should aid the nurse in planning elimination implementation for a patient.

Colonic mucus is secreted to protect the lining of the colon. The mucus also serves as a binding agent to hold the fecal material together. Mucus secretion is stimulated by parasympathetic nerves. An extreme emotional reaction can cause overstimulation of

these nerves and therefore an overproduction of mucus, resulting in stringy mucoid stools with little or no feces

Rectum and Anal Canal

Waste products, feces, enter the sigmoid colon and are stored there until just before defecation (the act of having a bowel movement). The rectum is normally empty of feces until just before defecation. Rectum length varies according to age. In the adult, rectal length is about 10 to 15 cm(4 to 6 in).The distal portion of the rectum(3 to 5 cm or 1.5 to 2 in. long) is called the anal canal.

The rectum contains vertical and transverse folds of tissue that help retain feces. Each vertical fold contains a vein and an artery. The veins, when repeatedly distended either by pressure exerted during straining to defecate or by increased intra-abdominal pressure associated with pregnancy or heavy lifting, can become permanently dilated. This condition is called hemorrhoids. Hemorrhoids can make defecation painful and may cause varying amounts of blood loss.

The anal canal contains internal and external sphincter muscles. The internal sphincter is involuntarily controlled by the autonomic nervous system. Although the external sphincter is influenced by the internal sphincter; it is usually voluntarily controlled. When sensory nerves in the rectum are stimulated by the entrance of the fecal mass, the individual becomes aware of the need to defecate.

Defecation

Defecation is influenced by reflexes but is also under voluntary control. The gastrocolic and the duodenocolic reflexes, which occur in response to distension of the stomach and the duodenum, contribute to defecation by simulating mass peristalsis along the entire length of the GI tract. Mass peristalsis is most predominant within 15 minutes after eating breakfast.

The intrinsic defecation reflex occurs when feces distend the rectum, initiating the peristaltic waves in the descending and sigmoid colon and the rectum and forcing feces toward the anus. As these peristaltic waves approach the anus, the internal sphincter is inhibited from closing. The parasympathetic defecation reflex, triggered by the presence of feces in the rectum, intensifies the intrinsic defecation reflex. Signals are sent to the spinal cord and back to the colon and rectum to intensify the peristaltic waves and relax the internal anal sphincter.

Voluntary neuromuscular control can be used to delay or facilitate defecation. As the feces move into the anal canal and the internal anal sphincter relaxes, the individual feels the urge to defecate. Defecation is initiated by relaxing the external anal sphincter while contracting the abdominal muscles and the diaphragm. The increased abdominal pressure moves feces down the anal canal. The levator ani muscles of the pelvic floor are also voluntarily contracted to aid in fecal expulsion. The Valsalva maneuver ─ holding one's breath while exerting expiratory effort against a closes glottis, and then contracting the abdominal muscles ─ is also often used to help expel feces.

When an individual ignores the urge to defecate or consciously contracts the external sphincter muscles to delay defecation, the urge to defecate may disappear for several hours before reoccurring. Repeatedly ignoring the urge to defecate over a period of

months or year can result in an abnormally enlarged rectum and loss of rectal sensitivity. The individual's perception of the need to defecate becomes dulled, creating the potential for constipation, discussed as follows.

Normal Bowel Elimination

Normal Patterns

Normal patterns of bowel elimination vary widely. Some individuals defecate one to two times a day; others, two or three times a week. There are many techniques that individuals use to assist with bowel function, such as drinking a cup of hot water before breakfast, or prune juice at night, or reading while using the toilet. Such measures may support physiologic processes. Drinking warm fluids on arising, for example, stimulates the gastrocolic reflex and can create a desire to defecate.

Characteristics of Normal Stool

The nurse should observe feces for consistency, amount, color, shape, odor, and the presence of any unusual matter.

Consistency. Consistency refers to stool firmness or density. Dietary intake and the quantity of fluid intake directly affect the stool's consistency; however, normal stool is soft and formed. Speed of peristalsis will determine the liquid content and the shape of the stool. Decreased peristalsis results in small, hard, dry stools; increased peristalsis causes liquid, unformed stools.

Softer-than-normal stools are variously described as "soft", "semiformed", or "loose," if they are liquid with some solid material. "Liquid stools" consist of colored fluid only. Very solid stools can be described as "hard" or "constipated."

Amount. The amount of fecal material passed each day will vary depending on the dietary intake. Patients are the best source of information about their customary amounts of stool. The nurse should also observe and note any increase or decrease in the amount of stool.

Color. The color of adult stool is normally brown, because of the presence of bile pigments. If there is lack of bile or an obstruction to its flow, a clay-colored or while stool results. Formation of gallstones, while obstruct the biliary tract, is a common cause of clay-colored stool. Black stools may be a side effect of iron supplements or may be caused by upper gastrointestinal bleeding. Bright red blood in the stool is most commonly associated with bleeding hemorrhoids, but may also indicate lower GI bleeding. Melena is the term used to refer to blood in the feces.

Shape. The shape of a normal stool reflects that of the rectum. If an intestinal obstruction is present, the stool may become pencil-thin or ribbon-shaped as it squeezes by the obstruction. Pencil-thin stool can also be caused by rapid intestinal motility.

Odor. Stool usually possesses a characteristic fecal odor. Some foods may alter the stool odor. Foul-smelling stools are associated with malabsorption syndrome. Blood in the feces or intestinal infection may also change stool odor.

Components. Normal stool components include the end products of digestion. There should be no visible blood or mucus or any other unusual matter, such as undigested food or worms. Worms are common in some areas of the world and may occur occasionally in

the United States. Pinworms, which resemble fine white threads, or tapeworms, which are 1/8 to 1/4 inch wide and may grow 5 to 20 feet long, may be visible to the naked eye. Their eggs (ova) may be easily detected by microscopic survey of a strip of clear plastic tape that has been placed briefly over the anal opening. Tapeworms or segments of the worm can also appear in the stool.

Factors Affecting Bowel Function

May factors may affect bowel function. Some common factors include age, life-style, health status, and emotional state. These factors produce the individual variation seen in bowel elimination.

Age

Fecal elimination patterns change throughout the life cycle. Changes are caused by continued physiologic development, then by age-related losses of function.

Infants. Infants (birth to 1 year) are unable to control defecation due to lack of neuromuscular maturity. Stool frequency and characteristics depend upon feeding method. Breastfed infants have loose, seedy, golden yellow stools, often after every feeding. The stools are not irritating to the infant's skin. Stools of formula-fed infants are pale yellow, firmer, and irritating to the skin. Formula-fed infants usually have only one to two stools a day.

Toddlers. Toddlers (ages 1 to 3 years) become physically ready to control bowel elimination between 18 and 24 months of age; however, cognitive and psychosocial readiness, also essential, frequently is achieved later. Daytime bowel control, therefore, is usually accomplished around 30 months. Attempting to toilet train toddlers before they are ready, or punishing them for "accidents," may create significant stress and delay control. If toddlers are hospitalized, they often regress and temporarily lose control of elimination.

Preschool and School-aged Children. Preschool (ages 3 to 5) and school-aged (ages 6 to 12) children exhibit a variety of defecation patterns, usually establishing an individual pattern that is characteristic. Constipation is a common problem in both age groups. It may be related to dietary changes, febrile illness, or emotional or environmental changes. Parents should be cautioned against indiscriminate use of laxatives to treat constipation; increasing fluids, fruits, vegetables, and grains is preferable.

Adolescents. Adolescents (ages 13 to 18) experience a period of rapid growth. Both the stomach and the colon enlarge to accommodate the greater food intake that accompanies this growth spurt, and stools often increase in size and number.

Young and Middle-aged Adults. Young (ages 18 to 35) and middle-aged (ages 35 to 65) adults establish characteristic individual bowel elimination patterns that vary with dietary, life-style, and other variables discussed later.

Older Adults. Older adults (over age 65) frequently experience constipation. This can be attributed to several factors. Mary elderly adults must take several medications (discussed below) for treatment of chronic diseases. Difficulties in chewing associated with loss of teeth or poorly fitting dentures lead to choosing soft foods, which decreases bulk in the stool. Diminished thirst sensation and reduced mobility contribute to limited fluid intake as well as to less activity. All of these factors, plus the loss colon and abdominal muscle

tone that frequently occurs with age, increase risk for constipation. Many older individuals rely on laxatives to correct constipation, but laxative use often compounds the problem and may even result in dependency. Increasing exercise, fluids, and bulk-producing foods will reduce constipation risk and make laxatives unnecessary.

Loss of muscle tone may also affect the internal anal sphincter, and even though the external sphincter is still intact, some elderly persons experience difficulty controlling defecation. Older adults also may become less aware of the need to defecate because of impaired never impulse transmission.

Lift-style

Bowel function can be disrupted by a chaotic lift-style of irregular meals, changing schedules, and increased stress. A sedentary life-style increases the risk of constipation, because peristalsis is stimulated by exercise. A regular pattern of intake and elimination is health promoting. Nurse-patient collaboration can often help patients establish healthier patterns.

Diet. Diet plays an essential role in promoting healthy elimination. Eating meals at regularly scheduled times will help establish regular bowel patterns. Adequate intake of dietary fiber provides bulk that will keep the stool soft and increase the speed of passage through the intestines. This in turn limits the amount of water that is absorbed from fecal matter, thus producing a soft, formed stool. Food that are valuable sources of fiber include whole grains (breads and cereals), fresh fruits (apples, oranges), root vegetables (carrots, turnips, celery), greens (lettuce, spinach), legumes (dried beans, peas), and cooked fruit (apricots, prunes). These high-fiber or bulk-producing foods stretch the bowel wall, stimulating peristalsis and initiating the defecation reflex. Some foods, such as beans, onions, and cabbage, are gas producing; the gas distends the bowel and may cause cramping or excessive bowel activity.

Certain foods are difficult for some people to digest and may cause digestive upsets or watery stools (diarrhea). Foods that promote normal elimination in one person may create constipation or diarrhea in another. For example, milk and milk products should be avoided by people who are lactose intolerant. Milk contains lactose, a simple sugar, that is broken down in the baby by the enzyme lactase. Individuals with lactose intolerance do not produce the enzyme lactase. This can result in abdominal cramping, nausea, gaseous distention, and diarrhea.

Exercise. A sedentary life-style decreases peristalsis. Conversely, regular, general exercise contributes to regular elimination patterns. Some exercises help maintain the tone and strength of the abdominal and pelvic floor muscles that are used in defecation.

Weak muscles may result from severe illness, prolonged immobility, or neurologic disease that impairs nerve function. Individuals with these conditions may benefit from special conditioning exercises to strengthen the muscles of the abdomen and pelvic floor to facilitate healthy elimination.

Elimination Habits. Toilet training, the type of toilet facility, daily schedule, and attitude toward one's body influence elimination habits.

Bowel elimination is a private matter and most people prefer to use their own toilet facilities. Establishing a bowel pattern that permits use of home facilities at a convenient

time is advantageous. Busy and changing work schedules can cause disruption of regular habits and increase risk for constipation.

A change in environment such as hospitalization after disrupts established elimination habits. Lack of privacy, change in routines, altered intake of food and fluids, diminished activity, and ingesting multiple medications all contribute to altered elimination patterns.

Health Status

An individual's elimination patterns may be influenced by a variety of health factors: hydration, pain, tissue integrity, and medications. Diagnostic procedures that require fasting or enemas can also affect elimination.

Hydration. Adequate hydration is crucial to healthy elimination. Six to eight glasses (1400 to 2000 mL) of fluid per day is the normal requirement for an adult. Fluid is necessary for efficient movement of intestinal contents and for the absorption of nutrients and electrolytes. Fluids also enter the intestine from saliva, gastric secretions, pancreatic juices, and bile.

The gastrointestinal tract contributes to maintaining fluid balance. If alterations in other body systems cause a fluid loss or deficiency, the intestine will absorb more fluid, helping intra- and extracellular fluid volumes remain relatively constant. However, the resulting decrease in the amount of fluid within the intestine slows peristalsis and hardens the feces. Therefore, when assessing bowel function, nurses must be alert to any condition that causes fluid loss.

Pain. Pain may also influence bowel function. Hemorrhoids, rectal and perineal surgery, or abdominal surgery can cause discomfort during defecation. As a result, patients may suppress the urge to defecate and become constipated. Nurses should also be alert to other conditions that could create discomfort for patients during defecation. Position on the bedpan, pressure ulcers, and pelvic and hip fractures are other possible causes of pain.

Tissue Integrity. Impaired tissue integrity of the bowel and external anal area makes elimination painful and may lead to constipation. For example, hemorrhoids sometimes ulcerate and bleed and ulcers and fissures sometimes develop in the anal area, causing excoriation and irritation.

Medications. Many medications can alter bowel function. For example, antibiotics can produce diarrhea and abdominal cramping; narcotic analgesics and opiates decrease peristalsis with resulting constipation. Diuretics, which cause the body to eliminate fluid, may predispose individuals to constipation. Iron preparations may also cause constipation. When patients have diarrhea or constipation it is important to evaluate the side effects of any medication they are taking.

Some medications aid in bowel elimination or relieve constipation. They are called laxatives or cathartics. These drugs act by softening the stool or by promoting peristalsis. Overuse of these drugs can cause dependency. Severe diarrhea can also result from overuse of laxatives, creating electrolyte imbalance and dehydration. Nurses should carefully assess patients' use of these medications, because they are readily available over the counter. Children may take large doses of gum or candy laxatives (such as Ex-Lax) if they are not kept out of reach, resulting in serious poisoning.

As discussed above, appropriate hydration, diet, and exercise make laxatives unnecessary. If a laxative is necessary, bulk laxatives or stool softeners are preferable.

These medications can be purchased over the counter or prescribed. Advise patients who use laxatives to carefully follow directions on the label to avoid any complications.

Anesthesia. Anesthesia and surgery also affect bowel elimination. General anesthetics produce temporary slowing or cessation of peristalsis, whereas regional or spinal anesthesia affects bowel activity minimally or not at all. Handling the bowel during surgery often leads to temporary loss of peristalsis. This is called paralytic or adynamic ileus. It can last for 24 to 48 hours, although some patients experience paralytic ileus for a longer period of time. Most surgeons order n. p. o. status (nothing by mouth) for postoperative patients until bowel sounds return. Therefore, auscultation for bowel sounds is an important aspect of care for all postoperative patients.

Diagnostic Procedures. Diagnostic procedures to evaluate gastrointestinal function usually require that the bowel be empty. Patients are expected not to eat or drink after midnight of the day preceding the examination and may be required to have a cathartic and an enema. After clearing the bowel for these tests, normal defecation will usually not occur until the patient has resumed eating. If barium is used as a contrast medium for these procedures, constipation or fecal impaction may occur unless the barium is effectively cleared from the GI tract. Therefore, a posttest cathartic or enema is usually ordered.

Emotional State

Emotional stress can affect the function of all body systems; the GI system is particularly susceptible. Anxiety, fear, and anger accelerate the digestive process and increase peristalsis to provide nutrients for body defense. This acceleration can lead to gaseous distension and diarrhea. In contrast, some individuals experience sluggish peristalsis when under stress and may become constipated.

The symptoms and the course of diseases of the GI tract can be affected by emotional stress. Ulcerative colitis, gastric ulcers, and Crohn's disease all worsen with emotional stress, even though the primary cause of these diseases has been shown to be physiologic.

Early toilet training can interfere with a child's later bowel elimination patterns. Spanking or making a child sit on the potty chair for a long time will make training extremely stressful. Continuous battles between parent and child may lead to chronic constipation in the child. Positive reinforcement and a relaxed atmosphere about toileting help reduce the child's emotional stress.

Some individuals are overly concerned, even preoccupied, by the need to have a daily bowel movement. Disruptions in regular habits related to illness or diagnostic tests may create significant concern. Nurses need to accept the level of anxiety that these individuals experience. Explanations of the physiologic basis for the delay in bowel function may allay anxiety.

Patients reveal clues about their emotional state and elimination concerns in various ways. For example, some directly express concerns about elimination; others make multiple requests for laxatives or prune juice. Collaborative assessment and planning are effective in resolving bowel elimination problems.

Common Bowel Elimination Problems

Constipation

Constipation is a decrease in frequency of bowel movements, accompanied by prolonged or difficult passage of hard and dry feces.

Causes. Common causes of constipation include: irregular bowel habits and ignoring the urge to defecate; having a low-fiber and high animal fats diet; low fluid intake; lengthy bed rest or lack of regular exercise; heave uses of laxatives, suppository and enema cause loss of normal defecation reflex; inappropriate use of some medicine; organic pathological changes and organic illnesses (such as hypothyroidism, hypocalcemia, or hypokalemia, impaired neurological system block nerve impulses to the colon); surgical operation on rectum and anus; emotional depression.

Symptoms and Signs. The patients have headache, abdominal distention and cramping, poor digestion, fatigue, poor appetite, heavily coated tongue, dry and hard feces. Abdominal palpation shows hard and straining abdomen. Sometimes a block can be palpated in abdomen.

Fecal Impaction

Fecal impaction is a collection of hardened feces, wedged in the rectum, which cannot be expelled. It usually results from unrelieved chronic constipation.

Causes. The constipation is unrelieved. The feces are detained in rectum. The water of feces is continuously absorbed. Finally the feces become too large, hard and dry to pass.

Symptoms and Signs. An obvious sign is the inability to pass feces for several days, despite a repeated urge to defecate. Loss of appetite, abdominal distention and cramping, and rectal and anus pain may accompany the condition. Litter liquid portion of feces located in the colon seeps around the impacted mass in anus. The impacted mass can be palpated by performing a digital examination of the rectum.

Diarrhea

Diarrhea is an increase in the number of defecation, and the passage of liquid, unformed feces. It is a symptom of disorders affecting digestion, absorption, and secretion in the gastrointestinal tract. Intestinal contents pass through the intestine too quickly to absorb the fluid and nutrients. In addition, irritation within the intestine can result in the increased mucus secretion. So feces become watery. Temporary diarrhea is the protective response that is helpful to expel the stimulating and harmful matters. Continuous serious diarrhea can cause loss of water and digestive juice, and lead to serious fluid and electrolyte or acid-base imbalances. Serious diarrhea also may cause malnutrition because of lack of nutrient absorption.

Causes. The common causes of diarrhea include: intestinal infection or disease; food intolerance or allergies; overuses of laxatives; lack of development in digestive system; some endocrine diseases such hyperthyroidism; emotional stress and anxiety.

Symptoms and Signs. The patients have abdominal and intestinal cramping, fatigue, nausea and vomit. Auscultation of bowel sounds shows hyperactive gurgling sounds. The patients may be unable to control the urge to defecate. Feces are unformed and watery.

Fecal Incontinence

Fecal incontinence is that the anal sphincter is inability to control passage of feces, and lead to involuntary defecation.

Causes. The causes of fecal incontinence are the followings: pathological changes or impairments in nervous and muscular system, such as paralysis; disorder in gastrointestinal tract; mental disorder.

Symptoms and Signs. The patients defecate involuntarily.

Flatulence

Flatulence is that gas accumulates in the lumen of the intestines, the gas cannot be expelled, and the bowel wall stretches and distends. Normally, the volume of intestinal gas is about 150 mL. The gas escapes through the mouth (belching), absorbed by small intestines, or the anus (passing of flatus).

Causes. The causes include ingestion more food broken down gas, more gas swallowed, slow peristalsis, intestinal obstruction and operation.

Symptoms and Signs. The patients have abdominal fullness, distention and cramping, hiccup. Percussion shows drum sound. Flatulence can press the diaphragm and thoracic cavity, and cause dyspnea.

Bowel Diversions

Bowel diversions are called artificial anus in the abdominal wall for treatment of certain disease; the portions of the intestines are pulled to construct the passage of feces through a temporary or permanent artificial stoma. The original anus can be kept in temporary artificial stoma, and the patients have a temporary ostomy until the distal portion of intestines has heals. Then the reconstructed anastomosy is safely created in the colon. The patients have bowel movements form the anal area. On the other hand, the original anus is removed or lost the function of the anal sphincter in permanent artificial stoma. The permanent artificial stoma should be constructed and last in all life.

Surgical openings are commonly formed in the ileum or colon. The location of the ostomy determines the character of feces. An ileostomy results in liquid and frequent feces. A colostomy results in solid and formed feces. Depending on the different types of surgical procedure done, the patients either can control the fecal material in the stoma or cannot control it.

Incontinent Ostomies. The patients with incontinent ostomies cannot control the fecal material. There are three types of colostomy construction: loop colostomy, end colostomy, and double-barrel colostomy.

A Loop Colostomy. A loop colostomy is usually performed in a medical emergency. The large stoma is constructed in the transverse colon. A portion of the transverse colon is pulled onto the abdomen. An external supporting device such as a plastic rod is temporarily placed under the bowel to keep it from slipping back. The bowel is opened and sutured to the skin of the abdomen. A communicating wall remains between the proximal and distal bowel. The proximal end drains stool, and the distal portion drains mucus. The external supporting device can be removed within 7 to 10 days.

End Colostomy. The end colostomy consists of one stoma formed from the proximal end of the colon. The distal portion of the intestines is either removed or sewn closed and left in the abdominal cavity. End colostomy is the surgical treatment of colorectal cancer. Normally the end colostomy belongs to permanent artificial stoma.

Double-Barrel Colostomy. Unlike the end colostomy, the two ends are brought out onto the abdomen and sutured to the skin of the abdomen in double-barrel colostomy. Two distinct stomas, the proximal functioning stoma and the distal nonfunctioning stoma, are created. Normally double-barrel colostomy belongs to temporary ostomy.

Continent Ostomies. These continent ostomies are called continent bowel diversions. The colon is removed and the ileum is anastomosed to an intact anal sphincter. An internal pouch is created from their ileum. The patients have a temporary ostomy until the created ileum pouch has healed. The patients then have bowel movements from only the anal area.

Health Promotion

Maintaining Normal Fecal Elimination

The nurses should help patients to attain and maintain the regular defecation by attending to the provision of privacy, enough timing, appropriate positioning, proper foods intake and enough fluids intake, and regular exercise.

Privacy. Privacy is extremely important to many people during defecation. The nurses should therefore provide as much privacy as possible for patients. The patients should not be disturbed when he is defecating. If the bedpan is used in the room, the patients should be shielded by screen. The visiting person should temporarily leave the room. The window should be opened, and the radio (or television) should be turned on. The aromatic should be used.

However, the nurses may need to stay with patients who are too weak to be left alone, and help the patients if needed. While defecating, the weak patients have high risk for dizzy because the cardiovascular system may have not enough blood to provide the brain.

Timing. A patient should be encouraged to defecate when the urge to defecate is recognized. To establish regular bowel elimination, the patients should provide adequate time for defecation when mass peristalsis normally occurs. Many people have well-established times and routines for defecation that should be part of the patient's schedule. Other activities, such as bathing and ambulating, should not interfere with defecation time.

Positioning. The squatting position helps contracting the abdominal muscles and enhancing the intra-abdominal pressure, and facilitates defecation. Most people sit on the bedpan and seem to be leaning forward. If the patients are short, he or she should step on the footrest placed in front of the bedpan to increase the flexuosity of coxa. While the patients are sitting on the bedpan to defecate on the bed, the head of the bed should be raised, or the patients should be on the high-sitting position.

Foods and Fluids Intake. The diet included fiber is helpful to maintain the normal elimination. The fiber can increase the weight and watery of the feces. The feces are facilitated to pass through the intestines. Increasing the amount of fiber in diet can

significantly reduce the use of laxatives or enema in older people. The diet should include high-fiber foods, such as vegetables, fruits and whole grains. The patients should maintain fluid intake of 1200 to 1500 mL daily. For the patients within long-term immobilizations or having fever and sweat need more fluid intake.

Exercise. Regular exercise helps patients develop a regular defecation pattern. Patients with weak abdominal and pubic muscles may be able to strengthen them with isometric exercises. The patients within a supine position tighten abdominal muscles as though pulling them inward, holding them for about 10 seconds, and then relaxing them. This should be repeated five to ten times. It should be performed four times each day depending on the patients' health condition.

Managing Abnormal Fecal Elimination

Managing Constipation

The interventions for managing constipation include the following:

· The nurses should assist the patients and family to realize the importance of maintaining normal defecation and get the4 knowledge about the bowel elimination.

· The nurses should assist the patients to establish normal bowel elimination habits, instruct the patients to choose the suitable time to defecate, usually after meals (best after breakfast), and let the patients defecate at the same time a day without laxatives or enema.

· The diet includes fiber foods such as vegetables, fruits, bran and grain products. The nurses should instruct the patients to drink hot liquids and fruit juices before the meal. To facilitate the peristalsis and cause the defecation, the patients should increase daily fluid intake and maintain fluid intake more than 2000 mL each day if the health condition allowed.

· The nurses should encourage the patients to do proper exercise. According to the health condition, the regular exercise plan should be worked out. The patients can take a walk or practice the Taiji boxing. The nurses should instruct the patients to do the exercise to strengthen the abdominal and pubic muscles. It is helpful to increase peristalsis, enhance muscular force, and promote the bowel elimination.

· The nurses should provide the privacy environment and adequacy time for the patients when the patients have urge to defecate. The patients should keep relaxing in emotion.

· While defecating, the patients perform the circular massage from the right to left along the colon. It can facilitate the contents of colon to downward, and enhance the intra-abdominal pressure to cause defecation.

· The patients can take the prescribed laxative as ordered to enhance the peristalsis and cause defecation. The mild laxatives are for children. The laxatives (such as Castor Oil, Folium Sennae, Phenolphthaleinum, Radix et Rhizoma Rhei) are suitable for the patients with chronic constipation.

· The patients should use suppository (such as glycerin suppository, enema glycerin, and liquid paraffin) as ordered. It is helpful to soften the feces, moist the passage of feces, facilitate the peristalsis, and cause defecation.

· The enema can be performed as ordered when the stated interventions are ineffective.

Managing Fecal Impaction

The interventions for managing fecal impaction include:

· Laxatives and Cathartics are used to lubricate the feces, and easily eliminate.

· Oil retention enema is first performed, after 2 to 3 hours cleaning enema is performed.

· Digital removal of fecal impaction is performed is necessary. It should be carefully used for the patients with cardiac disease or spinal injure because of excessive vagal response. It should be stopped if palpitation or dizzy occurred.

Managing Diarrhea

The following interventions are for managing diarrhea:

· Nurses should recognize that the patients need emotional support because diarrhea is an embarrassing problem.

· Nurses should answer the patients' call signal promptly, The patients with diarrhea usually cannot control the urge to defecate. It is necessary to place a bedpan within easy reach.

· Nurses should remove the cause of diarrhea. If the diarrhea is caused by infection of intestines, the prescribed antibiotics should be used.

· The patients should have a rest on bed and pay more attention to warm the abdomen. It may reduce the peristalsis.

· Encourage oral intake of fluids and bland food. Eating small amounts of bland foods can be helpful because they are more easily absorbed. The patients should avoid oiled, highly spiced and high-fiber foods. The patients should get a temporary fasting treatment if serious diarrhea occurs.

· Nurses should pay more attention to maintain the patients' fluid and electrolyte balance. The prescribed antidiarrhea agents, oral saline and intravenous infusion should be provided if necessary.

· The integrity of skin should be maintained. Nurses should provide special care to the region around the anus, where skin irritation is common, to keep the area clean and dry. Skin Creams, Ointments, or Powders should be provided if necessary.

· The characteristics and frequency if defecation should be recorded. The specimen to examine should be collected if necessary.

Managing Fecal Incontinence

The following interventions are for managing fecal incontinence:

· The nurses should take into account that the patients may suffer embarrassment, feel low self-esteem and depression. The patients need emotional support, understanding and help.

· The nurses should note when incontinence is most likely to occur, and place the patients on a bedpan at those times. If there is no pattern, a bedpan should be offered at regular intervals, such as every few hours.

· Keep the skin clean and dry by using proper hygienic measure. Pay more attention to the change of skin, and massage the skin at regular intervals to avoid developing the pressure ulcers.

· Keep the bed lines and clothing clean. Change bed lines and clothing as necessary to avoid odor, skin irritation, and embarrassment. Open the window and maintain the fresh air.

· Confer with the physician about the use of a suppository or daily cleaning enema to empty the lower colon regularly and help to decrease incontinence.

· Instruct the patients to do regular exercises on anal sphincter and pelvic foot muscles.

· Help the patients to perform and maintain bowel training programs.

Managing Flatulence

The following interventions are for managing flatulence:

· Instruct the patients to establish the slowly chewing and swallowing habits while eating.

· Remove the cause of flatulence, avoid gas-producing foods and drinks, such as cabbage, beans, onions, cauliflower and bean milk.

· Encourage the patients to do exercise, such as ambulation or moving in bed. Movement stimulates peristalsis and the escape of flatus and re-absorption of gases in the intestinal capillaries.

· Provide hot therapy, or massage on abdomen, and acupuncture for mild cases. For serious flatus, the patients should take prescribed medicine as order or relieve flatus through rectal tube.

Managing Bowel Diversion

Care of the stoma and skin is important for the patients with ostomies. The fecal material from a colostomy or ileostomy is irritating to the peristomal skin. This is particularly true of ileal effluent, which contains digestive enzymes. It is important to assess the peristomal skin for irritation each time the appliance is changed. Any irritation or skin breakdown needs to be treated immediately. The skin is kept clean by washing off any excretion and drying thoroughly. A barrier such as karaya gum is applied over the skin around the stoma to prevent contact with any excretion. An appliance (bag) is then fitted to the stoma so that there is no leakage around it.

The nurses should instruct the patients to wash around the stoma with water and mild soap, and avoid using alcohol because alcohol dilates capillaries and can cause bleeding if the stomal margin. Disposable ostomy appliance can be applied for up to 7 days. They need to be changed whenever the effluent leaks onto the peristomal skin. Many people prefer to change them daily or whenever they become soiled, but this practice can be detrimental to the integrity of the peristomal skin and is expensive. However, more frequent changes are recommended if the patients complain of pain or discomfort.

An ileostomy emits frequent liquid and unformed stools. Control of defecation cannot be achieved because of a continuous oozing of liquid stool. The pouch must always be worn, emptied, washed and replaced throughout the day. Skin care is vital to prevent exposure to fecal irritants. A colostomy in the transverse or sigmoid colon emits solid and formed feces. It needs less frequent emptying of the pouch. Bowel movements may occur only once or twice daily.

A stoma can cause serious body image changes. Foul odors, leakage of feces and inability to regulate bowel movements give the patients loss of self-esteem. Nursing care

should focus on emotional support, teaching ostomy self-care and diet teaching. Some patients should learn to irrigate their ostomies to establish regular bowel elimination routines. The patients are ordered the ostomy irrigations similar to an enema with a transverse, descending, or sigmoid colostomy. This allows the patients to empty the bowel regularly and regain control as to the time of elimination of feces from the stoma. The nurses should help patients to maintain proper dietary habits and exercise regularly. The selected foods are eaten at prescribed intervals so that bowel movements occur at a convenient time.

Patients with temporary or permanent bowel diversions face unique health care problems. The patients with incontinent ostomies must wear pouches to collect stool emitted from the stomas. The nurses should teach patients how to select and apply correctly sized ostomy pouch. An effective pouching system protects the skin, contains fecal material, remains odor free, and is comfortable and inconspicuous. Odor control is essential to patients' self-esteem. As soon as patients are ambulatory, they can learn to work with the ostomy. Selecting the appropriate kind of appliance promotes odor control. The appliance should be rinsed thoroughly when it is emptied. Deodorizers can be placed in the pouch of the appliance.

Bowel Training Programs

Bowel training programs are the programs which involve setting up a daily routine by attempting to defecate at the same time every day and using measures that promote defecation; the patients gain control of bowel reflexes after the bowel training. Food and fluid intake, exercise, and defecation habits are all included in the programs. Bowel training programs can help some patients with fecal incontinence establish normal defecation, especially the patients who still have some neuromuscular control. The program requires time, patience, and consistency. Before beginning the program, patients must understand it and want to be involved. The major phases of the programs are as follows:

· Assess the patients' usual bowel habits and factors that help and hinder normal defecation.

· Design a plan with the patients that include the following: fluid intake of about 2500 to 3000 mL per day, increase in fiber in the diet, intake of hot drinks, especially just before usual defecation time, and increase in exercise.

· Maintain the following daily routine: administer a cathartic suppository 30 minutes before the patients' defecation time to stimulate peristalsis.

· When the patients experience the urge to defecate, assist the patients to the toilet or onto a bedpan. Note the length of time between the insertions of the suppository and the urge to defecate. Provide the patients with privacy for defecation and a time limit; 30 to 40 minutes is usually sufficient. Teach the patients to lean forward at the hips, to apply pressure on the abdomen with the hands, and to bear down for defecation. These measures increase pressure on the colon. Straining should be avoided because it can cause hemorrhoids.

· Provide positive feedback when the patients successfully defecate. Refrain from negative feedback if the patients fail to defecate.

· Encourage the patients to have patience, and require weeks or months of training to achieve success.

Laxatives and Cathartics

There are five types of laxatives and cathartics (Table 18-2). Cathartics and laxatives are available in oral tablet, powder and suppository dosage forms. Although the oral route is most commonly used, cathartics prepared as suppositories are more effective because if their stimulant effect on the rectal mucosa. Cathartics suppositories can act within 30 minutes.

Table 18-2 Types of Laxatives and Cathartics

Agent	Rational	Action
Bulk Forming: Methylcellulose; Psyllium	High-fiber content absorbs water and form the feces. Agents can stimulate intestinal wall to the peristalsis.	Agents are least irritating, most natural, and safest cathartics. It is used to relieve mild constipation, especially, for the patients with chronic constipation.
Emollient; Wetting	Agents can soften the feces, make more water and fat penetrate into the feces, and increase secretion of water by intestine.	Agents are used for short-term therapy to relieve straining on defecation. They are suitable for the patients with hemorrhoids, pregnancy, and recovery from myocardial infarction.
Saline: Magnesium citrate; Magnesium sulfate; Sodium phosphate	Agents contain salt preparation not absorbed by intestines. Osmotic effect of agents increases pressure in bowel, and stimulates the peristalsis. Agents also lubricate feces.	Agents are used only for acute emptying of bowel (e. g. endoscopic examination, acute constipation, suspected poisoning).
Stimulant Cathartics: Castor oil; Phenolphthalein Bisacodyl	Agents irritate intestinal mucosa to increase motility. Agents decrease absorption of intestines.	Agents may be used to prepare bowel for diagnostic examination.
Lubricants: Mineral oils; Glycerin suppository; Enema glycerin; Liquid paraffin	Agents can coat the fecal contents, and make the feces easily pass through the intestines. Agents also reduce water absorption in colon.	Agents are used to prevent straining on defecation.

Fecal Specimen Collection

The fecal contains digested or undigested residue, secretion from digestive tract, bacteria and water. The feces are examined to determine the irritation, bleeding and parasite infection in digestive tract. The characteristics and contents of feces reflect the digestive function. There are four types specimen, such as routine specimen, culture specimen, and occult specimen, and worm or spawn specimen.

Purposes

1. Routine specimen reflects the characteristics, color, and contained cells of the feces.
2. The stool is tested for culture to detect the bacteria causing the disease.
3. The stool is tested for occult blood to detect gastrointestinal bleeding not visible to the eyes.
4. The stool is also tested to detect the worm and spawn.

Equipment

Routine specimen
·Container for specimen (such as stencil carton bottle, plastic box)
·Tongue blades or bamboo stick
·Bedpan
Cluture specimen
·Sterile stencil carton
·Sterile tongue blades or bamboo stick
·Sterile bedpan
Occult blood specimen
·Stencil carton
·Tongue blades or bamboo stick
Worm or spawn specimen
·Container or bedpan with lid
·Tongue blades or bamboo stick
·Cellophone tape, slide

Procedures and Key Points

Steps	Rationale and Key Points
1. Prepare the environment: The environment is quiet, safe, and privacy.	
2. Check the order, and paste the label on the container, and carry the equipment to the patient's bedside.	·Preventing the mistake
3. Check the patient's name and bed number, and explain the purposes and procedures of the collection.	·Making the patients understand and cooperate
4. Place the screen and tell the patient to urinate before defecation.	·Preventing the specimen from being mixed with urine
5. Collect the specimen.	
Routine Specimen	
Use one or two clean tongue blades to transfer middle stool or stool with mucus or pus to the container. Collect 5g of formed stool or 15-30ml of liquid diarrhea stool.	
Cluture Specimen	
□ Use one or two sterile tongue blades to transfer the stool in the middle or with mucus or pus to the sterile container.	
□ If the patient has no urge to defecate,	

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the nurse should prepare the sterile cotton stick with dipping the sterile normal saline, insert it into the patient's anus for 6-7cm and move it gently, then put it into the sterile test tube.	
Occult Blood Specimen The steps are the same as collecting routine specimen.	·The patients should be told that the foods, such as meat, animal liver, blood, green vegetables, and chalybeates should be restricted for 3 days before the specimen is collected.
Worm or Spawn Specimen **Worm Specimen:** Transfer the stool with mucus or pus in different parts, about 5-10g to the clean container.	·All stool should be transferred to the container if it is used for schistosome incubation examination or helminthicide medicine has been taken.
Pinworm Specimen: □ The nurse should collect the specimen before the patients has bowel movements, or when the patient is awake in the morning. □ Paste the cellophane tape on the patient's anal area directly. □ Remove the cellophane tape with pinworms from the anal area, and paste it on a slide.	·Pinworm tends to come to the anal area and make the eggs during the night or in the early morning.
□ Send the specimen to the laboratory test immediately. **Amoeba Specimen** □ Warm the bedpan and container near to the body temperature. □ Send the specimen and bedpan to the laboratory within 30 minutes.	·Keep the amoeba alive
6.Disinfect and clean the bedpan. 7. Wash hands and record the relevant data.	·Preventing transfer of microorganism

Evaluation

1. According to the objectives and items of examination, the specimen is obtained accurately.
2. The patient communicated with the nurse effectively, and cooperated with the specimen collection.

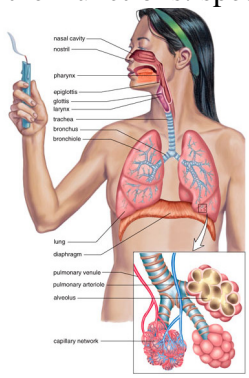
Unit –VII
Activity exercise Pattern

This pattern centers on activity level, exercise program, and leisure activities.

History (subjective data):
Sufficient energy for desired and/or required activities? Exercise pattern? Type? regularity? Spare time (leisure) activities? Child-play activities? Perceived ability for feeding, grooming, bathing, general mobility, toileting, home maintenance, bed mobility, dressing and shopping?

Examination (examples of objective data):
Demonstrate ability for above criteria. Gait. Posture. Absent body part. Range of motion (ROM) joints. Hand grip - can pick up pencil? Respiration. Blood pressure. General appearance. Musculoskeletal, cardiac and respiratory assessments**.**

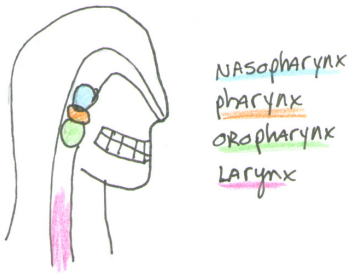
Concepts of oxygenation
OXYGENATION
Main Function = gas exchange from O2 → CO2
Other functions: speech (sounds) regulation of pH of blood.

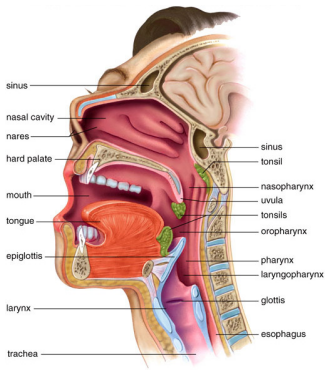


1. **NOSE**: This is made of cartilage. Nose jobs involve taking a mallet, breaking the nasal bone and shaving the cartilages.
    a. **NASAL CAVITY**: This is where the nostrils are. They have hairs which filter large particles in the respiratory tract. (insects, etc).

    The functions of the nasal cavity is for the air you breathe:
    1. Warm (cold air can freeze lungs); warmed by superficial veins
    2. Clean (dirty air can clog lungs); mucous is sticky, and cilia will move that dirt down the back of the throat, then it's swallowed.
    3. Humidify (dry lungs can crack). The fluid secreted by glands makes the moisture, even on windy days the air goes to 100% humidity by the time it gets to the lungs.

    When you have a cold and get extra fluid (edema) → stuffed up or runny nose, and the pressure can cause sinus headaches.





2. **PHARYNX** is where the nasal passages join with the oral passages. The **AUDITORY TUBE** from the ears is located here.
    A. **SOFT PALATE**: move your tongue along the roof of your mouth, and going from the front to the back you'll feel the hard part turning into a soft part on the roof of your mouth.
    B. **UVULA**: located at the end of the soft palate (seen in cartoons).

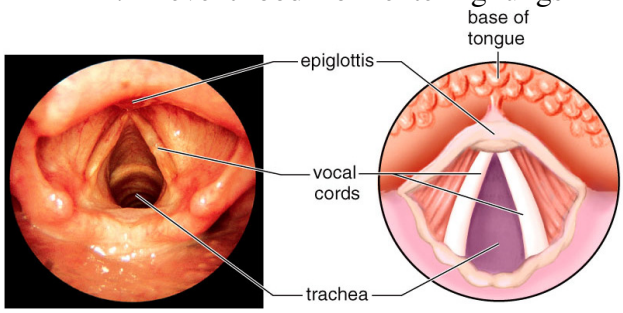
The function of the soft palate and uvula is to move upward when swallowing, to prevent food from going into nasal cavities. When you vomit, they don't close, and food and stomach acids go into nasal cavity and cause problems. Can also see tonsils (lymph nodes) and vocal cords.

3. LARYNX (model)

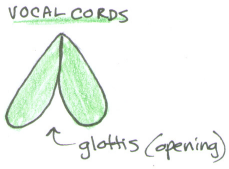
This is a very complex structure (show overhead). Made up of cartilages

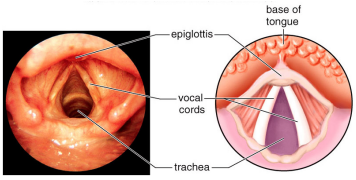
It has two functions:

1. Produce sounds (vocal cords are located in the larynx)
2. Prevent food from entering lungs



A. EPIGLOTTIS closes when you swallow so nothing will go into the trachea and lungs. When you get hiccoughs, it's from a sudden movement of air into the lungs, so the epiglottis closes to prevent more air from going in. It's unknown why you get hiccoughs. All the treatments you can try involve interrupting the normal breathing patterns.





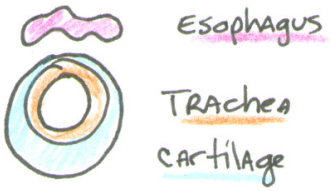
B. GLOTTIS is the opening.

C. VOCAL CORDS
Vocal cords are attached to cartilage. If these cartilages move, the vocal cords open.
The type and pitch of sounds you make depend on how far apart the vocal cords are.
Way open = no sound (like when breathing)
Mostly closed = sounds
Men: their thyroid cartilage is larger, so their vocal cords are longer = deeper voice.

LARYNGITIS: inflamed vocal cords (↓ sound production).
Singers can get scar tissue nodules, requires surgery.

The number one sign that a person is lying is voice irregularities.

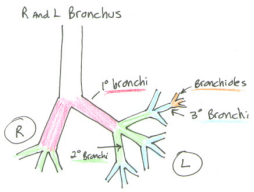
4. TRACHEA This is a tube that carries air from the larynx to the lungs. (See model)
It's fairly rigid from about 16 rings of cartilage.
The purpose of the cartilage rings is to keep the trachea open like a hollow tube. Otherwise, when you inhale, the trachea would collapse like when you suck hard on a straw. That's why your vacuum cleaner has rings on the hose.

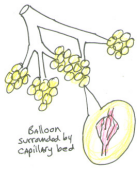


The trachea is lined with epithelium interspaced with goblet cells, which are the cells that produce mucous to trap dirt. The epithelial cells also have little hairs on them called cilia which sweep dirt to larynx → swallowed. In this way, the respiratory passage is filtered. Therefore, the cilia have several functions: they move the mucus, remove debris and harmful organisms, and circulate the air.

The trachea branches out into smaller tubes called **BRONCHI.**
Bronchi branch out into smaller tubes called **BRONCHIOLES.**
Bronchioles branch out into smaller tubes that empty into a sack = **ALVEOLI** (overhead picture). This sac is like a balloon surrounded by a capillaries. The alveoli are where the gas exchange occurs: oxygen goes from the air in the lungs into the red blood cells passing by there, and carbon dioxide diffuses out of the cells and into the air in the lungs where it is exhaled. Therefore, inspired air (breathe in) contains oxygen, and expired air (breathe out) contains more carbon dioxide than oxygen.

By the time these air tubes are this small, they don't have any more cilia, so any particle that gets down that far has to be eaten by macrophages or just stay there. Therefore, within the alveoli are macrophages to eat the foreign object.





A cough can be expelled at 60 mph.

DIAPHRAGM is a muscle on the floor of the chest cavity. It is involved in breathing.

MYTH: Cover your head or catch a cold: Although 90% of the heat lost from the body is lost from the head, covering your head will not prevent this heat loss. The heat is lost from the warm air that you exhale.

PROBLEMS WITH THE LUNGS
In allergic conditions, bronchioles will constrict, blocking air flow to the lungs = **ASTHMA**. This can also be caused by irritants in the environment, especially by pollution in the city.

SMOKING
Smoking destroys cilia, and smoke of any kind is toxic. Particles in the lungs can't clear. Cigarettes contain tar, which is the same kind of tar used to pave roads. When there is a thin lining of tar on the alveoli, there is no oxygen exchange to the lungs there. Large chunks of the lung become useless. Damage to the lungs shows up several ways.

If a person smokes for 10 years and then stops, the damage will repair. If they have been smoking longer than 10 years, they may have some residual damage. It takes 7 years for lungs to repair. Smoking right after exercise is worse because you are breathing more deeply, so the particles go in deeper. Pollution in the air can also cause particles in the lungs, and the ozone can damage the lungs. Living in southern California is like smoking one pack a day.

A mother who smokes during pregnancy will give birth to a baby with a lower birth weight. Smoking also is associated with heart disease, cancer of the lung, bladder, and pancreas. It also causes emphysema, pneumonia, and bronchitis. Some people try to quit smoking by smoking less, trying not to inhale, or switching to chewing tobacco, but there is no safe way to use tobacco.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
Number 5 killer in the USA.
It is a combination of two conditions:

1. **CHRONIC BRONCHITIS**: inflammation of the bronchi, produces mucous, the openings become smaller = obstructed.
2. **EMPHYSEMA**: loss of elastic tissue on the bronchioles and alveoli, which collapse now during exhalation. Alveoli lose their shape and their surface area.

When you see someone at the mall with an oxygen tank, they probably have emphysema, and need pure oxygen.

LUNG CANCER

There are many types of lung cancers. About 150,000 die each year from them.
It is the #1 or #2 most deadly form of cancer. 85% of lung cancer is caused from smoking.

The problem is that it starts as a hard nodule deep in the spongy tissue of the lung, where it has no symptoms until it presses against a structure. By then, it has also **METASTASIZED** (bits of it break off and travel to another location in the body, lodge there, and start multiplying).

Surgery on the lung cancer of a smoker won't work because the lungs are too weak, and they can't do without the lung tissue. There are no good screening procedures for lung cancer.

SURFACTANT is a slippery agent that is made by the alveoli, which coats it and keeps the walls of the alveoli from sticking together when they collapse during exhalation. If you have two wet pieces of paper and stick them together, they are hard to pull apart without ripping. Put soapy water between them, and you can pull them apart.

The reason this is important is because surfactant is not produced in a fetus until the ninth month, so premature babies don't have enough surfactant → **RESPIRATORY DISTRESS SYNDROME**, which is the #1 cause of death in premature babies. You know how hard it is to blow up a brand new balloon? Imagine a baby having to do that with every single breath. You get tired. The treatment is to spray artificial surfactant into the lungs, and put them on a respirator to push air in. The more distal regions are still collapsed, so there are still problems.

PNEUMONIA is when there is fluid in the lungs, usually from a viral or bacteria infection of the bronchi and alveoli. Blood plasma leaks out and fills the lungs, making it difficult to breathe. Needs hospitalization with iv antibiotics.

TUBERCULOSIS is an infection of a really bad bacteria that get in the lungs and make themselves a capsule to hide in, where antibiotics can't reach. They set up shop in the lungs and reproduce. Soon, the lungs fill up with these hard nodes and make it difficult to breathe. It causes extreme coughing, and then lots of these bacteria break off and get spewed into the air, where someone else can inhale them. It is extremely contagious and very deadly. If a person gets TB, the State Health Department has to be notified. They will show up at your house every morning for six months and stand there and watch you take your pills. If you don't accept this, they have the right to haul you away to a lock-up facility and force the medicine in you for six months. There are only a few diseases where the State Health Department will step in like this: anthrax, typhoid fever, and bubonic plague are other diseases where you don't get a choice; you are forced into isolation. Diseases like TB and the plague have almost wiped out Europe! A TB test

will be positive if you have been exposed to the organism at any point in your life. Then you'll have to go in for an x-ray to see if it is an active case of TB or not. Once you recover from TB you will always have a positive TB test, so tell the nurse that in advance. You may have to provide documentation that you have been treated for it already. Most employers require TB tests before hiring. I had to take one to work here

Mobility and immobility
Mobility refers to: a person's ability to move about freely.
Immobility refers to: the inability to move about freely.
NANDA definition of immobility: is a state in which the individual experiences or is at risk of experiencing limitation of physical movement.

Body Mechanics:
Co-ordinated efforts of muscular / skeletalsystem to maintain, balance posture and bodyalignment during lifting, bending, moving andperforming activities of daily living.
Alignment -
good alignment (or straight / properanatomical positioning) is important whenstanding sitting or lying-helps to reduce injury for nurses andpatients.

Balance
Balance control means the centre of gravity isappropriate for the task at hand
Balance is best with-a wide base of support -low centre of gravity kept in the baseof support.
Gravity and friction:
- The weight of an object person is the forceexerted from gravity.- Friction occurs when two surfaces rub against another.

Exercise
Physical exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness. It is performed for various reasons including strengthening muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, as well as for the purpose of enjoyment. Frequent and regular physical exercise boosts the immune system, and helps prevent the "diseases of affluence" such as heart disease, cardiovascular disease, Type 2 diabetes and obesity. It also improves mental health, helps prevent depression, helps to promote or maintain positive self-esteem, and can even augment an individual's sex appeal or body image, which is also found to be linked with higher levels of self-esteem. Childhood obesity is a growing global concern and physical exercise may help decrease some of the effects of childhood and adult obesity. Health care providers often call exercise the "miracle" or "wonder" drug—alluding to the wide variety of proven benefits that it provides
Classification
Physical exercises are generally grouped into three types, depending on the overall effect they have on the human body:

Aerobic exercise is any physical activity that uses large muscle groups and causes your body to use more oxygen than it would while resting. The goal of aerobic exercise is to

increase cardiovascular endurance. Examples of aerobic exercise include cycling, swimming, brisk walking, skipping rope, rowing, hiking, playing tennis, continuous training, and long slow distance training.

Anaerobic exercise is also called strength or Resistance training and can firm, strengthen, and tone your muscles, as well as improve bone strength, Balance, and Coordination. Examples of strength moves are pushups, lunges, and bicep curls using dumbbells. Anaerobic exercise also include weight training, functional training, eccentric training, Interval training, sprinting and high-intensity interval training increase short-term muscle strength.

Flexibility exercises stretch and lengthen your muscles. Activities such as stretching help to improve joint joint flexibility and keep muscles limber. The goal is to improve the range of motion which can reduce the chance of injury.
Physical exercise can also include training that focuses on accuracy, agility, power, and speed.

Sometimes the terms 'dynamic' and 'static' are used.[citation needed] 'Dynamic' exercises such as steady running, tend to produce a lowering of the diastolic blood pressure during exercise, due to the improved blood flow. Conversely, static exercise (such as weight-lifting) can cause the systolic pressure to rise significantly (during the exercise)

Assessment data of Activity exercise pattern
ACTIVITY- EXERCISE PATTERN
OBJECTIVE
1. Cardiovascular
a. Cyanosis
no:
yes:
where:
b. Pulses
Easily palpable
carotid:
yes:
no:
jugular:
yes:
no:
temporal
yes:
no:
radial
yes:
no:
femoral
yes:

ANSARI, M IBRAHIM cadetccl@yahoo.com

no:
popliteal
yes:
no:
postibial
yes:
no:
dorsalis pedis
yes:
no:
c. Extremities
temperature
cold:
cool:
warm:
hot:
capillary refill
normal:
delayed:
color
pink:
pale:
cyanotic:
other:
describe:
hair distribution

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Unit –VIII
Coping & Stress tolerance

History (subjective data):
Any big changes in your life in last year or two? Crisis? Who is most helpful in talking things over? Available to you now? Tense or relaxed most of the time? When tense, what helps? Use any medications, drugs, alcohol to relax? When (if) there are big problems in your life, how do you handle them? Most of the time, are these ways successful?

Examination (examples of objective data):
None.

Coping-Stress Tolerance Pattern
Iife focused on the person's perception of stress and coping strategies Support systems, evaluated symptoms of stress, effectiveness of a person's coping strategies.

- Compromised family coping
- Defensive coping
- Disabled family coping
- Impaired adjustment
- Ineffective community coping
- Ineffective coping
- Ineffective denial
- Post-trauma syndrome
- Readiness for enhanced community coping
- Readiness for enhanced coping
- Readiness for enhanced family coping
- Risk for self-mutilation
- Risk for suicide
- Risk for post-trauma syndrome
- Self-mutilation
- Stress overload
- Concept of stress

Stress Response theory
Stress may be defined as a nonspecific response to perceived environmental threats (called **stressors**). But a particular environmental change (a demand or an event) may be perceived by one person as stressful and by another as benign. An examination is, for example, likely to be less stressful for a student who has mastered all homework assignments than it is for a student who waits to cram the night before the test. The generalized feeling of fear and apprehension associated with a stressor is called anxiety. Anxiety is typically accompanied by activation of the sympathetic nervous system and increased physiological arousal, which causes rapid breathing, increased heart rate, sweating, and dilation of the pupils.

Fight or flight. In the 1920s, Walter Cannon recognized that the autonomic nervous system is activated in response to stress and suggested that stress mobilizes the body's

responses in readiness for either attacking (**fight**) or fleeing (**flight**) an enemy or threatening situation. Although such responses may have promoted survival when they evolved in human history, they are not productive given the longer periods of stress exposure common in modern life. Such enterprises as keeping a job, going to school, and playing on the soccer team require more complex responses.

The general adaptation syndrome. Hans Selye is credited with identifying the body's reaction to stress with a syndrome he called the general adaptation syndrome, which has three phases, as evidenced by the level of stress hormones alarm: The body first organizes physiological responses (similar to

fight□or□flight responses) to threat.
resistance: Stress□activated responses continue, stabilizing the body's adaptations to stress.
exhaustion: The body has depleted its reserves and can no longer maintain responses to the stressors.

During the alarm phase, when the body is first aroused, the hypothalamus sends signals to the pituitary gland. This endocrine gland in turn secretes **adrenocorticotrophic hormone (ACTH),** which travels via the bloodstream to the cortex (outer layer) of the adrenal glands, where **corticosteroids** are released. The hypothalamus also activates the adrenal medulla, the central part of the adrenal gland, which causes **adrenaline (epinephrine)** to be released and the activation of the **sympathetic nervous system**. After maintaining high levels of the hormones for a long time, the body loses its ability to do so and exhausts its resources. Selye is credited with identifying the fact that the incidence of certain types of diseases **(stress□related diseases**, such as some types of coronary disorders) increases during this stage of exhausted body resources and that a second stressor introduced during the resistance phase or the exhaustion phase further increases that incidence.

Evidence demonstrates that prolonged stress also affects the ability of the immune system to function adequately and can affect the release of other neurotransmitters such as serotonin. Stress may also affect the release of endorphins, chemicals similar in structure to morphine and other opiate drugs used in the modulation of pain.

Stress and distress
stress is an organism's response to a stressor such as an environmental condition or a stimulus. Stress is a body's method of reacting to a challenge. According to the stressful event, the body's way to respond to stress is by sympathetic nervous system activation which results in the fight-or-flight response. In humans, stress typically describes a negative condition or a positive condition that can have an impact on a person's mental and physical well-being
Selye published in year 1975 a model dividing stress into **eustress and distress,** Where stress enhances function (physical or mental, such as through strength training or challenging work), it may be considered eustress. Persistent stress that is not resolved

through coping or adaptation, deemed distress, may lead to anxiety or withdrawal (depression) behavior.

The difference between experiences that result in eustress and those that result in distress is determined by the disparity between an experience (real or imagined) and personal expectations, and resources to cope with the stress. Alarming experiences, either real or imagined, can trigger a stress response

(General adaptation syndrome) GAS

Definition

General adaptation syndrome, or GAS, is a term used to describe the body's short-term and long-term reactions to stress.

Stressors in humans include such physical stressors as starvation, being hit by a car, or suffering through severe weather. Additionally, humans can suffer such emotional or mental stressors as the loss of a loved one, the inability to solve a problem, or even having a difficult day at work.

Description

Originally described by Hans Selye (1907–1982), an Austrian-born physician who emigrated to Canada in 1939, the general adaptation syndrome represents a three-stage reaction to stress. Selye explained his choice of terminology as follows: "I call this syndrome general because it is produced only by agents which have a general effect upon large portions of the body. I call it adaptive because it stimulates defense…. I call it a syndrome because its individual manifestations are coordinated and even partly dependent upon each other."

Selye thought that the general adaptation syndrome involved two major systems of the body, the nervous system and the endocrine (or hormonal) system. He then went on to outline what he considered as three distinctive stages in the syndrome's evolution. He called these stages the alarm reaction (AR), the stage of resistance (SR), and the stage of exhaustion (SE).

Stage 1: alarm reaction (ar)

The first stage of the general adaptation stage, the alarm reaction, is the immediate reaction to a stressor. In the initial phase of stress, humans exhibit a "fight or flight" response, which prepares the body for physical activity. However, this initial response can also decrease the effectiveness of the immune system, making persons more susceptible to illness during this phase.

Stage 2: stage of resistance (sr)

Stage 2 might also be named the stage of adaptation, instead of the stage of resistance. During this phase, if the stress continues, the body adapts to the stressors it is exposed to. Changes at many levels take place in order to reduce the effect of the stressor. For example, if the stressor is starvation (possibly due to anorexia), the person might experienced a reduced desire for physical activity to conserve energy, and the absorption of nutrients from food might be maximized.

Stage 3: stage of exhaustion (se)

At this stage, the stress has continued for some time. The body's resistance to the stress may gradually be reduced, or may collapse quickly. Generally, this means the immune system, and the body's ability to resist disease, may be almost totally eliminated. Patients who experience long-term stress may succumb to heart attacks or severe infection due to their reduced immunity. For example, a person with a stressful job may experience long-term stress that might lead to high blood pressure and an eventual heart attack.

Stress, a useful reaction?

The reader should note that Dr. Selye did not regard stress as a purely negative phenomenon; in fact, he frequently pointed out that stress is not only an inevitable part of life but results from intense joy or pleasure as well as fear or anxiety. "Stress is not even necessarily bad for you; it is also the spice of life, for any emotion, any activity, causes stress." Some later researchers have coined the term "eustress" or pleasant stress, to reflect the fact that such positive experiences as a job promotion, completing a degree or training program, marriage, travel, and many others are also stressful.

Selye also pointed out that human perception of and response to stress is highly individualized; a job or sport that one person finds anxiety-provoking or exhausting might be quite appealing and enjoyable to someone else. Looking at one's responses to specific stressors can contribute to better understanding of one's particular physical, emotional, and mental resources and limits.

Causes and symptoms

Stress is one cause of general adaptation syndrome. The results of unrelieved stress can manifest as fatigue, irritability, difficulty concentrating, and difficulty sleeping. Persons may also experience other symptoms that are signs of stress. Persons experiencing unusual symptoms, such as hair loss, without another medical explanation might consider stress as the cause.

The general adaptation syndrome is also influenced by such universal human variables as overall health and nutritional status, sex, age, ethnic or racial background, level of education, socioeconomic status (SES), genetic makeup, etc. Some of these variables are biologically based and difficult or impossible to change. For example, recent research indicates that men and women respond somewhat differently to stress, with women being more likely to use what is called the "tend and befriend" response rather than the classical "fight or flight" pattern. These researchers note that most of the early studies of the effects of stress on the body were conducted with only male subjects.

Selye's observation that people vary in their perceptions of stressors was reflected in his belief that the stressors themselves are less dangerous to health than people's maladaptive responses to them. He categorized certain diseases, ranging from cardiovascular disorders to inflammatory diseases and mental disorders as "diseases of adaptation," regarding them as "largely due to errors in our adaptaive response to stress" rather than the direct result of such outside factors as germs, toxic substances, etc.

Diagnosis

GAS by itself is not an official diagnostic category but rather a descriptive term. A person who consults a doctor for a stress-related physical illness may be scheduled for blood or

urine tests to measure the level of cortisol or other stress-related hormones in their body, or imaging studies to evaluate possible abnormalities in their endocrine glands if the doctor thinks that these tests may help to establish or confirm a diagnosis.
The American Psychiatric Association (APA) recognizes stress as a factor in anxiety disorders, particularly post-traumatic stress disorder (PTSD) and acute stress disorder (ASD). These two disorders are defined as symptomatic reactions to extreme traumatic stressors (war, natural or transportation disasters, criminal assault, abuse, hostage situations, etc.) and differ chiefly in the time frame in which the symptoms develop. The APA also has a diagnostic category of adjustment disorders, which are characterized either by excessive reactions to stressors within the normal range of experience (e.g. academic examinations, relationship breakups, being fired from a job) or by significant impairment in the person's occupational or social functioning.

Treatment

Treatment of stress-related illnesses typically involves one or more stress reduction strategies. Stress reduction strategies generally fall into one of three categories: avoiding stressors; changing one's reaction to the stressor(s); or relieving stress after the reaction to the stressor(s). Many mainstream as well as complementary or alternative (CAM) strategies for stress reduction, such as exercising, listening to music, aromatherapy, and massage relieve stress after it occurs.
Many psychotherapeutic approaches attempt to modify the patient's reactions to stressors. These approaches often include an analysis of the patient's individual patterns of response to stress; for example, one commonly used set of categories describes people as "speed freaks," "worry warts," "cliff walkers," "loners," "basket cases," and "drifters." Each pattern has a recommended set of skills that the patient is encouraged to work on; for example, worry warts are advised to reframe their anxieties and then identify their core values and goals in order to take concrete action about their worries. In general, persons wishing to improve their management of stress should begin by consulting a medical professional with whom they feel comfortable to discuss which option, or combination of options, they can use.
Selye himself recommended an approach to stress that he described as "living wisely in accordance with natural laws." In his now-classic book The Stress of Life (1956), he discussed the following as important dimensions of living wisely:
Adopting an attitude of gratitude toward life rather than seeking revenge for injuries or slights. Acting toward others from altruistic rather than self-centered motives.
Retaining a capacity for wonder and delight in the genuinely good and beautiful things in life. Finding a purpose for one's life and expressing one's individuality in fulfilling that purpose. Keeping a healthy sense of modesty about one's goals or achievements.

Coping strategies

Stress is a normal physical response to events that make you feel threatened, or upset your balance in some way. When you sense danger – whether it's a real or an imagined one – the body's defenses kick into high gear in a rapid, automatic process known as the "fight-or-flight" reaction, or a stress response.

The stress response is your body's way of protecting you. When working properly, it helps you stay focused and alert. In emergency situations, stress response can save your life, giving you the extra strength to defend yourself.

In general, stress is related to both external and internal factors.

External factors include your physical environment such as your job, your relationships with others, your home, and all the situations, challenges, difficulties, and expectations you're confronted with on a daily basis.

Internal factors include your nutritional status, overall health and fitness levels, emotional well-being, and the amount of sleep and rest you get.

Stress may cause many health-related problems including heart disease, obesity, depression, and type-two diabetes. There are two ways of dealing with stress: Stress Tolerance and Resiliency.

Stress Tolerance is all about maintaining effective performance under pressure or adversity. Resiliency is one's capacity to mobilize personal resources to tolerate and overcome adverse events without experiencing stress, and to grow and develop as a consequence of such events.

In other words, Stress Tolerance indicates how much stress you can take on until you explode. Personal Emotional Resiliency, on the other hand, indicates how much adversity you can handle without experiencing stress. We need to focus on building and enhancing resiliency as it is most beneficial for our health, wellness and productivity in life overall and at a workplace in particular.

Here are seven strategies to build and enhance Personal Emotional Resiliency:

1. Find a good chiropractor. How can you be relaxed, optimistic and collaborative if you experience severe neck-pain or aches in your back on a daily basis? There's no way. Chiropractors can help. They identify and correct misalignments of the vertebrae that can cause you a great deal of pain which will increase your stress-level. Make a chiropractic adjustment a part of your routine to feel more harmony in your body and mind and stay resilient to stress.

2. Spend quality time with your loved ones. Building stronger family boundaries will help decrease your level of stress and increase the level of empathy, love and support around you. Establish "Family Dinner Fridays" when everyone will prepare and eat a healthy meal. Sit at a table and share a meaningful conversation with your loved ones. No TV or cell phones allowed!

3. Exercise. Exercise can decrease stress, increase flexibility and balance, improve blood sugar and blood pressure control, strengthen your body overall and increase your level of optimism toward life. A good exercise program consists of cardio, stretch, and

weight training. The American Heart Association recommends at least 150 minutes of moderate exercise (brisk walking or cycling) weekly, plus strength training at least twice a week.

Make sure to eat right when you include working out in your routine. Keep a food journal to avoid poor eating. If you don't feel motivated enough, find an accountability partner. A reliable accountability partner can provide foundation that will support you along your journey to creating permanent positive lifestyle change for wellness and success.

4. Practice relaxation techniques. Some people claim they don't have time to practice relaxation techniques. Well, your car won't drive without gas and regular oil change. Similarly, your body won't function at its best without being recharged through deep breathing and other techniques.

5. Eat healthy. Everyday stress can cause metabolic changes that, in the long run, contribute to obesity. In the same time, healthy eating habits can prevent you from experiencing stress. Research indicates that 41% of obese people cite "not enough time" as the reason they eat poorly.

A survey by CDC found that almost 40% of people who lost a significant amount of weight and kept it off successfully planned their weekly meals in advance. Also remember: don't underestimate the importance of breakfast. Skipping breakfast is strongly linked to the development of obesity. You need to consume antioxidants every day. They are nature's way of fighting off potentially dangerous molecules in the body. Be sure to eat spinach and other greens as they can help you prevent cancer, heart-disease, stroke and obesity.

6. Allow yourself 8 hours of uninterrupted sleep. If can't find time sleep for 8 hours, take a power-nap during a day. This strategy is vital for reducing stress. When you go to bed, leave your cell phone outside of the bedroom or at least turn it off. Listen to some relaxing music. Light some candles. Think about something pleasant. If you live in a city, use earplugs to avoid being disturbed by loud noise. If you don't have the ability to sleep for 8 hours a night, take 1-2 power-naps throughout the day. It will help you recharge your batteries and allow for new, fresh energy, creativity and positive mood.

7. Be grateful. Start a Thanksgiving Journal to exercise and improve your gratitude. I have one, so every day, before going to bed, I write five thanks to people for their acts of kindness or nice words of support. I don't take those positive moments for granted and, in return, my Thanksgiving Journal provides a strong evidence that life is good, which fills me up with optimism, hope and enthusiasm.

Practicing these strategies will help you become stronger physically and emotionally, stay hopeful even during challenging times, build meaningful relationships with your family, friends and colleagues, increase the quality of your life, and decrease the level of stress.

Unit –IX
Sleep rest pattern

Sleep

sleep is a naturally recurring state characterized by altered consciousness, relatively inhibited sensory activity, and inhibition of nearly all voluntary muscles. It is distinguished from wakefulness by a decreased ability to react to stimuli, and it is more easily reversible than being in hibernation or a coma.

During sleep, most systems in an animal are in a heightened anabolic state, accentuating the growth and rejuvenation of the immune, nervous, skeletal and muscular systems etc. It is observed in mammals, birds, reptiles, amphibians and fish, and (in some form) in insects and even simpler animals such as nematodes (see the related article Sleep (non-human)), suggesting that sleep is universal in the animal kingdom.

The purposes and mechanisms of sleep are only partially clear and the subject of substantial ongoing research. Sleep is sometimes thought to help conserve energy, though this theory is not fully adequate as it only decreases metabolism by about 5–10%. Additionally it is observed that mammals require sleep even during the hypometabolic state of hibernation, in which circumstance it is actually a net loss of energy as the animal returns from hypothermia to euthermia in order to sleep.

In most human societies sleep is conducted during the night, but in very hot climates it may be done during the day. Humans may suffer from a number of sleep disorders. These include dyssomnias (such as; insomnia, hypersomnia, and sleep apnea) and parasomnias (such as sleepwalking and REM behavior disorder; and the circadian rhythm sleep disorders).

Assesses sleep and rest patterns.

History (subjective data):

Generally rested and ready for activity after sleep? Sleep onset problems? Aids? Dreams (nightmares), early awakening? Rest / relaxation periods? Sleep routine? Sleep apnea symptoms?

Examination (examples of objective data):

Observe sleep pattern and rest pattern.

Assessment is focused on the person's sleep, rest, and relaxation practices. Dysfunctional sleep patterns, fatigue, and responses to sleep deprivation may be identified. Inquire about- Patterns of sleep, rest, perception of quality and quantity.

Associated Nursing Diagnoses:

Sleep pattern Disturbance: Time-limited disruption of sleep (natural periodic suspension of consciousness).

Sleep-deprivation: Prolonged periods without sleep.

Sudden Infant Death Syndrome, Risk for: Presence of risk factors

Sleep is required to provide energy for physical and mental activities. The sleep-wake cycle is complex, consisting of different stages of consciousness: rapid eye movement (REM) sleep, non-rapid eye movement (NREM) sleep, and wakefulness. As persons age the amount of time spent in REM sleep diminishes. The amount of sleep that individuals require varies with age and personal characteristics. In general the demands for sleep decrease with age. The elderly sleep less during the night, but may take more naps during the day to feel rested. Disruption in the individual's usual diurnal pattern of sleep and wakefulness may be temporary or chronic. Such disruptions may result in both subjective distress and apparent impairment in functional abilities. Sleep patterns can be affected by environment, especially in hospital critical care units. These patients experience sleep disturbance secondary to the noisy, bright environment, and frequent monitoring and treatments. Such sleep disturbance is a significant stressor in the intensive care unit (ICU) and can affect recovery. Other factors that can affect sleep patterns include temporary changes in routines such as in traveling, jet lag, sharing a room with another, use of medications (especially hypnotic and antianxiety drugs), alcohol ingestion, night-shift rotations that change one's circadian rhythms, acute illness, or emotional problems such as depression or anxiety. This care plan focuses on general disturbances in sleep patterns and does not address organic problems such as narcolepsy or sleep apnea.

Related Factors

- Pain/discomfort
- Environmental changes
- Anxiety/fear
- Depression
- Medications
- Excessive or inadequate stimulation
- Abnormal physiological status or symptoms (dyspnea, hypoxia, neurological dysfunction, and others)
- Normal changes associated with aging

Defining Characteristics

- Verbal complaints of difficulty falling asleep
- Awakening earlier or later than desired
- Interrupted sleep
- Verbal complaints of not feeling rested
- Restlessness
- Irritability
- Dozing
- Yawning
- Altered mental status
- Difficulty in arousal
- Change in activity level
- Altered facial expression (e.g., blank look, fatigued appearance)

Physiology of sleep

Normal Sleep in Adults, Infants, and the Elderly

Normal sleep is divided into non–rapid eye movement (NREM) and rapid eye movement (REM) sleep. NREM sleep is further divided into progressively deeper stages of sleep: stage N1, stage N2, and stage N3 (deep or delta-wave sleep). As NREM stages progress, stronger stimuli are required to result in an awakening. Stage R sleep (REM sleep) has tonic and phasic components. The phasic component is a sympathetically driven state characterized by rapid eye movements, muscle twitches, and respiratory variability. Tonic REM is a parasympathetically driven state with no eye movements. The REM period length and density of eye movements increases throughout the sleep cycle.

Waking usually transitions into light NREM sleep. NREM sleep typically begins in the lighter stages N1 and N2, and progressively deepens to slow wave sleep as evidenced by higher-voltage delta waves. N3 (slow wave sleep) is present when delta waves account for more than 20% of the sleep EEG. REM sleep follows NREM sleep and occurs 4-5 times during a normal 8-hour sleep period. The first REM period of the night may be less than 10 minutes in duration, while the last may exceed 60 minutes. The NREM-REM cycles vary in length from 70-100 minutes initially to 90-120 minutes later in the night.

Typically, N3 sleep is present more in the first third of the night, whereas REM sleep predominates in the last third of the night. This can be helpful clinically as NREM parasomnias such as sleep walking typically occur in the first third of the night with the presence of N3 sleep. This contrasts with REM sleep behavior disorder (RBD), which typically occurs in the last half of the night.

Sleep in adults

Stage N1 is considered a transition between wake and sleep. It occurs upon falling asleep and during brief arousal periods within sleep and usually accounts for 2-5% of total sleep time. Stage N2 occurs throughout the sleep period and represents 45-55% of total sleep time. Stage N3 (delta or slow wave sleep) occurs mostly in the first third of the night and constitutes 5-15% of total sleep time. REM represents 20-25% of total sleep time and occurs in 4-5 episodes throughout the night.

Sleep in infants

Infants have an overall greater total sleep time than any other age group; their sleep time can be divided into multiple periods. In newborns, the total sleep duration in a day can be 14-16 hours.

Over the first several months of life, sleep time decreases; by age 5-6 months, sleep consolidates into an overnight period with at least 1 nap during the day. REM sleep in infants represents a larger percentage of the total sleep at the expense of stage N3. Until age 3-4 months, newborns transition from wake into REM sleep. Thereafter, wake begins to transition directly into NREM.

Overall, electrocortical recorded voltage remains high during sleep, as it does during periods of wakefulness. Sleep spindles begin appearing in the second month of life with a density greater than that seen in adults (see Sleep Physiology). After the first year, the spindles begin decreasing in density and progress toward adult patterns. K complexes develop by the sixth month of life.

Sleep in the elderly

In elderly persons, the time spent in stage N3 sleep decreases, and the time in stage N2 compensatory increases. Latency to fall asleep and the number and duration of overnight arousal periods increase. This often causes total time in bed to increase which can lead to complaints of insomnia. Sleep fragmentation results from the increase in overnight arousals and may be exacerbated by the increasing number of geriatric medical conditions, including sleep apnea, musculoskeletal disorders, and cardiopulmonary disease.

Sleep Physiology

Sleep is a state of unconsciousness in which the brain is relatively more responsive to internal than external stimuli. The predictable cycling of sleep and the reversal of relative external unresponsiveness are features that assist in distinguishing sleep from other states of unconsciousness. The brain gradually becomes less responsive to visual, auditory, and other environmental stimuli during the transition from wake to sleep, which is considered by some to be stage I of sleep.

Historically, sleep was thought to be a passive state that was initiated through withdrawal of sensory input. Currently, withdrawal of sensory awareness is believed to be a factor in sleep, but an active initiation mechanism that facilitates brain withdrawal is also recognized.[3] Both homeostatic factors (factor S) and circadian factors (factor C) interact to determine the timing and quality of sleep.

The "switch" for sleep is considered to be the ventrolateral preoptic nucleus (VLPO) of the anterior hypothalamus. This area becomes active during sleep and uses the inhibitory neurotransmitters GABA and galanin to initiate sleep by inhibiting the arousal regions of the brain. The VLPO innervates and can inhibit the wake-promoting regions of the brain including the tuberomammillary nucleus, lateral hypothalamus, locus coeruleus, dorsal raphe, laterodorsal tegmental nucleus, and pedunculopontine tegmental nucleus. The hypocretin (orexin) neurons in the lateral hypothalamus helps stabilize this switch. When the hypocretin neurons are lost, narcolepsy can result.

The tuberoinfundibular region projects rostrally to the intralaminar nuclei of the thalamus and to the cerebral cortex. Inhibition of the tuberoinfundibular region is a critical step toward falling asleep because it results in functional disconnection between the brain stem and the more rostral thalamus and cortex. A decrease in ascending thalamic cholinergic transmissions occurs in association with decreasing cortical responsiveness. In addition to inhibiting higher cortical consciousness, the tuberoinfundibular tract projects caudally into the pontine reticular system and inhibits afferent transmissions from ascending cholinergic tracts.

NREM is an active state that is maintained partly through oscillations between the thalamus and the cortex. The 3 major oscillation systems are sleep spindles, delta oscillations, and slow cortical oscillations. Sleep spindles, a hallmark of stage N2 sleep, are generated by bursts of hyperpolarizing GABAnergic neurons in the reticular nucleus of the thalamus. These bursts inhibit thalamocortical projection neurons. As deafferentation spreads, corticothalamic projections back to the thalamus synchronize. As hyperpolarization of the thalamic reticular neurons progresses, delta waves are produced by interactions from both thalamic reticular and cortical pyramidal sources. Slow cortical

oscillations are produced in neocortical networks by cyclic hyperpolarizations and depolarizations.

Although the functions of NREM sleep remain speculative, several theories have been put forth. One theory proposes that decreased metabolic demand facilitates replenishment of glycogen stores. Another theory, which utilizes neuronal plasticity, suggests that the oscillating depolarizations and hyperpolarizations consolidate memory and remove redundant or excess synapses.

REM sleep is generated by the cholinergic mediated "REM-on neurons" in the mesencephalic and pontine cholinergic neurons. The pedunculopontine tegmental nucleus (PPT) and the lateral dorsal tegmental (LDT) neurons use acetylcholine to trigger cortical desynchrony via the thalamus. Cortical desynchrony (also described as low voltage mixed frequency) is the EEG hallmark of REM sleep. An additional EEG hallmark of REM sleep is "sawtooth waves." A pharmacologic offshoot of the cholinergic mediation of REM sleep is stage R increasing with cholinergic agonists and decreasing with anticholinergics.

"REM-off neurons" are the monoadrenergic locus ceruleus and serotonergic raphe neurons. The REM-off neurons use norepinephrine, serotonin, and histamine to inhibit the REM-on cholinergic cells and stop REM sleep. These REM-off neurons become inactive during REM sleep. Medications, such as antidepressants, that increase the amount of norepinephrine or serotonin can cause a pharmacologic suppression of REM sleep.

REM sleep (stage R) is characterized by muscle atonia, cortical activation, low-voltage desynchronization of the EEG, and rapid eye movements.[8] REM sleep has a parasympathetically medicated tonic component and sympathetically mediated phasic component. The phasic portion of REM sleep is characterized by skeletal muscle twitches, increased heart rate variability, pupil dilation, and increased respiratory rate.

Muscle atonia is present throughout REM sleep, except for phasic muscle twitches. It results from inhibition of alpha motor neurons by clusters of peri–locus ceruleus neurons, which are referred to collectively as the dorsolateral small cell reticular group.

Projection of the presumed cholinergic, dorsolateral, small-cell, reticular group is through the medullary reticular formation, which projects through the ventrolateral reticulospinal tract to inhibitory spinal and bulbar interneurons. Glycinergic interneurons produce postsynaptic inhibition and hyperpolarization of the spinal alpha motor neurons. Tonic cortical activation with EEG desynchronization is promoted by projections from cholinergic lateral dorsal tegmental and pedunculopontine tegmental neurons to the thalamic nuclei. Other projections through brainstem reticular formation neurons are likely to be involved as well.

Phasic rapid eye movements are composed of lateral saccades generated in the paramedian pontine reticular formation and vertical saccades thought to be generated in the mesencephalic reticular formation. REM density is a term used to describe the frequency per minute of the eye movement bursts.

Phasic pontine-geniculate-occipital (PGO) spikes are another neurophysiological feature of REM sleep seen in animals, but not humans. These spikes appear to be generated by lateral dorsal tegmental and pedunculopontine tegmental neuronal bursts. They are projected to the lateral geniculate and other thalamic nuclei, and then to the occipital

cortex. PGO bursts precede rapid eye movements by several seconds. Increases in PGO bursts are seen after REM sleep deprivation.

During NREM sleep, the metabolic demand of the brain decreases. This is supported by oxygen positron emission tomography (PET) studies, which show that, during NREM sleep, the blood flow throughout the entire brain progressively decreases. PET studies also show that, during REM sleep, blood flow increases in the thalamus and the primary visual, motor, and sensory cortices, while remaining comparatively decreased in the prefrontal and parietal associational regions. The increase in blood flow to the primary visual regions of the cortex may explain the vivid nature of REM dreaming, while the continued decrease in blood flow to the prefrontal cortex may explain the unquestioning acceptance of even the most bizarre dream content

Circadian Rhythms That Influence Sleep

Circadian sleep rhythm is one of the several intrinsic body rhythms modulated by the hypothalamus. The suprachiasmatic nucleus sets the body clock to approximately 24.2 hours, with both light exposure and schedule clues entraining to the 24.2-hour cycle. The retinohypothalamic tract allows light cues to directly influence the suprachiasmatic nucleus. Light is called a zeitgeber, a German word meaning time-giver, because it sets the suprachiasmatic clock. A practical purpose has been proposed for the circadian rhythm, using the analogy of the brain being somewhat like a battery charging during sleep and discharging during the wake period.

The nadir of the rhythm is in the early morning. The downswing in circadian rhythm prior to the nadir is thought to assist the brain to remain asleep overnight for full restoration by preventing premature awakening. The morning upswing then facilitates awakening and through the day acts as a counterbalance to the progressive discharge of wake neuronal activity. After the circadian apex in the early evening, the downswing aids sleep initiation. This model explains the relatively steady cognitive function throughout wakefulness.

Body temperature cycles are also under hypothalamic control. An increase in body temperature is seen during the course of the day and a decrease is observed during the night. The temperature peaks and troughs are thought to mirror the sleep rhythm. People who are alert late in the evening (ie, evening types) have body temperature peaks late in the evening, while those who find themselves most alert early in the morning (ie, morning types) have body temperature peaks early in the evening.

Melatonin has been implicated as a modulator of light entrainment. It is secreted maximally during the night by the pineal gland. Prolactin, testosterone, and growth hormone also demonstrate circadian rhythms, with maximal secretion during the night.

Effects of Sleep Deprivation

Glucose-PET studies in individuals deprived of sleep have shown that after 24 hours of sustained wakefulness, the metabolic activity of the brain decreases significantly (up to 6% for the whole brain and up to 11% for specific cortical and basal ganglionic areas). In humans, sleep deprivation also results in a decrease in core body temperature, a decrease in immune system function as measured by white cell count and activity, and a decrease in the release of growth hormone. Sleep deprivation has also been implicated as a cause of increased heart rate variability.

As the function of sleep has not been fully determined, the absolute number of hours necessary to fulfill its function is still unknown. Some individuals claim full effectiveness with only 3-5 hours of sleep per night, while some admit needing at least 8 hours of sleep per night (or more) to perform effectively. Sleep deprivation is best defined at this point by group means and in terms of the tasks impaired.

With decreased sleep, higher-order cognitive tasks are affected early and disproportionately. Tests requiring both speed and accuracy demonstrate considerably slowed speed before accuracy begins to fail. Total sleep duration of 7 hours per night over 1 week has resulted in decreased speed in tasks of both simple reaction time and more demanding computer-generated mathematical problem solving. Total sleep duration of 5 hours per night over 1 week shows both decrease in speed and the beginning of accuracy failure.

Total sleep duration of 7 hours per night over 1 week leads to impairment of cognitive work requiring simultaneous focus on several tasks. In driving simulations, for example, accidents increase progressively as total sleep duration is decreased to 7, 5, and 3 hours per night over 1 week. In the same simulations, 3 hours total sleep duration was associated with loss of ability to simultaneously appreciate peripheral and centrally presented visual stimuli, which could be termed as a form of visual simultanagnosia and peripheral visual neglect

In tasks requiring judgment, increasingly risky behaviors emerge as the total sleep duration is limited to 5 hours per night. The high cost of an action seemingly is ignored as the sleep-deprived individual focuses on limited benefit.

One explanation for decreasing performance in sleep deprivation is the occurrence of microsleep. Microsleep is defined as brief (several seconds) runs of theta or delta activities that break through the otherwise beta or alpha EEG of waking. It has been seen to increase with sleep deprivation. In studies in which polysomnography is recorded simultaneously, microsleep impairs continuity of cognitive function and occurs prior to performance failure. However, the occurrence of microsleep has not been shown in most instances of polysomnographic correlated performance failure. Other explanations for performance impairments include sensory perceptual impairments such as the development of visual neglect phenomena.

These experimental findings can be explained by glucose-PET studies, which show that individuals deprived of sleep for 24 hours have a decrease in metabolism in the prefrontal and parietal associational areas. The areas most important for judgment, impulse control, attention, and visual association are disproportionately hypometabolic compared to the primary sensory and motor areas necessary for receiving and acting upon the environmental inputs. This finding leads to the hypothesis that the areas of the brain most responsible for higher-order cognition are to some degree less functional during sleep-deprived waking activity.

Sleep deprivation is a relative concept. Small amounts of sleep loss (eg, 1 hour per night over many nights) have subtle cognitive costs, which appear to go unrecognized by the individual experiencing the sleep loss. More severe restriction of sleep for a week leads to profound cognitive deficits similar to those seen in some stroke patients, which also appear to go unrecognized by the individual. The lack of recognition of the effects of sleep deprivation appears to be a constant feature, one which, it is hoped, will be overcome by further research and education.

Short-term sleep deprivation has been implicated in contributing to obesity as well as glycemia dysregulation contributing to poor control of type II diabetes

Factor affecting sleep

If you have a sleeping disorder, it will undoubtedly affect your sleep. We will review the major sleep disorders.

Circadian Rhythm

Your biological rhythm / internal clock. Your circadian rhythm controls when you wake in the morning, get tired in the evening and other bodily functions.

The primary controller is exposure to sunlight.

Room Temperature

If your room too hot or too cold it may make it more difficult to get to sleep or stay asleep. Extreme high or low temperature ranges may affect REM sleep.

Drugs

Caffeine and nicotine - even though you may not be aware of it, these drugs do affect your sleep. You might sleep just as long, however it may not be as deep of a sleep (less Stages 3 and 4). This means that the sleep is of less healing / restorative value. Caffeine and nicotine may also contribute to insomnia issues.

Sleeping pills - often may let you sleep longer however this may not mean you will wake more refreshed in the morning. If you take sleeping pills nightly, they often lose their effectiveness over a few months. They also do not make you function better during the next day. Alcohol - may allow you to get to sleep sooner however will cause more problems over the whole night. You may need to go to the washroom more often, may wake more often during the night, will likely snore more often and if you have Sleep Apnea, your stoppages in breathing will likely be more frequent and more severe. People who drink excessively prior to bed are more likely to have nightmares in the early morning hours. Noise / environment.

Unit –X
Sexuality Reproductive Pattern

History (subjective data):
Any big changes in your life in last year or two? Crisis? Who is most helpful in talking things over? Available to you now? Tense or relaxed most of the time? When tense, what helps? Use any medications, drugs, alcohol to relax? When (if) there are big problems in your life, how do you handle them? Most of the time, are these ways successful?

Examination (examples of objective data):
None.

Sexuality and Reproduction
It's focused on the person's satisfaction or dissatisfaction with sexuality patterns and reproductive functions.

- Ineffective sexuality patterns
- Rape-trauma syndrome
- Sexual dysfunction

Assessment is focused on the person's satisfaction or dissatisfaction with sexuality patterns and reproductive functions. Concerns with sexuality may be identified. Menstrual, reproductive history, satisfaction with sexual relationships, sexual identity, premenopausal or postmenopausal problems, accuracy of sex education. Inquire about – problems with reproductive system and sexual response.

Associated Nursing Diagnoses:

Anxiety: A state in which an individual experiences feelings of uneasiness manifested by symptoms of physiologic, emotional and cognitive symptoms.
Fear: Start in which an individual/group experiences a feeling of physiologic and/or emotional disruption related to an identifiable source that is perceived as dangerous.
Fatigue: Self recognized state in which a person experiences an overwhelming/sustained sense of exhaustion and decreased capacity for physical and mental work that is not relieved by rest (or inability to get adequate est).
Knowledge deficit or readiness for enhanced knowledge: related to contraceptive choices
Sexual Dysfunction: Change in sexual function that is viewed as unsatisfying, unrewarding, inadequate, painful.
Sexual Patterns, Ineffective: Expressions of concern regarding own sexuality
Potential complication: Experiencing or at high risk for experiencing a problem in reproductive functioning such as: prenatal bleeding, preterm labor, or having a sexually transmitted infection (STI

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Physiology of reproductive system
Male Reproductive Physiology

I. Spermatogenesis: Sperm Production in Seminiferous Tubules

A. From Spermatogonia to Spermatids (occurs in seminiferous tubules of testes)

basal lamina	spermatogonia ("germ cell") →
	Type A daughter cell (remains on wall) →
	Type B daughter cell (spermatogenesis) →
	primary spermatocyte (meiotic divisions) →
	2 secondary spermatocytes (meiosis I) →
lumen	4 spermatids (each haploid "n")

B. Spermiogenesis: From Spermatid to Spermatozoan

1. acrosome - package of enzymes at top of sperm; allows penetration of the eggs for fertilization
2. nucleus - positioned in "head" of sperm along just behind acrosome; allows for delivery of DNA to egg
3. tail - microtubules arrange into 9+2 configuration to form "flagellum" for locomotion
4. mitochondria - located around the base of the tail; provide ATP for the swimming motion
5. cytoplasm - excess cytoplasm in "sloughed off"

C. The Role of Sustentacular Cells (Antigen Barrier)

1. sustentacular cells (Sertoli cells) - with tight junctions, divide the seminiferous tubule into "basal compartment" and "adluminal compartment"
   a. blood-testis barrier - these cells prevent leakage of proteins from "new genetic cells" (from crossing over) to stimulate an autoimmune response, which would kill the gametes
   b. absorb excess cytoplasm "sloughed off"
   c. chemical signals that regulate entire process

D. Effects on Spermatogenesis and Fertility
1. autoimmune disorder - immune system attacks "new" sperm cells which are different from somatic cells due to crossing over during meiosis
2. other factors: radiation, lead poisoning, some pesticides, marijuana, alcohol can lead to abnormal sperm production

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II. The Male Sexual Response

A. Erection of the Penis

parasympathetic stimulation (S2,3,4) →
dilation of arterioles of corpus cavernosum →
ventral surface engorged with blood

arterial shunt of blood from corpus spongiosum →
more blood sent to the corpus cavernosum

engorgement with blood compresses venous drainage →
penis cavities remain engorged with blood

impotence - inability to attain/maintain erection

B. Ejaculation of Sperm

sensory impulses reach critical level →
sympathetic activation of testes tubules →
reproductive ducts/glands contract peristaltically →
bladder sphincter muscle constricts (no urine) →
sperm moves into the urethra →
bulbospongiosus muscles contract to expel semen

IV. Hormonal Regulation of Male Reproduction

A. Brain-Testicular Hormone Axis

hypothalamus — gonadotropin releasing hormone (GnRH) →
anterior pituitary — follicle stimulating hormone (FSH) + luteinizing hormone (LH) →

Blood CIRCULATION →

testes — FSH → androgen-binding protein (ABP)
ABP → concentrating testosterone
testosterone → stimulate spermatogenesis

LH → testosterone (from interstitial cells)

Negative Feedback — testosterone INHIBITS release of GnRH
inhibin INHIBITS release of FSH

B. Mechanism and Effects of Testosterone

1. Mechanism of Action
   a. testosterone passes through cell membrane (lipid)
   b. binds to "hormone receptor" in the nucleus
   c. "hormone-receptor complex" binds to acceptor on gene
   d. DNA of gene is translated into mRNA
   e. mRNA directs protein synthesis in cytoplasm

2. Synthesis of sex hormones in males
   a. prostate - testosterone → dihydroxytestosterone
   b. some neurons - testosterone → estrogen

3. Effects of Targets
   a. testes - stimulates spermatogenesis
   b. ducts, glands, penis - essential for growth/maintain
   c. secondary sex characteristics - develop at puberty
      i. pubic, axillary, facial, chest hair growth
      ii. increase in bone & muscle size
      iii. sex drive for Males & Females

Female Reproductive Physiology

I. Oogenesis: Production of Eggs

A. Overview of Timing/Location of Oogenic Meiosis

fetus:	oogonia (diploid stem cells) → primary oocytes w/ follicle cells (prim. follicle) → **primary oocyte** arrested in Prophase I (ovary cortex)
childhood:	about 700,000 primary oocytes ready to go
puberty	primary oocyte (primordial follicle) → completes Meiosis I to produce 2 haploid cells → **secondary oocyte** + first polar body
ovulation:	secondary oocyte released by ovary
fertilization:	sperm penetrates secondary oocyte → completion of Meiosis II to produce → 1 very large haploid OVUM + polar body

B. Important Notes About Oogenesis vs. Spermatogenesis

1. Oogenesis:
   a. all potential gametes produced before birth
   b. Meiotic divisions unequal, leading to the formation of polar bodies (eventually destroyed)
   c. puberty releases the "arrested state" of primary oocytes, leading to ovulation
   d. Meiosis II does not occur until fertilization of the secondary oocyte by mature sperm
   e. ovulation and reproduction naturally end during menopause

2. Spermatogenesis:
   a. spermatogenesis from spermatogenic cells starts at puberty and continues through life
   b. Meiotic divisions are equal, leading to 4 spermatozoa from original spermatogenic cell

c. Meiosis II completed before the sperm leads to fertilization

II. The Ovarian Cycle (typically 28 day cycle)

A. follicular phase (days 1-10 of cycle)

1. primordial follicle → primary follicle
(squamous cells) (cuboidal cells)

2. primary follicle → secondary follicle
follicle cells → stratified epithelium (granulosa)

3. ovary cortex forms theca folliculi around granulosa
theca folliculi & granulosa produce estrogens

4. granulosa form jelly-like zona pellucida

5. fluid-filled space called antrum develops

6. primary follicle now becomes a secondary follicle
granulosa cells begin to form corona radiata
secondary (vesicular) follicle reaches ovary surface

B. ovulatory phase (days 11-14 of cycle)

1. fluid filled antrum increases in size
corona radiata begins to separate from wall

2. ovulation - secondary oocyte (surrounded by the corona radiata) bursts from the ovary into the peritoneal cavity (fimbriae pick up!)

a. mittelschmerz - pain associated with ovulation

C. luteal phase (days 14-28 of cycle)

1. corpus luteum forms from granulosa and thecal cells remaining from the bursting site; it secretes progesterone and some estrogen

a. YES pregnancy -> secrete more progesterone
b. NO pregnancy -> whole structure will degenerate (no more progesterone)

III. Hormonal Regulation of Ovarian Cycle

A. Early Phases Before Ovarian Cycle

childhood ovaries secrete small amounts of estrogens →
block hypothalamic release of GnRH
(no FSH or LH secreted from anterior pituitary)

early puberty — hypothalamus less INHIBITED by estrogens →
gradually more GnRH is released →
gradually more FSH and LH released

late puberty — GnRH released more cyclically →
FSH and LH released cyclically →
menarche - first menstrual period (bleeding)

B. Hormonal Interactions During Ovarian Cycle

1. GnRH, LH, FSH and their Role in Estrogen Level

a. increasing release of GnRH from hypothalamus →
increased release of FSH and LH from ant. Pituitary →

FSH stimulates growth/division of follicle cells
LH stimulates development of thecal cells

LH stimulates thecal cells to produce androgens
FSH stimulates granulosa to convert to estrogens

b. temporary NEGATIVE FEEDBACK - these low levels of estrogens briefly inhibits more release of FSH and LH (although it is still being produced and stored!)

c. temporary POSITIVE FEEDBACK - these low levels of estrogens briefly enhance FSH stimulation of granulosa

2. Higher Estrogen Leads to Actions of LH

a. estrogen levels eventually get higher and higher

b. suddenly, high estrogen creates POSITIVE FEEDBACK to brain increasing GnRH, FSH, LH levels

c. LH and FSH levels rise very quickly (MIDCYCLE)

d. high LH level increases fluid level in antrum, and rupture/release of the secondary oocyte

e. estrogen level drops immediately after ovulation, but soon begins to rise again

f. LH stimulates "corpus luteum" to secrete progesterone to prepare the endometrium for implantation and pregnancy

3. Continuation Depends on Corpus Luteum and Progesterone
   a. progesterone and estrogen levels rise, leading to a NEGATIVE FEEDBACK on LH and FSH from anterior pituitary

   b. LH levels decline, corpus luteum starts to degenerate, and less progesterone released

   PREGNANCY → placenta releases Human Chorionic Gonadotropin
   (maintaining progesterone levels for pregnancy)

C. The Menstrual (Uterine) Cycle
   1. proliferative phase of Uterine Cycle (days 6-14)
      a. rising levels of estrogen allow “repair" of stratum basalis of the endometrium; also causes thickening of stratum functionalis, increasing vasculature, making progesterone receptors

   2. secretory phase of Uterine Cycle (days 15-28)
      a. rising levels of progesterone (from corpus luteum) increase thickness and vasculature to the endometrium

   3. menstrual phase of Uterine Cycle (days 1-5)
      NO PREGNANCY → no Human Chorionic Gonadotropin
      → no more progesterone (corpus luteum gone)
      → endometrium "sloughs off" and bleeding occurs

IV. Contraception
   A. Male Contraception
      1. vasectomy - the vas Deferens is cut and tied so that, sperm cannot proceed
      2. condom - prevents sperm from entering the vagina; can prevent STD transmission
      3. drugs - some drugs for men may be on the market soon
      4. coitus interuptus - penis removed before ejaculation

   B. Female Contraception
      1. birth control pill - small amounts of estrogens (estradiol, estrone, or estriol) and progestins (progesterone analogues) given on days 1-23 of ovarian-menstrual cycle

a. mimicry - the hormones "mimic" the pregnant state, fooling the ovaries so that ovulation is discontinued, eggs not released

b. side effects - nausea, hypertension, depression in some women; research is conflicting on effects on breast/uterine cancers

c. Norplant - small stick placed under the skin that slowly releases progesterone

2. intrauterine device (IUD) - placed in uterus, blocks implantation of fertilized egg; serious problems in past with bleeding and infections

3. tubal ligation - uterine tubes "tied off" to prevent eggs and sperm from fertilizing

4. diethylstilbestrol (DES) - morning after pill; prevents implantation of egg

5. RU-486 (mifepristone) - blocks the action of progesterone on a pregnant uterus; used with prostaglandin, fetus is expelled in time

6. inhibin - blocks anterior pituitary release of FSH

7. Anti-HCG vaccine - blocks Human Chorionic Gonadotropin

Most Effective Contraceptive: ABSTINENCE

V. Extrauterine Effects of Estrogens & Progesterone

A. Role of Estrogens

1. cause maturation of sex organs at puberty
2. cause increased growth in girls aged 11-13
3. Secondary Sex Characteristics: breast growth, increased fat on hips & breasts, widening of pelvis, axillary & pubic hair, facilitate Ca^{++} uptake

B. Role of Progesterone

1. regulates uterine cycle with estrogens
2. prepares uterus for pregnancy
3. prepares breasts for lactation

VI. Female Sexual Response

A. General Features

1. same autonomics (S2,3, 4) stimulate excitation of clitoris, vagina, breasts, and lubrication
2. multiple orgasms possible, but not essential for pregnancy to occur

VII. Sexually Transmitted Diseases (STDs) (Venereal Diseases)

A. AIDS (Acquired Immune Deficiency Syndrome)
1. human immunodeficiency virus (HIV) - infects helper T cells and suppresses immune response
2. opportunistic infections - immunodeficiency leads to normal and rare infections (viral and bacterial)

B. Gonorrhea
1. Neisseria gonorrhoeae - bacteria that causes disease
2. male symptoms - "urethritis" and inflammation through the urogenital tract
3. female symptoms - vaginal discharge, uterine bleeding, abdominal pains
4. penicillin used to treat effectively

D. Syphilis
1. Treponema pallidum - bacteria that causes disease
2. easily transmitted to fetus → stillbirth
3. chancre - sore that appears after incubation period
4. secondary signs - pinkish color on skin, anemia, and loss of hair
5. tertiary syphilis - "gummas" - lesions of the CNS, vasculature, bones and skin
6. penicillin used to treat all stages

E. Chlamydia
1. Chlamydia trachomatis - bacteria that causes disease
2. most common STD in the US today
3. symptoms - urethritis, vaginal discharge, painful intercourse, irregular bleeding in women
4. tetracycline used for treatment

F. Genital Herpes
1. herpes simplex virus 2 - cause of genital herpes
2. painful lesions on penis and vulva
3. can lead to cervical cancer
4. no "cure" for viral infection

Sexual identify

Sexual identity is how one thinks of oneself in terms of whom one is romantically or sexually attracted to. Sexual identity may also refer to sexual orientation identity, which is when people identify or dis-identify with a sexual orientation or choose not to identify with a sexual orientation.[2] Sexual identity and sexual behavior are closely related to sexual orientation, but they are distinguished, with identity referring to an individual's conception of themselves, behavior referring to actual sexual acts performed by the individual, and sexual orientation referring to romantic or sexual attractions toward the opposite sex, the same sex, both sexes, or having no attractions.

Historical models of sexual identity have tended to view its formation as a process undergone only by sexual minorities, while more contemporary models view the process as far more universal and attempt to present sexual identity within the larger scope of other major identity theories and processes

Sexual identity has been described as a component of an individual's identity that reflects their sexual self-concept. The integration of the respective identity components (e.g. moral, religious, ethnic, occupational) into a greater overall identity is essential to the process of developing the multi-dimensional construct of identity.

Sexual identity can change throughout an individual's life, and may or may not align with biological sex, sexual behavior or actual sexual orientation. For example, gay, lesbian, and bisexual people may not openly identify as such in a homophobic/heterosexist setting or in areas whose record on LGBT rights is poor. In a 1990 study by the Social Organization of Sexuality, only 16% of women and 36% of men who reported some level of same-sex attraction had a homosexual or bisexual identity.

Sexual identity is more closely related to sexual behavior than sexual orientation is. The same survey found that 96% of women and 87% of men with a homosexual or bisexual identity had engaged in sexual activity with someone of the same sex, as contrasted to 32% of women and 43% of men who had same-sex attractions. Upon reviewing the results, the organization commented: "Development of self-identification as homosexual or gay is a psychological and socially complex state, something which, in this society, is achieved only over time, often with considerable personal struggle and self-doubt, not to mention social discomfort

Terminology of
sexual health

Sexual health is a state of physical, mental and social well-being in relation to sexuality. It requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence.

Biologic sex

Organisms of many species are specialized into male and female varieties, each known as a sex. Sexual reproduction involves the combining and mixing of genetic traits: specialized cells known as gametes combine to form offspring that inherit traits from

each parent. Gametes can be identical in form and function (known as isogamy), but in many cases an asymmetry has evolved such that two sex-specific types of gametes (heterogametes) exist (known as anisogamy). By definition, male gametes are small, motile, and optimized to transport their genetic information over a distance, while female gametes are large, non-motile and contain the nutrients necessary for the early development of the young organism. Among humans and other mammals, males typically carry XY chromosomes, whereas females typically carry XX chromosomes, which are a part of the XY sex-determination system.

The gametes produced by an organism determine its sex: males produce male gametes (spermatozoa, or sperm, in animals; pollen in plants) while females produce female gametes (ova, or egg cells); individual organisms which produce both male and female gametes are termed hermaphroditic. Frequently, physical differences are associated with the different sexes of an organism; these sexual dimorphisms can reflect the different reproductive pressures the sexes experience.

Gender identify /role

In general, most people adopt a sexual identity that "matches" their sexual orientation: most heterosexually-oriented people identify as "heterosexual" or "straight", most homosexually-oriented people identify as "lesbian" or "gay." However, there is a sizable number of people for whom sexual orientation does not coincide with their sexual identity. We can define sexual identity as the label that people adopt to signify to others who they are as a sexual being, particularly regarding sexual orientation.

For some people, there is a political element to their sexual identity. For example, rather than identifying as bisexual ("bi" = two), some people identify as pansexual ("pan" = multiple); this moves away from the implication that there are only two sexes (female and male) and two genders (women and men) in light of the growing visibility of intersexed and transgender people. Others identify as queer to highlight the fluidity and diversity of gender and sexual orientation and, further, to reclaim the term "queer" which has historically been used as a derogatory term for lesbian, gay, and bisexual people. Finally, there is growing visibility of people who identify as asexual, that is, they do not experience sexual orientation to a particular group (i.e., gender) of people.

Sexual self concept

Research from 1997, inspired by the differences in self-concept across cultures, suggested that men tend to be more independent, while women tend to be more interdependent. A study from 1999 showed that, while men and women do not differ in terms of independence or interdependence, they differ in their types of interdependence. Women utilize relational interdependence (identifying more with one-to-one relationships or small cliques), while men utilize collective interdependence (defining themselves within the contexts of large groups).

Gender differences in interdependent environments appear in early childhood: by age 3, boys and girls choose same-sex play partners, maintaining their preferences until late elementary school. Boys and girls become involved in different social interactions and

relationships. Girls tend to prefer one-on-one (dyadic) interaction, forming tight, intimate bonds, while boys prefer group activities.[34] One study in particular found that boys performed almost twice as well in groups than in pairs, whereas girls did not show such a difference.[35]

Girls are more likely to wait their turn to speak, agree with others, and acknowledge the contributions of others. Boys, on the other hand, build larger group relationships based on shared interests and activities. Boys are more likely to threaten, boast, and call names, suggesting the importance of dominance and hierarchy in groups of male friends. In mixed-sex pairs, girls were more likely to passively watch a male partner play, and boys were more likely to be unresponsive to what their female partners were saying. The social characteristics of boys and girls tend to carry over later in life as they become men and women.

Psychodynamic concerns about sex

Psychodynamic psychologists see behavior as the result of a compromise between three parts of the psyche (personality). Each person has biological drives (eating, drinking, sex, aggression) from their id. These need to be satisfied but this is prevented by the superego, the moral part of the psyche, which uses anxiety and guilt to prevent us from acting on the id's impulses. Between the two is the ego, which tries to find ways of satisfying the id in a way that the superego will accept and that is in line with reality. This often involves the use of Defence mechanisms which convert unconscious impulses into more acceptable forms. For example, with displacement an impulse may be redirected away from its original target onto a more acceptable one (e.g. being angry with your mother but taking it out on your friend) and with sublimation an unacceptable urge (e.g. to masturbate publicly) might be converted into a more acceptable behavior (e.g. playing guitar in a rock band). The exact way in which the ego deals with the id and superego is determined during childhood as the child goes through the psychosexual stages of development first described by Sigmund Freud. During the first three stages, the child's personality develops as the source of its libido moves around its body and different impulses come to bear from the parents. Problems at any stage of development can result in the child getting fixated (stuck) at a stage. If this happens, traces of that stage will remain in their behavior as an adult.

Bio psychosocial factors

Sexual dysfunctions, as characterized by the Diagnostic and Statistical Manual of Mental Disorders (DSM-V, American Psychiatric Association [9]), reflect situational or generalized pain or disturbances in one or more psychophysiological processes that accompany the sexual response cycle and cause marked psychological and interpersonal distress. Until now, primary reliance has been afforded to the DSM-IV diagnostic criteria for sexual dysfunctions of the sexual response cycle, which encompasses the following four phases during which disorders may occur (at one or more of these phases): (1) desire: fantasies about sexual activity and the desire to engage in sexual activity; (2) excitement: a subjective sense of sexual pleasure and associated physiological changes—for women, the primary changes consist of vasocongestion in the pelvis, vaginal lubrication and expansion, as well as swelling of the external genitalia; (3) orgasm: a

peaking of sexual pleasure with release of sexual tension and rhythmic contraction of the perineal muscles and reproductive organs—for women, contractions of the wall of the outer third of the vagina are experienced, although not always consciously as such, and the sphincter rhythmically contracts; (4) resolution: a sense of muscular relaxation and general well-being—for women, sexual response to additional stimulation may be immediate. Since the 1994 publication of the DSM-IV, research evidence has invalidated the linearity and precise division of phases in describing and treating sexual behavior for women in particular. For this reason, the 2013 publication of the DSM-V has sought to utilize an updated conceptualization of sexual behavior and to rectify and expand diagnoses and their respective criteria for sexual dysfunctions. One major change has been the merging of female hypoactive desire dysfunction and female arousal dysfunction into "female sexual interest/arousal disorder."

According to Levine's conceptualization of sexual desire [10], the latter is comprised of three related elements: (1) drive, (2) expectations/beliefs/values, and (3) psychological motivation. Within this framework, drive is conceptualized as biologically based and experienced as spontaneous interest typically through genital tingling, sexual thoughts or fantasies, and increased sexual interest in others nearby. Moreover, testosterone is known as necessary for sexual desire, which declines in both men and women with age. Occurring cognitively, expectations, beliefs, and values affect the interest in behaving sexually. Last, psychological motivation is defined as a willingness or unwillingness to behave sexually with a partner. Also, according to Levine, an important feature in understanding sexuality (and sexual desire in particular) is sexual equilibrium, which has an interpersonal nature and is characterized by a balance in sexual capacities and perceptions of those capabilities between two people. These capacities include capability for desire, arousal, and orgasm, which are highly responsive to psychosocial forces. Healthy sexuality enhances patients' psychological well-being and, at the same time, psychological well-being enhances healthy sexuality. In contrast, disequilibrium occurs when there is dissatisfaction in one or both partners with a nonsexual relationship, or when sexual relations occur less than ten times per year. Disequilibrium could become a significant medical and/or mental health issue. A number of medical and psychosocial factors listed below could play a key role in women's low sexual desire

Rape

Rape is a type of sexual assault usually involving sexual intercourse or other forms sexual penetration initiated against one or more individuals without the consent of those individuals. The act may be carried out by physical force, coercion, abuse of authority or against a person who is incapable of valid consent, such as one who is unconscious, incapacitated, or below the legal age of consent. The term rape is sometimes used interchangeably with the term sexual assault.

When part of a widespread and systematic practice during international conflict, rape and sexual slavery are recognized as crimes against humanity and war crimes. Rape is also recognized as an element of the crime of genocide when committed with the intent to destroy, in whole or in part, a targeted ethnic group.

People who have been raped can be severely traumatized and may suffer from posttraumatic stress disorder; in addition to psychological harm resulting from the act,

rape may cause physical injury, or have additional effects on the victims, such as the acquiring of sexually transmitted infections or becoming pregnant.

Homosexuality gays / Lesbian

Homosexuality (from Ancient Greek □μός, meaning "same", and Latin sexus, meaning "sex") is romantic attraction, sexual attraction or sexual behavior between members of the same sex or gender. As a sexual orientation, homosexuality is "an enduring pattern of emotional, romantic, and/or sexual attractions" primarily or exclusively to people of the same sex. It "also refers to a person's sense of identity based on those attractions, related behaviors, and membership in a community of others who share those attractions."

Along with bisexuality and heterosexuality, homosexuality is one of the three main categories of sexual orientation within the heterosexual–homosexual continuum. There is no consensus among scientists about why a person develops a particular sexual orientation; however, biologically-based theories for the cause of sexual orientation are favored by experts, which point to genetic factors, the early uterine environment, or both in combination. There is no substantive evidence which suggests parenting or early childhood experiences play a role when it comes to sexual orientation; when it comes to same-sex sexual behavior, shared or familial environment plays no role for men and minor role for women. While some hold the view that homosexual activity is unnatural, research has shown that homosexuality is an example of a normal and natural variation in human sexuality and is not in and of itself a source of negative psychological effects. Most people experience little or no sense of choice about their sexual orientation. There is insufficient evidence to support the use of psychological interventions to change sexual orientation.

The most common terms for homosexual people are lesbian for females and gay for males, though gay is also used to refer generally to both homosexual males and females. The number of people who identify as gay or lesbian and the proportion of people who have same-sex sexual experiences are difficult for researchers to estimate reliably for a variety of reasons, including many gay people not openly identifying as such due to homophobia and heterosexist discrimination. Homosexual behavior has also been documented and is observed in many non-human animal species.

Heterosexuality

Heterosexuality is romantic attraction, sexual attraction or sexual behavior between persons of opposite sex or gender in the gender binary. As a sexual orientation, heterosexuality is "an enduring pattern of emotional, romantic, and/or sexual attractions" to persons of the opposite sex; it "also refers to a person's sense of identity based on those attractions, related behaviors, and membership in a community of others who share those attractions."

Heterosexuality is one of the three main classifications of sexual orientation along with bisexuality and homosexuality, which are each parts of the heterosexual–homosexual continuum.

The term heterosexual or heterosexuality is usually applied to humans, but it is also observed in all mammals. The word heterosexual is etymologically formed by adding the combining form of Greek έτερος heteros (meaning "different" or "other") as a prefix to "sexuality".

Unit –XI
Role Relationship Pattern

History (subjective data):
Live alone? Family? Family structure? Any family problems you have difficulty handling (nuclear/extended family)? Family or others depend on you for things? How well are you managing? If appropriate – How families/others feel about your illness? Problems with children? Belong to social groups? Close friends? Feel lonely? (Frequency) Things generally go well at work / school? If appropriate – income sufficient for needs? Feel part of (or isolated in) your neighbourhood?

Examination (examples of objective data):
Interaction with family members or others if present.

Assessment is focused on the person's roles in the world and relationships with others. Satisfaction with roles, role strain, or dysfunctional relationships may be further evaluated. Patterns of relationships, role responsibilities, satisfaction with relationships and responsibilities. Inquire about – Communication, family, loss, parenting, socialization, violence, responsibilities.

Associated Nursing Diagnoses:

Breast-feeding: effective: mother-baby dyad exhibits adequate proficiency and satisfaction with the breast-feeding process. Includes mother's ability to facilitate successful latch-on, infant is content after feeding, regular and sustained suckling, infant cues and maternal interpretation are in sync.

Breast-feeding: ineffective: The state in which a mother-infant dyad experience or is at risk for dissatisfaction or difficulty with the breast-feeding process. Includes: actual or perceived inadequate milk supply, inability of infant to latch on correctly and sustain suckling, sore or cracked nipples, fussy and crying infant. Can be related to maternal fatigue, anxiety, ambivalence, inadequate nutrition, history of unsuccessful breast-feeding, non supportive partner/family, lack of knowledge, mother or infant is ill, barriers in the work environment.

Caregiver role strain: A state in which a person is experiencing physical, emotional, social and/or financial burdens in the process of caregiving. Related to insufficient energy, conflicts in caregiving responsibilities, or unrealistic expectations of self.

Communication, Verbal, Impaired: Decreased, delayed, or absent ability to receive, process, transmit, and use a system of symbols.

Family Processes, Interrupted: change in family relationships and/or functioning.
Family Processes, Alcoholism, dysfunctional: The state in which the psychosocial, spiritual and physiological functions of the family unit are chronically disorganized, leading to conflict, denial of problems, resistance to change, ineffective problem solving, and a series of self-perpetuating crises.

Grieving, Anticipatory: Intellectual and emotional responses and behaviors by which individuals, families, and communities work through the process of modifying self-concept based on the perception of potential loss.

Loneliness, Risk for: At risk for experiencing vague dysphoria.

Parenting, Impaired: Inability of primary caretaker to create, maintain, or regain an environment that promotes optimum growth and development of the child.

Parenting: Readiness for Enhanced: A pattern of providing an environment for children or other dependent person(s) that is sufficient to nurture growth and development and can be strengthened.

Role performance, Ineffective: Patterns of behavior and self-expression that do not match the environmental context, norms, and expectations.

Social Interaction, Impaired: Insufficient or excessive quantity or ineffective quality of social exchange.

Social Isolation: Aloneness experience by the individual and perceived as imposed by others and as a negative or threatened state.

It's focused on the person's roles in the world and relationships with others. Evaluated Satisfaction with roles, role strain, or dysfunctional relationships.

- Caregiver role strain
- Chronic sorrow
- Complicated grieving
- Dysfunctional family processes: alcoholism (substance abuse)
- Grieving
- Impaired social interaction
- Impaired verbal communication
- Ineffective role performance
- Interrupted family processes
- Parental role conflict
- Readiness for enhanced communication
- Readiness for enhanced family processes
- Readiness for enhanced parenting
- Relocation stress syndrome
- Risk for caregiver role strain
- Risk for complicated grieving
- Risk for impaired parent/infant/child attachment
- Risk for relocation stress syndrome
- Social isolation

Concept of family

In human context, a family (from Latin: familia) is a group of people affiliated by consanguinity (by recognized birth), affinity (by marriage), or co-residence/shared consumption (see Nurture kinship). Members of the immediate family may include a spouse, parent, brother and sister, and son and daughter. Members of the extended family may include grandparent, aunt, uncle, cousin, nephew and niece, or sibling-in-law. In most societies the family is the principal institution for the socialization of children. As the basic unit for raising children, anthropologists most generally classify family organization as matri focal (a mother and her children); conjugal (a husband, his wife, and children; also called nuclear family); avuncular (for example a brother, his sister, and her children); or extended family in which parents and children co-reside with other members of one parent's family. As a unit of socialization, the family is the object of analysis for anthropologists and sociologists of the family. Sexual relations among the members are regulated by rules concerning incest such as the incest taboo.

"Family" is used metaphorically to create more inclusive categories such as community, nationhood, global village and humanism.

Genealogy is a field which aims to trace family lineages through history.

Family is also an important economic unit studied in family economics.

Definition of term

Role conflict

"Role conflict occurs when there are incompatible demands placed upon an employee such that compliance with both would be difficult. We experience role conflict when we find ourselves pulled in various directions as we try to respond to the many statuses we hold. Role conflict can be something that can be for either a short period of time, or a long period of time, and it can also be connected to situational experiences.

Intra-role conflict occurs when the demands are within a single domain of life, such as on the job. An example would be when two superiors ask an employee to do a task, and both cannot be accomplished at the same time. Inter-role conflict occurs across domains of life. An example of inter-role conflict would be a husband and father who is also Chief of Police. If a tornado strikes the small town he is living in, the man has to decide if he should go home and be with his family and fulfill the role of being a good husband and father or remain and fulfill the duties of a "good" Chief of Police because the whole town needs his expertise.

Role ambiguity

Role ambiguity occurs when people are unclear or uncertain about their expectations within a certain role, typically their role in the job or workplace. Role ambiguity arises when the definition of the person's job is vague or ill defined. Workers may be unclear regarding the goals, expectations, or responsibilities associated with the performance of their positions. Unclear roles may involve expectations for behavior or performance levels. In order to be proficient in their role, people should be made aware of the responsibilities and obligations of that role, the actions necessary to fulfill the role, and the effects that the role has on various constituents, including the workers themselves, their coworkers.

Role over load
Role in which individuals having/ possess Lack of balance or reasonableness in the number or extent of expectations from a job- or position-holder**.**

Role incompetence
Role in which individuals not possessing the necessary ability, skill, etc to do or carry out a task; incapable

Role Bargaining
Role Bargaining or haggling is a type of negotiation in which the buyer and seller of a good or service dispute the price which will be paid and the exact nature of the transaction that will take place, and eventually come to an agreement. Bargaining is an alternative pricing strategy to fixed prices. Optimally, if it costs the retailer nothing to engage and allow bargaining, he can divine the buyer's willingness to spend. It allows for capturing more consumer surplus as it allows price discrimination, a process whereby a seller can charge a higher price to one buyer who is more eager (by being richer or more desperate). Haggling has largely disappeared in parts of the world where the cost to haggle exceeds the gain to retailers for most common retail items. However, for expensive goods sold to uninformed buyers such as automobiles, bargaining can remain commonplace.

Role stress
Role stress is the stress experienced by people because of their role (job) in the organization. They assume a role based on the expectation of the self and others at work place.

Care giver role strain Family

The focus of this care plan is on the supportive care rendered by family, significant others, or caregivers responsible for meeting the physical and/or emotional needs of the patient. With limited access to health care for many people, most diseases diagnosed and managed in the outpatient setting, and rapid hospital discharges for even the most complex health problems, the care of acute and chronic illnesses are essentially managed in the home environment. Today's health care environment places high expectations on the designated caregiver, whether a family member or someone for hire. For many elderly patients, the only caregiver is a fragile spouse overwhelmed by his or her own health problems. Even in cultures where care of the ill is the anticipated responsibility of family members, the complexities of today's medical regimens, the chronicity of some disease processes, and the burdens of the caregiver's own family or environmental milieu provide an overwhelming challenge. Caregivers have special needs for knowledge and skills in managing the required activities, access to affordable community resources, and recognition that the care they are providing is important and appreciated. Nurses can assist caregivers by providing the requisite education and skill training and offering support through home visits; special clinic sessions; telephone access for questions and comfort; innovative strategies such as telephone or computer support, or "chat groups"; and opportunities for respite care.

Related Factors

- Illness severity of care receiver
- Unpredictable or unstable illness course
- Discharge of family member with significant home care needs
- Caregiver has health problems.
- Caregiver has knowledge deficit regarding management of care.
- Caregiver's personal and social life is disrupted by demands of caregiving.
- Caregiver has multiple competing roles.
- Caregiver's time and freedom is restricted because of caregiving.
- Past history of poor relationship between caregiver and care recipient
- Caregiver feels care is not appreciated.
- Social isolation of family/caregiver
- Caregiver has no respite from caregiving demands.
- Caregiver is unaware or reluctant to use available community resources.
- Community resources are not available or not affordable.

Defining Characteristics

- Caregiver expresses difficulty in performing patient care.
- Caregiver verbalizes anger with responsibility of patient care.
- Caregiver worried that own health will suffer because of caregiving.
- Caregiver states that formal and informal support systems are inadequate.
- Caregiver regrets that caregiving responsibility does not allow time for other activities.
- Caregiver expresses problems in coping with patient's behavior.
- Caregiver expresses negative feeling about patient or relationship.
- Caregiver neglects patient care.
- Caregiver abuses patient.

Expected Outcomes

- Caregiver demonstrates competence and confidence in performing the caregiver role by meeting care recipient's physical and psychosocial needs.
- Caregiver expresses satisfaction with caregiver role.
- Caregiver verbalizes positive feelings about care recipient and their relationship.
- Caregiver reports that formal and informal support systems are adequate and helpful.
- Caregiver uses strengths and resources to withstand stress of caregiving.
- Caregiver demonstrates flexibility in dealing with problem behavior of care recipient

Unit –XII
Cognitive perception Pattern

Assesses the ability of the individual to understand and follow directions, retain information, make decisions, and solve problems. Also assesses the five senses.

History (subjective data):
Hearing difficulty? Hearing aid? Vision? Wears glasses? Last checked? When last changed? Any change in memory? Concentration? Important decisions easy/difficult to make? Easiest way for you to learn things? Any difficulty? Any discomfort? Pain? If appropriate – PQRST questions PQRST P – Palliative, Provocative Q - Quality or quantity R – Region or radiation S - Severity or scale T - Timing (Morton, 1977) COLDSPA C - Character O - Onset L - Location D - Duration S – Severity P - Pattern A - Associated factors (Weber, 2003)[full citation needed]

Examination (examples of objective data):
Orientation. Hears whispers? Reads newsprint? Grasps ideas and questions (abstract, concrete)? Language spoken. Vocabulary level. Attention span.

Assessment is focused on the ability to comprehend and use information and on the sensory functions. Data pertaining to neurological functions are collected to aid this process. Sensory experiences such as pain and altered sensory input may be identified and further evaluated. Vision, learning, taste, touch, smell, language adequacy, memory, decision-making ability, complaints of discomforts. Inquire about – decisions, comfort, knowledge, sensory input, learning.

Associated Nursing Diagnoses:
Parenting: Impaired: State in which one or more caregivers demonstrate a real or potential inability to provide a constructive environment that nurtures the growth and development of the child (children).

Social isolation: State in which a person or group experiences or perceives a need or desire for increased involvement with others but is unable to make contact.

Comfort, Impaired: State in which an individual experiences an uncomfortable sensation in response to a noxious stimulus. Related to uterine contractions during labor, trauma to perineum during labor, involution of uterus or engorged breasts.

Fear: related to: lack of knowledge, pain, failure, invasive procedures, financial

Acute Pain: Pain is whatever the experiencing person says it is, existing whenever the person says it does; unpleasant sensory and emotional experience arising from actual or potential tissue damage or describe in terms of such damage; sudden or slow onset of pain of any intensity from mild to severe with anticipated or predictable end. The discomfort of normal labor or abnormal conditions such as prolonged latent phase, abnormal fetal position, CPD, or side effects of sedation or analgesia

Chronic Pain: Pain is whatever the experiencing person says it is, existing whenever the person says it does ; unpleasant sensory and emotional experience arising from actual or potential tissue damage or describe in terms of such damage (International Association for the Study of Pain); sudden or slow onset of pain of any intensity from mild to severe, constant or recurring, without anticipated or predictable end; state in which the individual experiences pain that persists for a period of time beyond the expected course or reasonable duration.

Confusion, Acute: Abrupt onset of a cluster of global, transient changes and disturbances in attention, cognition, psychomotor activity level, consciousness or sleep-wake cycle.

Confusion, Chronic: Irreversible, long-standing, and/or progressive deterioration of intellect and personality characterized by decreased ability to interpret environmental stimuli and decreased capacity for intellectual thought processes, and manifested by disturbances of memory, orientation and behavior.

Decisional Conflict (specify) – Uncertainty about course of action to be taken when choice among competing actions involves risk, loss or challenge to personal life values.

Impaired verbal communication: The state in which a person experiences a decreased ability to speak and understand others. Related to: inability to speak or understand English.

Knowledge Deficit: (Specify) Absence of deficiency of cognitive information related to a specific topic.

Sensory-Perception, Disturbed: (Specify) (Visual, Auditory, Kinesthetic, Gustatory, Tactile, Olfactory) Change in the amount or patterning of incoming stimuli accompanied by a diminished, exaggerated, distorted, or impaired response to such stimuli.

Thought Processes, Altered: Disruption in cognitive operations and activities.

Readiness for enhanced knowledge: Related to interest in acquiring cognitive information. Expresses interest in learning, explains knowledge of topic, previous experience.

Concept of Pain / pain threshold

Pain is an unpleasant feeling often caused by intense or damaging stimuli, such as stubbing a toe, burning a finger, putting alcohol on a cut, and bumping the "funny bone". The International Association for the Study of Pain's widely used definition states: "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage."

Pain motivates the individual to withdraw from damaging situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future. Most pain resolves promptly once the painful stimulus is removed and the body has healed, but

sometimes pain persists despite removal of the stimulus and apparent healing of the body; and sometimes pain arises in the absence of any detectable stimulus, damage or disease.
Pain is the most common reason for physician consultation in the United States. It is a major symptom in many medical conditions, and can significantly interfere with a person's quality of life and general functioning. Psychological factors such as social support, hypnotic suggestion, excitement, or distraction can significantly modulate pain's intensity or unpleasantness

The **threshold of pain** or pain threshold is the point along a curve of increasing perception of a stimulus at which pain begins to be felt. It is an entirely subjective phenomenon. A distinction must be maintained between the stimulus (an external thing that can be directly measured, such as with a thermometer) and the person or animal's resulting pain perception (an internal, subjective thing that can be indirectly measured, such as with a visual analog scale). Although an IASP document defines "pain threshold" as "the minimum intensity of a stimulus that is perceived as painful", it then goes on to say (contradictorily in letter although not in spirit) that:
Traditionally the threshold has often been defined, as we defined it formerly, as the least stimulus intensity at which a subject perceives pain. Properly defined, the threshold is really the experience of the patient, whereas the intensity measured is an external event. It has been common usage for most pain research workers to define the threshold in terms of the stimulus, and that should be avoided […] The stimulus is not pain (q.v.) and cannot be a measure of pain.
Although the phrasing may not convey it perfectly, the distinction clearly meant is the aforementioned one between the stimulus and the perception of it. The intensity at which a stimulus (e.g., heat, pressure) begins to evoke pain is thus called by a separate term, threshold intensity. So, if a hotplate on a person's skin begins to hurt at 42°C (107°F), then that is the pain threshold temperature for that bit of skin at that time. Forty-two degrees Celsius is not the pain threshold (which is internal/subjective), it is the temperature at which the pain threshold was crossed (which is external/objective).
The intensity at which a stimulus begins to evoke pain varies from individual to individual and for a given individual over time.

Pain management
Pain management (also called pain medicine or algiatry) is a branch of medicine employing an interdisciplinary approach for easing the suffering and improving the quality of life of those living with pain. The typical pain management team includes medical practitioners, clinical psychologists, physiotherapists, occupational therapists, physician assistants, nurse practitioners, and clinical nurse specialists. The team may also include other mental-health specialists and massage therapists. Pain sometimes resolves promptly once the underlying trauma or pathology has healed, and is treated by one practitioner, with drugs such as analgesics and (occasionally) anxiolytics. Effective management of chronic (long-term) pain, however, frequently requires the coordinated efforts of the management team.

Medicine treats injury and pathology to support and speed healing; and treats distressing symptoms such as pain to relieve suffering during treatment and healing. When a painful injury or pathology is resistant to treatment and persists, when pain

persists after the injury or pathology has healed, and when medical science cannot identify the cause of pain, the task of medicine is to relieve suffering. Treatment approaches to chronic pain include pharmacological measures, such as analgesics, tricyclic antidepressants and anticonvulsants, interventional procedures, physical therapy, physical exercise, application of ice and/or heat, and psychological measures, such as biofeedback and cognitive behavioral therapy.

Pain tolerance

Pain tolerance is the maximum level of pain that a person is able to tolerate. Pain tolerance is distinct from pain threshold (the point at which pain begins to be felt)

Acute / chronic pain

Acute pain begins suddenly and is usually sharp in quality. It serves as a warning of disease or a threat to the body. Acute pain might be caused by many events or circumstances, including:

Surgery
Broken bones
Dental work
Burns or cuts
Labor and childbirth

Acute pain might be mild and last just a moment, or it might be severe and last for weeks or months. In most cases, acute pain does not last longer than six months, and it disappears when the underlying cause of pain has been treated or has healed. Unrelieved acute pain, however, might lead to chronic pain.

Chronic pain persists despite the fact that the injury has healed. Pain signals remain active in the nervous system for weeks, months, or years. Physical effects include tense muscles, limited mobility, a lack of energy, and changes in appetite. Emotional effects include depression, anger, anxiety, and fear of re-injury. Such a fear might hinder a person's ability to return to normal work or leisure activities. Common chronic pain complaints include:

Headache
Low back pain
Cancer pain
Arthritis pain
Neurogenic pain (pain resulting from damage to nerves)
Psychogenic pain (pain not due to past disease or injury or any visible sign of damage inside)

Chronic pain might have originated with an initial trauma/injury or infection, or there might be an ongoing cause of pain. However, some people suffer chronic pain in the absence of any past injury or evidence of body damage.

What is the difference between acute and chronic pain?

- There might be no known cure for the disease (such as arthritis or phantom pain) that is causing the chronic pain.
- The cause of chronic pain might be unknown or poorly understood.

Beliefs related to pain

Beliefs about pain are an emerging area of research in the biopsychosocial model of pain. Research shows that negative pain beliefs have a detrimental impact on patients' overall health, self-efficacy, and function . With the intervention of a self-management programme of exercise and relaxation for arthritis sufferers, positive changes from negative pain beliefs correlate with improvement in self-efficacy,. The experience of pain is a significant problem in sufferers with rheumatoid arthritis; it has been recently shown to be an important predictor for psychosocial health in general. Furthermore, for rheumatoid arthritis, both the extent of the disease and the belief that pain could be capably managed have been found to impact on functioning

Beliefs have been defined as personally or culturally shared cognitive configurations . These differ from attitudes that are defined as feelings about events. Beliefs are thoughts or mental appraisals and understanding of these events. These form the preexisting concepts about the nature of reality for the individual. These thoughts may be generalised or specific to certain contexts, mould the individual's perception of the environment, and shape the meaning of their experiences.

These thoughts can positively influence beliefs about the pain experience if, as perceived, there is control in managing the pain experience, confidence that the extent of harm and associated disability are not threatening, and expectations of recovery . These thoughts can negatively influence beliefs about the pain experience if, as perceived, control is threatened and recovery is not possible. The consequence can be emotional distress and catastrophising, as well as excessively negative and pessimistic beliefs and thoughts about the pain experience. Specific pain beliefs that contribute to poor compliance, motivation, and misunderstanding about pain have been identified . These include catastrophising, limited perception of control over the pain experience, and emotional distress. Catastrophising has been shown to be associated with persistent pain; it is a predictor of poor outcomes in pain management interventions. Although catastrophising and emotional distress have common characteristics, it is difficult to separate them in the direction of effect. Thoughts about pain affect physical functioning and contribute to disability; physical functioning is predicted by the beliefs of physical capabilities and not by the experience of self-reported pain..

There is evidence that addressing negative pain beliefs in the management of persistent pain can affect treatment outcomes. Negative pain beliefs can contribute to the transition from acute pain to persistent pai.

It has been suggested that beliefs about persistent pain have two dimensions. These include organic pain beliefs (referring to the physiological pain experience indicating physical harm or threat to well-being) and psychological pain beliefs (referring to the internal influences and feelings affecting the experience of pain that can potentially threaten well-being); these dimensions are considered to accurately reflect the general population's perception of the pain experience. Both of these can potentially influence the beliefs about pain control either positively (having personal control over the pain experience) or negatively (feeling helpless to manage the potential threat to their well being).

Pain and culture

Even though the assessment and treatment of pain is a universally important health care issue, modern medicine still has no accurate way of measuring it. Patients are often asked to rate their pain on a scale from 1- 10: mild (1-4), moderate (5-6), and severe (7-10). Sometimes smiling and frowning faces are used as visual aids to help both doctor and patient convey what the numbers signify. Cultural differences in response to pain compound the inherent challenges of communication. Although nearly all people experience pain sensations similarly, studies show there are important differences in the way people express their pain and expect others to respond to their discomfort. There are also culturally-based attitudes about using pain medication. An understanding of the impact of culture on the pain experience is important in assuring effective and culturally-sensitive patient care.

Response and Culture:

It is well established that pain is a highly complex phenomenon that involves biological, psychological, and social variables.1 Patients' culturally-based responses to pain are often divided into two categories: stoic and emotive. Stoic patients are less expressive of their pain and tend to "grin and bear it." They tend to withdraw socially. Emotive patients are more likely to verbalize their expressions of pain, prefer to have people around and expect others to react to their pain so as to validate their discomfort. We can make the broad generalization that expressive patients often come from Hispanic, Middle Eastern, and Mediterranean backgrounds, while stoic patients often come from Northern European and Asian backgrounds. If we use such broad generalizations to help understand human behavior, however, we must always keep in mind that while culture is a framework that directs human behavior, not everyone in every culture conforms to a set of expected behaviors or beliefs. Rigid use of generalizations leads to cultural stereotyping which in turn can lead to serious inaccuracies. Any individual's experience of pain will manifest itself in emotional and behavioral responses particular to his or her culture, personal history, and unique perceptions.

American culture and Pain response:

For western health care professionals it is important to understand how our own culture affects the attitudes we may hold about pain. Only through this self-awareness can we establish a basis for comparison that allows us to see where our attitudes and beliefs are likely to collide with those of patients who come
from very different cultures. We are apt to believe that our reaction to pain is "normal" and anything substantially different is "abnormal". For example, a doctor or nurse raised in a family that encouraged stoicism may not know how to react to a patient who responds to pain with loud verbal complaints and may even discount such "overly expressive" reactions. There is a long tradition of stoicism in European American culture; generations of children, especially boys, would be admonished for crying like babies but applauded for keeping a stiff upper lip. In general, people made as little fuss as possible over injuries and illness. Naturally, children socialized in this way will grow up to be "easy patients" who behave in ways consistent with the values of the western medical system. On the other hand, there are cultures where a child's crying immediately elicits the greatest sympathy, concern, and aid. In such cultures, children's' health is fretted over

constantly – even a sneeze can be seen as illness. This predisposes children to become more anxious about their health in general, and as adults, they may need greater reassurance from caregivers even in the face of minor symptoms. In general, when people are ill they revert to childhood behavior. If complaining brought them attention as children, they will likely complain out of habit as adults – even if the desired results are not forthcoming from the caregivers around them.

Asian culture and Stocism

Patients from Asian cultures may often exemplify stoicism in the face of pain, which relates directly to strong cultural values about self-conduct. Behaving in a dignified manner is considered very important, and a person who is assertive or complains openly is considered to have poor social skills. This behavior might be tolerated in very small children, but not in adolescents and adults. In traditional Asian cultures, preserving harmony in interactions with others is very important, so an individual should never draw attention to himself, especially in negative ways. Though an individual may feel sadness or pain, it is not customary to make this obvious. On a related note, some Asian patients will be socialized to observe status differences between people and will avoid making demands of health care professionals for this reason. Asian societies have traditionally emphasized status differences between people based on variables such as age, sex, education, and occupation. A doctor or nurse will most surely be seen as a person of high status, not to be questioned or bothered with complaints about discomfort.

Putting pain into words

The limitations of language to convey experience – even between people who speak the same language – are extremely obvious when we can't explain something as important as the intensity of pain we feel or the unrelenting worry and frustration pain sometimes causes. To further complicate communications, not all cultures describe pain in the same way. Words such as "sharp," "throbbing," "stabbing," or "aching" make sense to most people in the U.S., but in many tribal cultures stories or symbols are essential in relating one's worldview, so very different words are used to describe pain. Clinicians might be baffled by patients explaining their pain in terms of natural symbols like lightning, trees with deep spreading roots, spider webs, or the tones of drums and flutes.2 In cultures where evil spirits are believed to cause illness and pain, patients may talk about their suffering as punishment. Indeed, some patients will need help in understanding how to talk about pain in ways western doctors and nurses can interpret. Through careful listening and probing health care professionals will uncover what is really happening with each patient's pain. Keep in mind that referencing pain measurement tools that rely on numbers or any kind of linear format, such as a row of faces, won't work equally well across cultures. People in some cultures attach great superstition to particular numbers, and smiling does not suggest feeling good in all cultures. In fact, in some Asian cultures, people tend to smile when they are embarrassed or angry.

Religious and Spiritual Aspects of Pain

In many cultures around the world where belief in fate and karma are strong, people often believe illness and injury are caused by a higher power. In many cases, the acceptance of pain is important in demonstrating a person's religious faith. In one case, a Nigerian

refugee to the U. S. suffered a severe knee injury and underwent arthro-miscroscopic surgery. His American nurse waited for him to request pain medication, but he never did. Being Muslim, he offered his pain to Allah in thanks for the good fortune of being allowed the special surgery.3 In a similar case, a Filipino patient hospitalized for shoulder surgery admitted to his nurse that he was in severe pain. However, he wasn't taking his pain medication because he believed it was God's will that he had such pain, and God would give him the strength to bear it.4 A similar stoicism in the face of pain may be common among Buddhists who believe acceptance of suffering leads to spiritual growth. Among some Native Americans, the blessing of medications by a tribal medicine man puts a patient more at peace with the creator which in turn makes the medicine "stronger".

Cultural Perceptions of Pain treatments

A tendency to discount immediately the sort of cultural practices and beliefs mentioned above can be countered by invoking the placebo effect, which is well-documented. There is also its opposite – the "nocebo effect" where a person who disbelieves in a treatment experiences a worsening of symptoms due to pessimism about getting well. What motivates people's reactions to placebos is interesting in how it parallels different cultural perceptions and expectations around medicines in general. Are shots more effective than pills? Does a bigger pill work better than a smaller one? Is bitter medicine stronger and more effective than medicine that tastes good? Answers to questions like these are indeed often dependent upon cultural background. In some cultures, people believe that the more intrusive a procedure is, the better it is for them. So, an intravenous pain medication would be preferred to narcotic analgesic tablets even if the tablets were highly effective. In some countries, injections are very common; so a Cambodian patient, for example, might believe that without an injection, treatment is inadequate. A Filipino or East Indian patient might reject pain medications altogether out of fear of harmful effects, including addiction. Clearly, it is important to explain the rationale behind use of pain medication to all patients, and to ask patients from different cultural backgrounds which type of medication is preferred in their culture. Also, how do they feel about taking pain medications personally? Since cultural and/or religious reasons may inhibit someone from asking for pain medication, it is often necessary for doctors and nurses to anticipate a patient's pain needs and to initiate important discussions.

Conclusions

Part of understanding our own culturally-based attitudes about pain includes gaining awareness of the things we take for granted. We have come to expect pain management as part of proper treatment in the U.S., but in many countries pain medications aren't readily available or affordable. Or, their use may be stigmatized – as being self-indulgent, addictive, etc. An appreciation of the influence of culture on affective responses to pain and expectations for pain treatment is critical to culturally responsive management of people in pain. The role of the health care provider is to help patients advocate for what feels appropriate for them within their cultural context.

Unit –XIII
Self perception / Self Concept Pattern

History (subjective data):
How do you describe yourself? Most of the time, feel good (or not so good) about self? Changes in body or things you can do? Problems for you? Changes in the way you feel about self or body (generally or since illness started)? Things frequently make you angry? Annoyed? Fearful? Anxious? Depressed? Not able to control things? What helps? Ever feel you lose hope?

Examination (examples of objective data):
Eye contact. Attention span (distraction?). Voice and speech pattern. Body posture. Client nervous (5) or relaxed (1) (rate scale 1-5) Client assertive (5) or passive (1) (rate scale 1-5)

Assessment is focused on the person's attitudes toward self, including identity, body image, and sense of self-worth. The person's level of self-esteem and response to threats to his or her self-concept may be identified. Attitudes about self, sense of worth, perception of abilities, emotional patterns, body image, identity. Inquire about - Anxiety, fear, control, self concept.

Associated Nursing Diagnoses:

Self-Concept: Readiness for Enhanced: A pattern of perceptions or ideas about self that is sufficient for well-being and can be strengthened

Self-Concept: Disturbed: State in which a person experiences or is at risk of experiencing a negative state of change about the way she/he feels, thinks or views self. It may include a change in body image, self-esteem or personal identity.

Anxiety: A vague, uneasy feeling of discomfort or dread accompanied by an autonomic response, with the source often non-specific or unknown to the individual; a feeling of apprehension caused by anticipation of danger

Fatigue: An overwhelming, sustained sense of exhaustion and decreased capacity for physical and mental work at usual level.

Fear: Response to perceived threat that is consciously recognized as a danger.

Hopelessness: Subjective state in which individual sees limited or unavailable alternatives or personal choices and is unable to mobilize energy for problem solving on his or her own behalf.

Powerlessness: Perception that one's own actions will not significantly affect an outcome; perceived lack of control over current situation or immediate happening.

Body image Disturbance: Confusion in mental picture of one's physical self.

Chronic Low Self-Esteem: Long-standing negative self-evaluations/feelings about self or self-capabilities

Situational Low Self-Esteem: Development of a negative perception of self-worth in response to a current situation (specify)

Its focused on the person's attitudes toward self, including identity, body image, and sense of self-worth.

- Anxiety
- disturbed Body image
- Chronic low self-esteem
- Death anxiety
- Disturbed personal identity
- Fear
- Hopelessness
- Powerlessness
- Readiness for enhanced hope
- Readiness for enhanced power
- Readiness for enhanced self-concept
- Risk for compromised human dignity
- Risk for loneliness
- Risk for powerlessness
- Risk for situational low self-esteem
- Risk for [/actual] other-directed violence
- Risk for [actual/] self-directed violence
- Situational low self-esteem

Definition of
Body image

Body image refers to a person's feelings of the aesthetics and sexual attractiveness of their own body that may be forced by others or social media. The phrase body image was first coined by the Austrian neurologist and psychoanalyst Paul Schilder in his book The Image and Appearance of the Human Body (1935). Human society has at all times placed great value on beauty of the human body, but a person's perception of their own body may not correspond to society's standards.

The concept of body image is used in numerous disciplines, including psychology, medicine, psychiatry, psychoanalysis, philosophy and cultural and feminist studies. The term is also often used in the media. Across these disciplines and media there is no consensus definition.

A person's body image is thought to be, in part, a product of their personal experiences, personality, and various social and cultural forces. A person's sense of their own physical appearance, usually in relation to others or in relation to some cultural "ideal," can shape their body image. A person's perception of their appearance can be different from how others actually perceive them

Self concept

One's self-concept (also called self-construction, self-identity, or self-perspective) is a collection of beliefs about oneself that includes elements such as academic performance, gender roles and sexuality, and racial identity. Generally, self-concept embodies the answer to "Who am I?".

One's self-concept is made up of self-schemas, and their past, present, and future selves.

Self-concept is distinguishable from self-awareness, which refers to the extent to which self-knowledge is defined, consistent, and currently applicable to one's attitudes and dispositions. Self-concept also differs from self-esteem: self-concept is a cognitive or descriptive component of one's self (e.g. "I am a fast runner"), while self-esteem is evaluative and opinionated (e.g. "I feel good about being a fast runner").

Self-concept is made up of one's self-schemas, and interacts with self-esteem, self-knowledge, and the social self to form the self as whole. It includes the past, present, and future selves, where future selves (or possible selves) represent individuals' ideas of what they might become, what they would like to become, or what they are afraid of becoming. Possible selves may function as incentives for certain behavior.

The perception people have about their past or future selves is related to the perception of their current selves. The temporal self-appraisal theory[15] argues that people have a tendency to maintain a positive self-evaluation by distancing themselves from their negative self and paying more attention to their positive one. In addition, people have a tendency to perceive the past self less favorably. (e.g. "I'm better than I used to be") and the future self more positively (e.g. "I will be better than I am now").

Self ideal

According the Humanistic Psychologist Carl Rogers, the personality is composed of the Real Self and the Ideal Self. Your Real Self is who you actually are, while your Ideal Self is the person you want to be.

The Ideal Self is an idealized version of yourself created out of what you have learned from your life experiences, the demands of society, and what you admire in your role models.

For example, your parents are medical doctors who are respected and admired in the community, and experience tells you that in order to be happy, you need to be smart and have a high-paying job. Your Ideal Self might be someone who excels in science subjects, spends a lot of time studying, and does not get queasy at the sight of blood. If your Real Self is far from this idealized image, then you might feel dissatisfied with your life and consider yourself a failure.

Self esteem

Self-esteem is a term used in psychology to reflect a person's overall emotional evaluation of his or her own worth. It is a judgment of oneself as well as an attitude toward the self. Self-esteem encompasses beliefs (for example, "I am competent," "I am worthy") and emotions such as triumph, despair, pride and shame. Smith and Mackie define it by saying "The self-concept is what we think about the self; self-esteem, is the positive or negative evaluations of the self, as in how we feel about it." Self-esteem is also known as the evaluative dimension of the self that includes feelings of worthiness,

prides and discouragement. One's self-esteem is also closely associated with self-consciousness.

Self-esteem is a disposition that a person has which represents their judgments of their own worthiness. In the mid-1960s, Morris Rosenberg and social-learning theorists defined self-esteem as a personal worth or worthiness. Nathaniel Branden in 1969 defined self-esteem as "the experience of being competent to cope with the basic challenges of life and being worthy of happiness." According to Branden, self-esteem is the sum of self-confidence (a feeling of personal capacity) and self-respect (a feeling of personal worth). It exists as a consequence of the implicit judgment that every person has of their ability to face life's challenges, to understand and solve problems, and their right to achieve happiness, and be given respect

Unit –XIV
Value Belief Pattern

History (subjective data):
Generally get things you want from life? Important plans for future? Religion important to you? If appropriate - Does this help when difficulties arise? If appropriate – will being here interfere with any religious practices?

Examination (examples of objective data):
None

Assessment is focused on the person's values and beliefs (including spiritual beliefs), or on the goals that guide his or her choices or decisions. Values, goals, beliefs, spiritual practices, perceived conflicts in values

Associated Nursing Diagnoses:

Self-Concept: Readiness for Enhanced: A pattern of perceptions or ideas about self that is sufficient for well-being and can be strengthened

Self-Concept: Disturbed: State in which a person experiences or is at risk of experiencing a negative state of change about the way she/he feels, thinks or views self. It may include a change in body image, self-esteem or personal identity.

Spiritual Distress: Impaired ability to experience and integrate meaning and purpose in life through the individual's connectedness with self, others art, music, literature, nature, or a power greater than oneself.

Spiritual Well Being, Readiness for enhanced: Ability to experience and integrate meaning and purpose in life through connectedness with self, others, art, music, literature, nature, or a power greater than oneself.

Health-Seeking Behaviors: State in which person in stable health activity seeks ways to alter personal health habits and/or environment to move toward a higher level of wellness.

It's focused on the person's values and beliefs.

- Impaired religiosity
- Moral distress
- Readiness for enhanced religiosity
- Readiness for enhanced spiritual well-being
- Risk for impaired religiosity
- Risk for spiritual distress
- Spiritual distress

Terminology of
Values

A personal value is absolute or relative and ethical value, the assumption of which can be the basis for ethical action. A value system is a set of consistent values and measures. A principle value is a foundation upon which other values and measures of integrity are based.

Some values are physiologically determined and are normally considered objective, such as a desire to avoid physical pain or to seek pleasure. Other values are considered subjective, vary across individuals and cultures, and are in many ways aligned with belief and belief systems. Types of values include ethical/moral values, doctrinal/ideological (religious, political) values, social values, and aesthetic values. It is debated whether some values that are not clearly physiologically determined, such as altruism, are intrinsic, and whether some, such as acquisitiveness, should be classified as vices or virtues. Values have been studied in various disciplines: anthropology, behavioral economics, business ethics, corporate governance, moral philosophy, political sciences, social psychology, sociology and theology to name a few.

Values can be defined as broad preference concerning appropriate courses of action or outcomes. As such, values reflect a person's sense of right and wrong or what "ought" to be. "Equal rights for all", "Excellence deserves admiration", and "People should be treated with respect and dignity" are representative of values. Values tend to influence attitudes and behavior.

Beliefs

Belief is a psychological state in which an individual holds a conjecture or premise to be true. Dispositional and occurrent belief concerns the contextual activation of the belief into thoughts (reactive of propositions) or ideas (based on the belief's premise).

Attitudes,

An attitude is an expression of favor or disfavor toward a person, place, thing, or event (the attitude object). Prominent psychologist Gordon Allport once described attitudes "the most distinctive and indispensable concept in contemporary social psychology.". Attitude can be formed from a person's past and present.Attitude is also measurable and changeable as well as influencing the person's emotion and behavior.

In lay language, attitude may refer to the distinct concept of mood, or be especially synonymous with teenage rebellion.

Personal and profession values

When one enters the profession of social work, there are many values to learn. One is that personal opinions get put aside for professional ones. This means for anything a person believes is wrong or inferior, such as having a different color skin, loving a person of the same sex, having a different religion, abortion, or any of many other values and ideas, we are asked to put this aside in order to treat the person with whom we are working. This can be one of the hardest parts of being a social worker. Our own values are set and usually a very important part of ourselves. Social work does not ask one to change or deny those values, but rather encourages one to be aware of them so that they do not interfere with treatment.

There is another part to this story. We are called to work with many persons who may not have the same training, or may not agree with this training, which espouses professional values over personal ones. This means that we may have clients, co-workers, peers, and employees who we will supervise, who not only may have strong values that we disagree with, but also may be people who are very vocal about their opinions. As social workers, what is our response to this dilemma?

From the beginning, we must look at ourselves and our speech. As a social worker, am I prepared to take a stand? If am against abortion and some client wishes to discuss having an abortion, can I, as a professional social worker, deliver sensitive, non-judgmental services? If someone believes that persons with darker skin are biologically inferior, when they work with a client with dark skin, does that have an impact upon their service to that person? What if a person believes that being gay is wrong? What if it is not ourselves we wish to confront about our inability to put personal values aside with clients, but maybe a coworker? What if a co-worker believes in acting upon these values in the form of assaulting someone, such as gays coming out of a bar or persons of different ethnic or racial groups?

In the hallways, how do we respond to comments about racial or ethnic or sexual differences? Do we say something like, "That is not a very nice thing to say?" Or do we say nothing? Is saying nothing a statement of agreement? What is your response if you overhear a worker trying to persuade a client to have the baby and go through with an adoption instead of having an abortion? What if you hear one worker degrading another?

When it comes to other relationships, such as supervisor and employee, the role changes a little bit. The supervisor is usually held accountable for setting the tone of the work group. Just holding oneself accountable for being a professional may not be enough. If a person is not held accountable for his or her work behaviors, anything becomes permissible. Legally, there may be issues and set agency policies regarding discipline in this area. Aside from this, if supervisors tolerate racist or other value-laden comments in the work group, are they saying to staff that they are not valued? Are minority staff comfortable to vocalize complaints in this area?

At this point, consider the following examples and think about what you, as a social worker in the workforce, would do and not do.

A worker in a group home described a client with a past history of drug and alcohol abuse. His staff was frustrated with the person. Even though there was no evidence of drugs or alcohol, on the evening in question, the staff believed that the client must have been doing drugs or alcohol, because the person was hanging out on the streets until midnight. The neighborhood is described by staff as dangerous, the people hanging out as non-productive, unemployed, and a bad influence upon the client even though they were the client's friends from his youth. Is this a case of stereotyping of city persons as lazy and addicts? If the staff were white and the client and neighborhood black, would this change how it is perceived? What if the client is white?

A white staff makes fun of a Black male staff who supported the Million Man March on Washington. If you are a co-worker, what is your response? What if you are a supervisor? What if you were not a witness to this, but someone came to you with this complaint? Is it a legitimate complaint?

After walking past a group of policemen, a staff member comments that they wish they had those officers (several, tall and strong) when they visit an area that is highly

publicized by media as dangerous. It also happens to be occupied largely by minorities. Is this a comment that all minorities are dangerous?
The social worker today has many issues to face. I have deliberately chosen not to answer these questions. I am not sure there is a single answer, but maybe there is room for discussion. One thing I am sure of is that intolerance does not belong in the helping professional's repertoire of skills. If one's personal values are more important than the discussion of choices and informed decision making, one might want to think about whether he or she would want those values respected by others.
Social workers are expected to embrace a diversity of values and people. Learning to do this is a process which takes time and a willingness to do so.

Values conflict / distress
Moral distress arises from painful feelings and/or psychological disequilibrium that occur in situations in which health professionals know the ethically right course of action but cannot act upon it. This presentation will highlight how moral distress can be recognized; the potential consequences of moral distress; and measures for avoiding and treating it.

Ethical dilemma
An ethical dilemma is a complex situation that often involves an apparent mental conflict between moral imperatives, in which to obey one would result in transgressing another. The topics of ethics, integrity, compromise and corruption have to become as important as other critical areas of law enforcement training if significant changes can occur (Gilman, 1999). This is also called an ethical paradox since in moral philosophy, paradox often plays a central role in ethics debates. Ethical dilemmas are often cited in an attempt to refute an ethical system or moral code, as well as the worldview that encompasses or grows from it.

Concept of Empathy caring,
Empathy is the capacity to recognize emotions that are being experienced by another sentient or fictional being. One may need to have a certain amount of empathy before being able to experience accurate sympathy or compassion
Empathy has many different definitions that encompass a broad range of emotional states, such as caring for other people and having a desire to help them; experiencing emotions that match another person's emotions; discerning what another person is thinking or feeling; and making less distinct the differences between the self and the other.
It also is the ability to feel and share another person’s emotions. Some believe that empathy involves the ability to match another’s emotions, while others believe that empathy involves being tenderhearted toward another person. Compassion and sympathy are two terms that many associate with empathy, but all three of these terms are unique. Compassion is an emotion we feel when others are in need, which motivates us to help them. Sympathy is a feeling of care and understanding for someone in need.
In the field of positive psychology, empathy has also been tied to altruism and egotism. Altruism is behavior that is aimed at benefitting another person, while egotism is a behavior that is acted out for personal gain. Sometimes, when someone is feeling

empathetic towards another, acts of altruism occur. However, many question whether or not these acts of altruism are motivated by egotistical gains. According to positive psychologists, people can be adequately moved by their empathies to be altruistic

Hope

Hope is an optimistic attitude of mind based on an expectation of positive outcomes related to events and circumstances in one's life or the world at large. As a verb, its definitions include: "expect with confidence" and "to cherish a desire with anticipation". Among its opposites are dejection, hopelessness and despair.

Dr. Barbara L. Fredrickson argues that hope comes into its own when crisis looms, opening us to new creative possibilities. Frederickson argues that with great need comes an unusually wide range of ideas, as well as such positive emotions as happiness and joy, courage, and empowerment, drawn from four different areas of one's self: from a cognitive, psychological, social, or physical perspective

Autonomy

Autonomy (Ancient Greek: α□τονομία autonomia from α□τόνομος autonomos from α□το- auto- "self" and νόμος nomos, "law", hence when combined understood to mean "one who gives oneself one's own law") is a concept found in moral, political, and bioethical philosophy. Within these contexts, it is the capacity of a rational individual to make an informed, un-coerced decision. In moral and political philosophy, autonomy is often used as the basis for determining moral responsibility and accountability for one's actions. One of the best known philosophical theories of autonomy was developed by Kant. In medicine, respect for the autonomy of patients is an important goal, though it can conflict with a competing ethical principle, namely beneficence. Autonomy is also used to refer to the self-government of the people

Mutuality

Mutual is used to describe a reciprocal relationship between two or more people or things. Thus their mutual animosity means "their animosity for each other" or "the animosity between them," and a mutual defense treaty is one in which each party agrees to come to the defense of the other. But many people also use mutual to mean "shared in common," as in The bill serves the mutual interests of management and labor. This usage is perhaps most familiar in the expression our mutual friend, which was widespread even before Charles Dickens used it as the title of a novel. While some language critics have objected to this usage because it does not include the notion of reciprocity, it appears in the writing of some of our greatest authors, including Shakespeare, Edmund Burke, George Eliot, and James Joyce, and it continues to be used by well-respected writers today.

Spirituality

Traditionally spirituality has been defined as a process of personal transformation in accordance with religious ideals. Since the 19th century spirituality is often separated from religion, and has become more oriented on subjective experience and psychological growth. It may refer to almost any kind of meaningful activity or blissful experience, but without a single, widely-agreed definition

The term spirit means "animating or vital principle in man and animals". It is derived from the Old French espirit, which comes from the Latin word spiritus "soul, courage, vigor, breath", and is related to spirare, "to breathe". In the Vulgate the Latin word spiritus is used to translate the Greek pneuma and Hebrew ruah.

The term spiritual, matters "concerning the spirit", is derived from Old French spirituel, which is derived from Latin spiritualis, which comes from "spiritus" or "spirit".

The term spirituality is derived from Middle French spiritualite, from Late Latin "spiritualitatem" (nominative spiritualitas), which is also derived from Latin "spiritualis