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The development of a curriculum on nutritional concepts in nursing

Linda K. Hamaguchi

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California State College
San Bernardino

THE DEVELOPMENT OF A CURRICULUM ON NUTRITIONAL CONCEPTS IN NURSING

A Project Submitted to
The Faculty of the School of Education
In Fulfillment of the Requirements of the Degree of Master of Arts in Education: Vocational Education Option by

Linda K. Hamaguchi, M.A.
San Bernardino, California
1982

APPROVED BY: [Signature]
ADVISOR: [Signature]
Committee Member: [Signature]
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NUTRITIONAL CONCEPTS IN NURSING

I. INTRODUCTION

The purpose of this curriculum project has been to develop a nutrition course designed for registered nurses that can be offered through an adult education program within the community. The course is intended to present current nutritional concepts to meet the interests and needs of nurses in a continuing education context.

Good nutrition is an important contributor to well-being. Poor nutritional status can have a negative effect on the health of patients. In the hospital setting, the health care team is concerned with the patient's complete medical status which includes nutritional needs as an integral component. Although each team member is responsible for his/her area of expertise, an awareness of other aspects of care contribute to a more holistic approach. The team approach should provide the following benefits:

A. Initiate and maintain effective communication among health professionals and patients.
B. Facilitate interdisciplinary contributions to health care delivery.
C. Help professionals develop and sustain a positive working relationship to meet patient care plan objectives (1:571).

The clinical dietitian is the professional whose area of expertise is assessing nutritional status and designing the nutritional care plan. Because the ratio of dietitians to patients is often great, consistent contact with the patient is difficult. The nurse, however, does have
close and regular contact with the patient. The nurse is a vital team member who is aware of the patient's daily progress and can provide valuable information to other professionals.

Current perceptions of the nurse's role and responsibilities in nutritional care are often unclear. This is partly due to the overlapping of responsibilities traditionally assumed by nurses. Also, roles may vary considerably with the setting and the range of services available (7:140).

II. STATEMENT OF THE PROBLEM

The problem was to identify and analyze needs for nutrition education among registered nurses in a hospital, and based on this information, to develop appropriate materials and course work for a class on this subject that would provide beneficial nutritional information to those nurses. Analysis of the problem was centered on four major areas.

A. Interest In and Need for Nutrition Education - Through an informal survey completed by the author of this project, the staff nurses at the Jerry L. Pettis Memorial Veterans Hospital in Loma Linda, California were found to have a professional interest in nutrition. A majority of the nurses surveyed indicated that nutrition education in their nursing curriculum had been inadequate.

B. Continuing Education Requirements - The Board of Registered Nursing (BRN) of the State of California mandates that registered nurses must earn thirty hours of continuing education credit every two years in order to maintain their license. As a result of this
mandate, nurses are continually searching for workshops, classes, and other means which may be available to earn the required continuing education credit.

C. Availability of Nutrition Education - A review of the literature seems to indicate that if a course were offered to nurses in nutritional concepts with the additional incentive of earning credit, the response should be positive.

D. Possible Role Conflict - One possible conflict with the course content could be the issue of role delineation between the nurse and dietitian. Staff nurses may have ambivalent feelings about shared responsibilities. This could be partly due to feelings that their own knowledge is inadequate to assume responsibilities (4:498). The course developed through this project has not been designed to prepare the nurse to assume the dietitian's role but to create an awareness of problems which could then be referred to the dietitian. Collaboration would be for the benefit of the patient.

III. PURPOSE OF THE PROJECT

The purpose of the project was to develop a nutrition course which offered practical nutritional information to the nurse as a hospital team member. A basic goal of the course was to create an awareness of nutrition and its impact on health. The completed project is intended to be used to teach nutrition to nurses in a continuing education context. The accessibility of the course through an adult education program and the incentive of continuing education credit should encourage nurses to learn more about nutrition.
The nutritional well-being of the patient is the responsibility of all health team members. By integrating nutrition into continuing education, the valuable information and skills needed to maximize good nutritional status would be available to the nurse. The practical knowledge and greater understanding gained would not only be useful in daily patient contact, but in clarifying role delineation for a more effective team approach.

IV. REVIEW OF THE LITERATURE

There is an increasing awareness of the importance of nutrition in the maintenance of health and the treatment of disease. There are many issues which address the role of the nurse in nutrition education. Traditionally, role delineation between the nurse and dietitian regarding actual and perceived functions has been confusing.

Many nurses graduating in the 1940's and 1950's had formal classes in nutrition. However, the number of hours in nutrition education has diminished steadily from 1976. Many students in associate and baccalaureate degree programs receive no formal diet therapy education. Instead, diet therapy may be integrated into other courses. One reason for this trend may have been the belief that nutrition and diet therapy education is the responsibility of the dietitian (8:781). Another factor contributing to the decrease of nutrition in the nursing curriculum was the competition from other subject matters (14:453).

The nurse is not educated as a dietician; that is not her professional role. However, she can make a contribution to comprehensive health care by having a sound knowledge of nutrition to aid her clients and their families in understanding the importance of nutrition in meeting complete health needs (5:210).
Nurses often participate in nutrition education in an unconscious and/or unplanned manner. Depending upon nutritional knowledge and attitudes, this type of patient education may support, negate, or neutralize the efforts of others (14:453). Because of this possible influence, it is important that team members work together toward a common goal.

Studies tend to support the fact that nurses provide nutrition education. It may be given in a formal or informal manner. In some situations, a dietitian or nutritionist is not available at their place of employment to assume this responsibility (8:783).

Newton et al (9:49) reported that dietitians were viewed as providing service rather than education. This study in 1965 revealed the attitude that dietitians dealt mainly with food complaints and paperwork while nurses provided the nutrition education.

In a more recent study, nurses expressed the belief that their role in patient nutrition education should be supportive rather than active. They realized that, due to their close contact and influence on patients, a good attitude toward nutrition is important and that they should encourage patients to follow dietary instructions. They perceived the dietitian's role in order of importance as follows: teaching diet therapy to the patient, serving as a resource person, teaching nutrition, providing foods which follow a patient's dietary prescription, dealing with patient's food problems, and catering to patient's food requests.

Many nurses have reported that nutrition classes that they have had in nursing school were not interesting. Although a study by Vickstrom and Fox found this to be true, it was attributed to the teaching style rather than to disinterest in nutrition as subject
matter. Vickstrom and Fox found that nurses strongly supported the idea that nutrition and diet therapy classes were important in nursing education (14:454-455).

When a group of nurses were surveyed regarding continuing education courses in diet therapy, 84.4% responded positively. A result of this survey was the recommendation that organized groups of nurses combine efforts with the local dietetic association, inservice education departments in hospitals, or university departments of nutrition to provide workshops and programs to make recent advances in the dietary fields known to nurses (8:784).

Continuing education would provide nurses with the opportunity to learn new knowledge and skills, review and add to knowledge already gained, investigate new approaches in nursing, analyze and redevelop attitudes, and strengthen clinical competencies (12:9).

V. PROCEDURES AND METHODS

The following procedures and methods were utilized in developing this project:

A. A review of the literature related to nutrition in continuing education for nursing was conducted.

B. To determine the specific needs and interests of nurses, a needs assessment analysis was conducted. This assessment was based upon a two-page questionnaire that was developed and distributed to 195 registered nurses at the Jerry L. Pettis Veterans Memorial Hospital in Loma Linda, California. (Appendix A). A total of 99 questionnaires were returned which was 51% of the sample. All registered nurses in both the clinical and administrative areas were sent questionnaires. Most
of the responses were from three areas; 27% from surgery and 20% each from medicine and critical care. The results were tallied and analyzed to provide the basis of the curriculum.

In response to question one pertaining to the respondents' years of experience, 60% had more than 15 years of nursing experience; 66% were over age 60 and a large majority of respondents (83%) held the position of staff nurse.

Nutrition was integrated into other nursing classes for 85% of the respondents while 21% had taken nutrition courses since becoming a registered nurse. When asked if they planned on attending future classes or meetings on nutrition, 31% responded yes, 18% no, and 52% were uncertain.

The topics in nutrition which were of greatest interest were as follows in descending order:

- Modified or Special Diets
- Nutritional Assessment
- Total Parenteral Nutrition
- Basic Nutrition
- Special Needs of the Cancer Patient

The majority of the responding nurses (41% strongly agreed and 33% agreed) felt that the nutritional care of the patient is the responsibility of the dietitian. However, they also strongly felt (70% strongly agreed and 27% agreed) that it is the shared responsibility of the health care team. Most nurses agreed (41% strongly agreed and 48% agreed) that when a patient is having a nutritional problem, the dietitian is contacted and that it was not something that the registered nurse could resolve.

Most felt (52% agreed and 41% strongly agreed) that the nurse has a definite influence on the nutritional status and food intake of the patient. Nurses felt that they presently contribute to the nutritional needs of the patient.
It was strongly felt (58% strongly agreed and 33% agreed) that nutrition should be part of the nursing curriculum and that it would help the nurse to deal more effectively with the nutritional needs of the patient. There was an interest in learning more about nutrition (64% agreed and 24% strongly agreed) and in taking a nutrition course for nursing (55% agreed and 30% strongly agreed). A nutrition course which offered continuing education credit would be an incentive in taking the course as supported by 58% who strongly agreed and 32% who agreed.

C. Current requirements by the Board of Registered Nursing of the State of California were investigated. On the basis of the findings, it was determined that the course, when approved, can be used for continuing education credit.

D. The course and lesson plans were formulated from the results of the needs assessment. Generally, the program was designed to provide ten hours of continuing education. It will be offered in five weekly sessions of two hours each but could also be held as a two-day weekend workshop. The topics of the classes include basic principles with current nutritional concepts, nutritional assessment, and other special considerations. Lesson plans were written for each section.

Teaching methods include lecture, discussion, slide tapes, and videocassettes. Additional activities are integrated into the program such as calculating diets as a practical exercise and examining food diaries.

E. Evaluation methods were designed. Because the course would be a short course or workshop offered in a few sessions, a summative evaluation would be used in the form of a questionnaire at the conclusion
of the program. (Appendix B). The evaluation would include student feedback as well as an assessment made by the instructor on student input, responses to activities and appropriateness of materials. Informal evaluation by the students throughout the course would be beneficial to initiate changes to improve the remainder of the program.

VI. PRODUCT DESCRIPTION: "NUTRITIONAL CONCEPTS IN NURSING"

The course entitled "Nutritional Concepts in Nursing" offers ten hours of continuing education credit. There are five classes which are two hours each. Although the course is designed for the nurse, it may also be of interest to other health professionals. Its purpose is to offer practical nutritional information as a means to create an awareness of nutrition and its impact on health care.

A lesson plan has been prepared for each class with similar elements in its format. The topic of the specific class is given in the title to reflect the class content. General course goals which are pertinent to the individual class are provided. The class objectives state the desired behaviors which are written in observable and measurable terms. Methodology is given to describe particular presentation methods such as lecture or demonstration.

The outline of the body of information is in the content section. Responsibilities are delineated between the teacher and student. An estimation of time needed for each section is also included.

Some classes may have recommended activities which are optional assignments intended to enhance and stimulate interest for the following class. Materials needed for each class are listed.
A space for a critique of the class is allowed. This will serve as a means of evaluation and will facilitate improvement for future classes. A list of references used are included for clarification or for future study.

VII. SUMMARY AND APPLICATION

This course will be offered through an adult school education program and will be accessible to nurses in the community. Since it will be approved by the Board of Registered Nursing, continuing education hours will be available.

The chairperson of allied health programs at the Redlands Adult School, Ellen Schollenberger, was contacted to obtain information on the nursing classes. She is a registered nurse with a Masters Degree in Public Health. Ms. Schollenberger expressed much interest in the nutrition course and suggested its inclusion in the allied health program. A course proposal has been submitted to the school for the fall semester of 1982. The course will be offered if a minimum number of students enroll.

Redlands Adult School has a provider number from the Board of Registered Nursing which gives them the authority to grant continuing education hours if the class meets specified requirements. Course content must include recent information from the past two years. A method of evaluation must also be used. Qualifications of the instructor include one year experience within the last two years plus licensure or certification in the area of expertise. This course should be taught by a registered dietitian with recent experience.
A try-out of the completed curriculum will be done through the Redlands Adult School. Classes will meet once a week for five consecutive weeks from 4:30 p.m. to 6:30 p.m. at the Jerry L. Pettis Veterans Memorial Hospital. Ellen Grohs, the Associate Chief of Nursing Service in Education at the Veterans Administration Hospital, showed much interest and support in the proposal to offer nutrition education (2).

Audiovisual equipment, reproduction services for teaching materials, and other teaching aids will be readily available. The cost to the student is $20.00 (11). The factors which should promote enrollment include the convenient location, the reasonable cost of the class, and the incentive to earn continuing education credit.

If the course is accepted and adequate attendance is achieved, the course can be taught regularly with content varying to meet student interest. It can also be taught as an extension course at the university level or as an inservice within a hospital. By offering nutrition education within various settings, greater availability is possible to meet the needs of the community.


APPENDIX A

QUESTIONNAIRE:

"NUTRITION IN CONTINUING EDUCATION FOR NURSING"
Please circle the appropriate answer for each statement.

1. Years of nursing experience:
   a. 1 - 5
   b. 6 - 10
   c. 11 - 15
   d. over 15

2. Age:
   a. 20 - 30
   b. 31 - 40
   c. over 40

3. Position:
   a. Staff Nurse
   b. Supervisor
   c. Other ____________

4. Major area of specialization: (Circle One)
   a. Medicine; specialty ____________
   b. Surgery; specialty ____________
   c. Critical Care
   d. Neurology
   e. Rehabilitation
   f. Psychiatry
   g. Alcohol Treatment
   h. Nursing Home Care
   i. Ambulatory Care
   j. Education
   k. Administration
   l. Other ____________

5. Prior to becoming a nurse, what courses, if any, did you take in your training which had nutrition as the major topic? ____________

6. Nutrition was integrated into other nursing classes.
   a. Yes
   b. No

7. Have you taken nutrition courses since becoming a registered nurse?
   a. Yes
   b. No

8. Do you plan on attending workshops, meetings, or classes on nutrition?
   a. Yes
   b. No
   c. Uncertain
9. When would be the most convenient time to take courses?
   a. Weekdays
   b. Weekends

10. What time would be most convenient?
   a. Morning
   b. Early Afternoon
   c. Late Afternoon
   d. Early Evening

Please rank the following topics according to your personal interest with "1" indicating your first choice:

1. Basic Nutrition
2. Modified or Special Diets (e.g. Diabetic, Low Sodium)
3. Nutritional Supplements (Commercial Products such as Isocal or Ensure Plus)
4. Tube Feedings (e.g. Nasogastric, Gastrostomy)
5. Nutritional Assessment (Determining patient's nutritional status and needs)
6. Total Parenteral Nutrition (I.V. Nutrition)
7. Food Fads and Fallacies
8. Special Needs of the Geriatric Patient
9. Special Needs of the Cancer Patient
10. Others:
Please circle the number which best reflects your personal opinion using the following scale: 4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree, 0 = does not apply.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Does Not Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The nutritional care of the patient is not the responsibility of the dietitian.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2. The nutritional care of the patient is the shared responsibility of the health care team.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3. When a patient is having a nutritional problem, I contact the dietitian.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4. When a patient is having a nutritional problem, I can usually take care of it.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. The nurse has a definite influence on the nutritional status and food intake of the patient.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6. I feel that I presently contribute to the nutritional needs of the patient.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7. Nutrition should not be a part of the nursing curriculum.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8. Nutrition information is readily available to the nurse.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9. Nutrition education would help me to deal more effectively with the nutritional needs of the patient.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10. I am interested in learning more about nutrition.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11. Continuing education is necessary to keep current in the field of nursing.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>12. I would be interested in a nutrition course for nursing.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13. If a nutrition course offered continuing education credit, it would provide additional incentive to take the course.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
EVALUATION FORM

1. Which classes did you feel were helpful and why?
   
   Not helpful and why?

2. What new information did you learn that enhanced your understanding of nutrition?

3. What will you do differently since attending these classes?

4. Handouts from which classes were helpful?
   
   Were not helpful?

5. Audiovisuals from which classes were helpful?
   
   Were not helpful?
6. Was there too much information presented for the time allotted?

   Was there too little information presented for the time allotted?

7. What were the instructor's:
   a. Strengths?

   b. Areas needing improvement?

8. What did you like about the course?

   What were the problems?

9. What were your overall feelings about the course?

10. Suggestions for improving the activities:

11. Comments:
APPENDIX C

COURSE MATERIALS:

"NUTRITIONAL CONCEPTS IN NURSING"
LESSON PLAN FOR CLASS 1:

CONCEPTS IN NUTRITION
LESSON PLAN

CLASS: 1

TOPIC: CONCEPTS IN NUTRITION

COURSE GOAL: The student will be able to apply the basic nutrition principles in planning a well balanced diet.

OBJECTIVES:

1. After listening to the lecture and viewing the slide tape, the student will be able to list four of the six major categories of nutrients.

2. After listening to the lecture and viewing the slide tape, the student will be able to list the four basic food groups with two examples of foods from each with 75% accuracy.

3. After listening to the lecture and viewing the slide tape, the student will be able to plan a one day menu which meets the minimum requirements for the adult.

METHODOLOGY: Lecture, discussion, slide tape, practice sessions, and quiz.

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Course Overview</td>
<td>Distribute Hand-out 1 and discuss each class and course structure.</td>
<td>Review Handout.</td>
<td>15</td>
</tr>
</tbody>
</table>
B. Public Awareness of Good Nutrition

With the awareness and desire to be physically fit, there has been much interest in nutrition. The public's interest is reflected by the number of books, magazines, and other types of materials available. There is much that is confusing in the world of foods and the science of nutrition. We are bombarded with difficult words, unfamiliar names, the hard sell of merchandising, the organic or natural foods movement, and the criticism of different foods (sugar, fats, food additives).

II. OVERVIEW OF NUTRITION AND THE INFLUENCES WHICH AFFECT DIET

A. Dietary Habits

Our personal habits are molded by many different events and experiences. Once they are formed, they are very hard to change. We each want individuality and the freedom to make choices. The same holds true for food habits. They are formed very early in life and remain fixed until we make deliberate efforts to change them. As individuals, we have the freedom to choose dietary practices. As long as these food patterns do not cause physiological harm, there are no problems. However, if there is possible danger, it is important to change toward adequate nutrient and caloric intake.

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Public Awareness of Good Nutrition</td>
<td>Lecture.</td>
<td>Listen.</td>
<td>5</td>
</tr>
</tbody>
</table>
### CONTENT

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Holistic Approach to Nutrition</td>
<td>Show slide tape: &quot;Concepts in Nutrition&quot;.</td>
<td>Watch slide tape.</td>
<td>15</td>
</tr>
<tr>
<td>III. NUTRIENTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Meaning of Food</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The meaning may be psychological, personal, or social. But, its ultimate purpose is to nourish or to provide our bodies with the nutrients necessary for cell function and the energy to make all systems work. Foods that are carefully chosen provide all the nutrients essential for the normal functioning of the body.</td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>25</td>
</tr>
<tr>
<td>B. Essential Nutrients</td>
<td></td>
<td></td>
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<tr>
<td>An essential nutrient is defined as one that must be provided by food since it cannot be made by the body or in sufficient quantities. Nutrients essential for one species may not be essential for another.</td>
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</tr>
<tr>
<td>C. Major Functions of Nutrients</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1. Supply energy.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Promote growth and repair body tissues.</td>
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<td></td>
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<tr>
<td>3. Regulate body processes.</td>
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</table>
### D. Categories of Nutrients

1. Carbohydrate  
2. Protein  
3. Fat  
4. Water  
5. Vitamins  
6. Minerals

### E. The Recommended Dietary Allowance (RDA)

The RDA were established by the Food and Nutrition Board of the National Research Council. They are the "formulation of nutrient allowances for daily consumption... adequate for the maintenance of good nutrition in essentially all the population of the U.S." The Food and Nutrition Board states that the RDA levels "are meant to afford a margin of sufficiency above minimal requirements and are therefore planned to provide a buffer against the needs of various stresses and to make possible other improvements for growth and function."

### F. Basic Four Food Groups

1. Milk  
2. Meat (Including protein from nonmeat sources)  
3. Fruits and Vegetables  
4. Breads and Cereals
### IV. QUIZ

### V. FOOD FADDISM AND MISINFORMATION

Promoters of quackery frequently use legitimate scientific words or phrases and then change the meaning to suit their needs.

A. Clues to Detect Misinformation  
B. Reliable Sources of Information  
C. Questionable Sources of Information

### VI. EVALUATION OF NUTRITION INFORMATION IN WOMEN'S MAGAZINES

A study completed by the American Council on Science and Health rated various popular magazines on the reliability of its nutrition information.

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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</thead>
<tbody>
<tr>
<td>IV. QUIZ</td>
<td>Distribute quiz. Discuss.</td>
<td>Complete quiz. Discuss.</td>
<td>10</td>
</tr>
<tr>
<td>V. FOOD FADDISM AND MISINFORMATION</td>
<td>Lecture and discuss.</td>
<td>Listen and discuss.</td>
<td>10</td>
</tr>
<tr>
<td>B. Reliable Sources of Information</td>
<td>Lecture.</td>
<td>Listen.</td>
<td>5</td>
</tr>
<tr>
<td>C. Questionable Sources of Information</td>
<td>In the group, discuss each article and explain why it is unsound.</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>VI. EVALUATION OF NUTRITION INFORMATION IN WOMEN'S MAGAZINES</td>
<td>Distribute a variety of articles and have students evaluate them. Have students form small groups.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RECOMMENDED ACTIVITY: Bring in one article or label which reflects food faddism.

MATERIALS: Dukane projector and quiz.

Slide Tape: "Concepts in Nutrition" by Trainex Corporation. P.O. Box 116, Garden Grove, California, 1979. Describes the meaning of food and discusses the basic principles of nutrition.

Handouts:
1. Course Overview. Summary of the topics and concepts to be covered during the course.
2. Clues to Detect Nutrition Misinformation. A list describing tactics used to sell misinformation.
3. Reliable Sources of Nutrition Information. A list of credible sources of nutrition including organizations, credentials, and journals.
4. Questionable Sources of Nutrition Information. A list of questionable or unreliable sources such as specific books or types of credentials.

Magazine Articles: A variety of nutrition articles from popular magazines which illustrate both sound and questionable nutritional practices.

CRITIQUE:

REFERENCES:


CONCEPTS IN NUTRITION

1. List four categories of nutrients.
   a. 
   b. 
   c. 
   d. 

2. List the Four Basic Food Groups.
   Give two examples of foods from each group.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
</tr>
<tr>
<td>d.</td>
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</tbody>
</table>

3. Plan a one day menu which is nutritionally complete and balanced and is a realistic pattern for you.
LESSON PLAN FOR CLASS 2:

NUTRITIONAL ASSESSMENT: A TEAM APPROACH
LESSON PLAN

CLASS: 2

TOPIC: NUTRITIONAL ASSESSMENT: A TEAM APPROACH

COURSE GOAL: The student will be able to identify the role of the nurse and of the dietitian in providing optimal nutritional care.

OBJECTIVES:

1. After listening to the lecture and discussion, the student will be able to list four conditions which identify "at-risk" patients needing additional nutritional support.

2. After listening to the lecture and discussion, the student will be able to list five ways that the nurse contributes to the nutritional care of the patient.

3. After listening to the lecture and discussion, the student will be able to describe the various parameters studied in the nutritional assessment process.

METHODOLOGY: Lecture, discussion, demonstration, and quiz.

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Effects of Malnutrition</td>
<td>Lecture.</td>
<td>Listen.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>The nutritional status of the patient is an important part of total well-being. Malnutrition has been noted in hospitalized patients. The presence of malnutrition may affect the hospital course of these patients.</td>
<td></td>
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</tr>
</tbody>
</table>
B. Types of Malnutrition

1. Kwashiorkor (protein malnutrition) presents depressed visceral protein stores. There may be no weight change because of edema.

2. Marasmus (protein-calorie malnutrition) is characterized by depressed visceral protein, somatic protein, and adipose tissue stores.

II. THE NUTRITIONAL ASSESSMENT PROCESS

What type of patients would you feel are at nutritional risk?

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Have students write a list of four conditions which may identify &quot;at-risk&quot; patients.</td>
<td>Write a list.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Have students form groups of three to discuss and write a combined list.</td>
<td>Discuss conditions and formulate a list.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Have students share their ideas and list on the board.</td>
<td>Read their lists.</td>
<td>15</td>
</tr>
</tbody>
</table>
### A. History: Identification of "At-Risk" Patients

1. **Medical History**
   - a. Weight change.
   - b. Increased metabolic needs caused by trauma or infection.
   - c. Increased losses such as through fistulas or wounds.
   - d. Chronic diseases such as cancer, renal, liver, or heart.
   - e. Recent major surgery or illness.
   - f. Prolonged comatose state.
   - g. Diseases of the GI tract such as malabsorption.
   - h. Surgery of the GI tract such as resection.

2. **Undesirable Practices Within the Hospital**
   - a. Failure to routinely record height and weight.
   - b. Prolonged use of glucose and saline intravenous solutions.
   - c. Failure to observe patients' food intake.
   - d. Withholding meals for diagnostic tests.
   - e. Maintaining NPO status for prolonged periods.
   - f. Use of tube feedings in inadequate amounts.
   - g. Failure to recognize increased metabolic needs.
<table>
<thead>
<tr>
<th>CONTENT</th>
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<tbody>
<tr>
<td>h. Failure to give nutritional support before or after surgery.</td>
</tr>
<tr>
<td>i. Delay of nutritional support until depletion is advanced.</td>
</tr>
<tr>
<td>j. Inadequate monitoring of nutritional status.</td>
</tr>
</tbody>
</table>

3. Social History

| a. Lives alone or with others. |
| b. Financial status. |
| c. Presence of a handicap which may impair food intake. |

4. Dietary History

| a. Appetite change. |
| b. Chewing or swallowing problems. |
| c. Impaired sense of taste or smell. |
| d. Unable to eat for more than a week. |

B. Anthropometry

Certain body measurements can be taken and used as one indicator of nutritional well-being. These measurements can be compared to standards and more importantly, to changes which occur in that patient over time.
1. Height is important in determining ideal body weight for that height. Weight changes can reflect the need for calorie adjustments. Scales must be calibrated for accuracy.

2. Wrist circumference is used to estimate body frame size.

3. Mid-upper arm circumference is needed to determine muscle circumference.

4. Triceps skinfold is an indirect estimate of adipose tissue.

5. Arm muscle circumference is a sensitive index of body protein reserves.

C. Clinical Evaluation

Most clinical signs of nutritional deficiencies are mild and nonspecific and can result from a lack of several nutrients or from non-nutritional causes.

D. Biochemical Assessment

1. Serum albumin and transferrin can reflect visceral protein stores.

2. Urinary creatinine levels may indicate inadequate somatic protein stores.
3. Total lymph count may show depressed immune competence which is associated with malnutrition.

4. A nitrogen balance study can determine if the patient is in positive or negative balance.

5. Hydration status can be evaluated by some laboratory values.

6. Depressed hemoglobin and hematocrit levels may show anemia and a need for iron supplementation.

E. Effects of Drugs on Nutritional Status

1. Drugs can decrease the synthesis of certain nutrients.

2. Drugs can decrease food intake by affecting appetite and taste and by causing nausea.

3. Some drugs can cause malabsorption.

4. Drugs can block normal nutrient function and metabolism and promote excretion of nutrients.

5. Drugs can increase nutrient requirements.

6. The diet itself can affect both drug absorption and metabolism.
### III. THE NURSES' ROLE IN NUTRITIONAL CARE

What are some ways that the nurse can contribute to the nutritional care of the patient?

Examples:

A. Provide personal data such as the family situation. Who is the caregiver and when do they visit?

B. Provide physical data such as height and weight.

C. Take vital signs to monitor general health status.

D. Provide diet related data such as feeding skills, appetite, preferences, and side effects related to medications.

E. Consider possible schedule conflicts which may interfere with meals and adjust if necessary.

### IV. SUMMARY AND QUIZ.

<table>
<thead>
<tr>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have students list five ways.</td>
<td>Write list.</td>
<td>5</td>
</tr>
<tr>
<td>Have students share their lists.</td>
<td>Read suggestions.</td>
<td>10</td>
</tr>
<tr>
<td>Give quiz and discuss.</td>
<td>Complete quiz and discuss.</td>
<td>15</td>
</tr>
</tbody>
</table>
RECOMMENDED ACTIVITY: Keep a three day food diary. Include the time of day, the food item (be specific), portion size, and location.

MATERIALS: Scale, tape measure, Lange skinfold calipers, charts and tables for anthropometry, and quiz.

CRITIQUE:

REFERENCES:


NUTRITIONAL ASSESSMENT: A TEAM APPROACH

The nutritional assessment process involves many different parameters. Briefly describe each as listed below. For example, the medical record may show a history of recent weight loss which may have affected nutritional status.

1. History:

2. Anthropometry:

3. Clinical Evaluation:

4. Biochemical Assessment:

5. Effects of Drugs:
LESSON PLAN FOR CLASS 3:

THE CALORIE CONTROLLED DIET
LESSON PLAN

CLASS: 3

TOPIC: THE CALORIE CONTROLLED DIET

COURSE GOAL: The student will be able to explain the rationale of a modified diet as it relates to the treatment of a medical problem.

OBJECTIVES:

1. After listening to the lecture and discussion, the student will be able to identify the advantages and disadvantages of the food diary.

2. After listening to the lecture and discussion, the student will be able to explain the rationale of the exchange system and list the six food groups.

3. After listening to the lecture and viewing the videocassette, the student will be able to write a daily behavior modification plan to facilitate weight loss.

METHODOLOGY: Lecture, discussion, demonstration, videocassette, and quiz.

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<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>The term weight control is usually applied to efforts to adjust body weight to conform to established standards or to body weight with a maximum level of health. The normal values of fat for total weight is 12 - 18% for men and 18 - 24% for women. Obesity is defined as a condition in which</td>
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there is an abnormal accumulation of fat in body tissue. In men, it would be 20% of body weight and in women, 28 - 30%.

There is no simple explanation for obesity. Several factors must be considered such as overeating, physical inactivity, family health attitudes, emotional stability, genetics, body chemistry, infant feeding practices, and many others.

The American public has placed much emphasis on being physically fit and slim. Even though this is a positive attitude, it has also caused the extreme problems of bulimia and anorexia nervosa.

II. CALORIES

A. Definition of Calorie

The kilocalorie (usually shortened to calorie) is used to express the energy value of food. It represents the amount of heat required to raise the temperature of 1 kg (slightly over 1 quart) of water 1 degree centigrade.

B. Nutrients Which Provide Calories

1. Carbohydrates (4 cal/gm)
2. Protein (4 cal/gm)
3. Fat (9 cal/gm)
There are no calories from water, vitamins, or minerals.

C. Energy Needs

1. Basal metabolism is the minimal amount of energy for internal work needed to carry on the vital body processes such as breathing.

2. Factors which determine energy needs:
   b. Body condition.
   c. Sex.
   d. Hormone secretions.
   e. Age.
   f. Special times such as growth.
   g. Medical problems.
   h. Previous nutritional status.
   i. Body temperature (7-15% increase with each degree Fahrenheit).
   j. Physical activity:
      Type of activity.
      Duration of activity.
      Size of the individual.
      Efficiency of performance.

3. Basal Energy Expenditure (BEE) can be estimated by calculations. Other considerations include increased needs for sepsis, cancer, fever, etc.
D. Practice Estimation of Ideal Body Weight and Calorie Needs

1. Ideal body weight for height can be calculated.

2. Calorie needs can be estimated. Remember that the activity level is a subjective judgement. Don't confuse busy with active.

III. WEIGHT REDUCTION

When calorie intake equals calorie expenditure, weight remains the same. If the intake is greater, weight gain will occur with the deposition of fat. Therefore, to lose weight, you must be in calorie deficit. One pound equals 3500 calories. The recommended weight loss is 1 - 2 pounds per week.

Actually understanding the mechanics of weight loss and making dietary changes are two different things. Fad diets may cause initial weight loss, but a change in lifestyle is needed to make lasting changes. We must first realize our present habits before we can make conscious efforts to change them.

A. Food Diary

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<tr>
<th>CONTENT</th>
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<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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</thead>
<tbody>
<tr>
<td>D. Practice Estimation of Ideal Body Weight and Calorie Needs</td>
<td>Write formula on the board.</td>
<td>Calculate ideal body weight and energy needs.</td>
<td>10</td>
</tr>
<tr>
<td>III. WEIGHT REDUCTION</td>
<td>Write table on the board.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>10</td>
</tr>
<tr>
<td>A. Food Diary</td>
<td>Encourage students to answer.</td>
<td>Contribute answers.</td>
<td></td>
</tr>
</tbody>
</table>
B. Behavior Modification Techniques

IV. DIABETIC DIET

The diet is important for the diabetic whether the patient is controlled by insulin, hypoglycemic agents, or by diet alone. Diet modification may simply require the avoidance of concentrated carbohydrates and maintain ideal body weight or the use of the diabetic exchange lists and meal patterns. It is important to individualize the diet pattern for the patient.

A. Goals of Diet Therapy for Diabetics:

1. Attain and maintain ideal weight. Since 80% of the diabetic population is obese, weight reduction is especially important. Weight loss usually improves serum glucose levels.

2. Provide a normal growth rate in children and pregnant women.

3. Control serum glucose levels and minimize glycosuria.

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<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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</thead>
<tbody>
<tr>
<td>B. Behavior Modification Techniques</td>
<td>Show videocassette: &quot;Getting to Work on Yourself&quot;.</td>
<td>Watch and take notes.</td>
<td>20</td>
</tr>
<tr>
<td>IV. DIABETIC DIET</td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>25</td>
</tr>
</tbody>
</table>
4. Prevent or delay the complications associated with diabetes.

5. Modify the diet as necessary for complications of diabetes and for associated diseases.

6. Improve overall health by maintaining optimal nutritional status.

7. Provide each patient with an individualized educational and follow-up program.

B. Diabetic Exchange System

The system was developed by the American Diabetes Association and the American Dietetic Association. The exchange lists are a guide for planning meals. Each exchange group has foods which are similar in composition. Any food in one group can be exchanged or traded for another in the same group. The groups are:

1. Milk
2. Vegetable
3. Fruit
4. Bread
5. Meat
6. Fat

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<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>B.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Diabetic Exchange System</td>
<td>Describe each group and illustrate with food models.</td>
<td></td>
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<tr>
<td>CONTENT</td>
<td>TEACHER RESPONSIBILITIES</td>
<td>STUDENT RESPONSIBILITIES</td>
<td>TIME (min.)</td>
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</tr>
<tr>
<td>V. SUMMARY AND QUIZ</td>
<td>Write a meal pattern and have students suggest alternate food selections.</td>
<td>Using the exchange system, suggest alternate foods.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Distribute quiz.</td>
<td>Complete quiz.</td>
<td></td>
</tr>
</tbody>
</table>
RECOMMENDED ACTIVITY: Bring in food labels from packages or cans which reflect foods high in sodium.

MATERIALS: Videocassette player, food models, and quiz.

Videocassette: "Getting to Work on Yourself" by TMS Ltd. 21535 Hawthorne Boulevard, Suite 522, Torrance, California, 1979. Discussion centers around present eating habits with suggestions to help one distinguish between real hunger and appetite (habitual craving). Various easy and practical suggestions are presented to help those interested in weight reduction and in making positive changes.

CRITIQUE:

REFERENCES:


THE CALORIE CONTROLLED DIET

1. Describe the diabetic exchange system and its rationale.

2. List the six diabetic food exchanges.
   a. 
   b. 
   c. 
   d. 
   e. 
   f. 

3. What are some simple changes that you can make to decrease your caloric intake?

If you are presently satisfied with your food intake, what are some practices that you feel are important to continue in order to maintain your current weight?
LESSON PLAN FOR CLASS 4:

THE LOW SODIUM AND FAT CONTROLLED DIETS
LESSON PLAN

CLASS: 4

TOPIC: THE LOW SODIUM AND FAT CONTROLLED DIETS

COURSE GOAL: The student will be able to explain the rationale of a modified diet as it relates to the treatment of a medical problem.

OBJECTIVES:

1. After listening to the lecture and viewing the slide tapes, the student will be able to describe sources of sodium in the diet.

2. After listening to the lecture and viewing the slide tapes, the student will be able to distinguish the difference between saturated and unsaturated fats.

3. After listening to the lecture and viewing the slide tapes, the student will be able to explain the relationship between cholesterol and saturated fats to the incidence of atherosclerosis.

METHODOLOGY: Lecture, discussion, slide tapes, and quiz.

<table>
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<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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<tbody>
<tr>
<td>I. LOW SODIUM DIET</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Definition of Sodium</td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>30</td>
</tr>
</tbody>
</table>

Sodium is a monovalent cation present in the body mainly in the extracellular fluids.
About 50% is in the extracellular fluids (within the blood vessels and the intercellular fluids surrounding the cells). As little as 10% is present within the cell. The remaining 40% is found in the skeleton bound to the surface of bone crystals.

Some sodium is absorbed in the stomach but most of it is absorbed in the small intestine. Absorbed sodium is carried through the bloodstream to the kidney, where excess amounts are excreted in the urine.

Functions include:

- Maintenance of osmotic pressure.
- Maintenance of the acid-base balance.
- Transmission of nerve impulses.
- Transport of other nutrients.

B. What Conditions May Require a Sodium Restriction?

1. Hypertension
2. Edema
3. Heart Disease
4. Liver Disease
5. Kidney Disease
C. Food Sources of Sodium

1. Naturally occurring sodium is present in widely varying amounts. There is generally more in foods of animal origin.

2. Sodium added during processing and preparation is mainly in the form of salt which is about 40% sodium.

3. The sodium content of the water supply varies and may be high in some areas.

4. An often overlooked source of sodium is in medication.

D. Levels of Sodium Restriction

The degree of restriction will depend upon the medical condition and its severity. The levels could be 4 gm, 2–3 gm, 1 gm, 500 mg, or 250 mg.

E. The Diet Prescription

A common level prescribed is the 2 gm level.

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<tr>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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</thead>
<tbody>
<tr>
<td>Show slide tape: &quot;Your 2 Gram Sodium Diet&quot;.</td>
<td>Watch and take notes.</td>
<td>10</td>
</tr>
</tbody>
</table>
The practice of reading labels is helpful in learning about hidden sources of sodium in food. A low sodium diet does not mean a diet of unflavorful foods. Learn to use other herbs and spices which are low in sodium.

II. FAT CONTROLLED DIET

A. Definition of Terms

1. Cholesterol is a fatty, waxy substance produced by the liver and utilized by the body. It is found in foods of animal origin such as egg yolks and organ meats.

2. Saturated fats are usually from foods of animal origin and are solid at room temperature.

3. Unsaturated or polyunsaturated fats are usually from foods of vegetable origin and are liquid at room temperature.
B. Who Needs to Modify Fat Intake and Why?

Patients with atherosclerosis should decrease their cholesterol and saturated fat intake. A high serum cholesterol level is commonly seen in patients with heart disease. A decrease of 100 mg in dietary cholesterol will cause a decrease of 5 mg cholesterol per deciliter of serum.

C. How Can Fat Intake Be Modified?

1. Decrease cholesterol intake. Limit egg yolks to 2 - 3 per week, avoid organ meats, and avoid shellfish such as shrimp.


3. Increase the ratio of polyunsaturated fats to saturated fats. Use vegetable oils and margarine rather than lard or butter.

4. When triglyceride levels are elevated, it may be necessary to also restrict the intake of sugars.
<table>
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<tr>
<th>CONTENT</th>
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<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. The Diet Prescription</td>
<td>Show slide tape: &quot;Diet and Your Heart&quot;.</td>
<td>Watch and take notes.</td>
<td>10</td>
</tr>
<tr>
<td>III. SUMMARY AND QUIZ</td>
<td>Distribute quiz.</td>
<td>Complete quiz.</td>
<td>10</td>
</tr>
</tbody>
</table>
MATERIALS: Caramate projector and quiz.

Slide Tapes:

"Your 2 Gram Sodium Diet" by the Dietetic Service. Veterans Administration Hospital, Durham North Carolina. Explains the rationale of the diet together with a description of foods to avoid and foods allowed.

"Diet and Your Heart" by Medfact, Inc. P.O. Box 2173, Columbus, Georgia, 1976. Illustrates the physiological process of heart disease. Outlines the benefits of diet modification along with practical suggestions to make changes.

Food Labels: A variety of labels from packages and cans to demonstrate the importance of reading labels to learn about sodium content in foods.

CRITIQUE:

REFERENCES:


THE LOW SODIUM AND FAT CONTROLLED DIETS

1. Describe sources of sodium in the diet.

2. Describe the relationship between a high cholesterol and saturated fat intake to the incidence of atherosclerosis.

3. What is the difference between saturated and unsaturated fats? List two examples of each.
LESSON PLAN FOR CLASS 5:

SPECIAL NUTRITIONAL CONSIDERATIONS
CLASS: 5

TOPIC: SPECIAL NUTRITIONAL CONSIDERATIONS

COURSE GOAL: The student will be able to describe nutritional problems related to intolerance of the diet.

OBJECTIVES:

1. After listening to the lecture and discussion, the student will be able to relate nutritional problems of the oncology patient with treatment modalities.

2. After listening to the lecture and discussion, the student will be able to describe situations when tube feeding may be necessary.

3. After listening to the lecture and discussion, the student will be able to describe medical problems which may require nutritional support through parenteral feedings.

METHODOLOGY: Lecture, discussion, demonstration, and quiz.

<table>
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<tr>
<th>CONTENT</th>
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<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
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</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>40</td>
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</table>

Optimal nutritional status should be maintained during periods of stress and illness. The oral route of intake is preferable to other means of support. The diet may be modified to encourage intake by including food preferences, changing the texture, or altering the distribution of meals. Certain disease entities, such as cancer, can have a profound effect.
on the nutritional status of the patient. Other conditions may necessitate tube feeding or total parenteral nutrition.

II. SPECIAL NEEDS OF THE ONCOLOGY PATIENT

A. Effects of Neoplastic Diseases on Nutritional Status

1. Cachexia secondary to anorexia.
2. Malnutrition associated with impaired food intake secondary to obstruction.
3. Malabsorption associated with:
   a. Enzyme deficiencies.
   b. Infiltration of small bowel.
   c. Fistulas.
4. Protein-losing enteropathy.
5. Electrolyte and fluid imbalances associated with:
   a. Vomiting.
   b. Fistula losses.
   c. Diarrhea.
<table>
<thead>
<tr>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Consequences of Cancer Treatment</td>
</tr>
<tr>
<td>1. Radiation Treatment.</td>
</tr>
<tr>
<td>a. Radiation of oropharyngeal area.</td>
</tr>
<tr>
<td>(1) Destruction of sense of taste and impaired intake.</td>
</tr>
<tr>
<td>b. Radiation of abdomen and pelvis.</td>
</tr>
<tr>
<td>(1) Bowel damage, acute and chronic, with diarrhea, malabsorption, stenosis and obstruction.</td>
</tr>
<tr>
<td>2. Surgical Treatment.</td>
</tr>
<tr>
<td>a. Radical resection of oropharyngeal area.</td>
</tr>
<tr>
<td>b. Esophagectomy and esophageal reconstruction.</td>
</tr>
<tr>
<td>c. Gastrectomy.</td>
</tr>
<tr>
<td>d. Intestinal resection.</td>
</tr>
<tr>
<td>e. Blind loop syndrome.</td>
</tr>
<tr>
<td>f. Pancreatectomy.</td>
</tr>
<tr>
<td>g. Ureterosigmoidostomy.</td>
</tr>
</tbody>
</table>
### CONTENT

3. Chemotherapy Treatment.
   - a. Corticosteroids and other hormones.
   - b. Antimetabolites and other agents.

C. Dietary Modifications to Alleviate Symptoms

1. Nausea and vomiting.
2. Constipation or diarrhea.
3. Weight loss.
4. Sore throat.

D. The Nurses' Role

1. If the patient is in pain, medications may be given before meal time so that the patient may eat better.
2. Encourage food intake.
3. Share information on the patient's intake with other team members. The dietitian may be able to adjust the diet.

<table>
<thead>
<tr>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe dietary modifications which may help the problem.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
III. NUTRITIONAL SUPPLEMENTS

When a patient is unable to eat adequate amounts of food at meal times or between meals, it may be necessary to use commercial products. Nutritional supplements may be given orally or by tube.

A. Considerations When Selecting an Enteral Formula

1. Nutritional needs of the patient.
3. Form of the nutrients (complex or simple).
4. Caloric density.
5. Osmolality.
7. Route of administration.
8. Palatability if taken orally.

B. Categories of Formulas

1. Meal replacements.
2. Chemically defined

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
<th>STUDENT RESPONSIBILITIES</th>
<th>TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>III. NUTRITIONAL SUPPLEMENTS</td>
<td>Distribute Handout.</td>
<td>Review Handout.</td>
<td>15</td>
</tr>
<tr>
<td>A. Considerations When Selecting an Enteral Formula</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Nutritional needs of the patient.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Form of the nutrients (complex or simple).</td>
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<td></td>
<td></td>
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<tr>
<td>4. Caloric density.</td>
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<td></td>
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</tr>
<tr>
<td>5. Osmolality.</td>
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<tr>
<td>7. Route of administration.</td>
<td></td>
<td></td>
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<tr>
<td>8. Palatability if taken orally.</td>
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</tr>
<tr>
<td>B. Categories of Formulas</td>
<td>Provide samples for tasting.</td>
<td>Sample formulas to become familiar with the flavors.</td>
<td>15</td>
</tr>
</tbody>
</table>
## IV. TUBE FEEDING

Patients who require tube feeding are generally those who have a functioning gastrointestinal tract but are unable to orally ingest adequate amounts of nutrients to meet their needs.

### A. Indications for Tube Feeding

1. Patients who cannot eat.
   a. Comatose.
   b. Head or neck injury.
   c. Physical impairments such as fractured jaw or stroke.
   d. Hypermetabolic states from burns, sepsis, or multiple injuries.

2. Patients who will not eat.
   a. Anorexia.
   b. Depression.

### B. Administration of Tube Feedings

1. Gradual rate (continuous drip is preferred).
2. Formula at room temperature.
3. Be aware of possible complications.
<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHER RESPONSIBILITIES</th>
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</tr>
</thead>
<tbody>
<tr>
<td>V. TOTAL PARENTERAL NUTRITION (TPN)</td>
<td>Lecture.</td>
<td>Listen and take notes.</td>
<td>15</td>
</tr>
</tbody>
</table>

Parenteral nutrition involves the administration of nutrients by routes other than the GI tract. TPN should only be used if the enteral route is contraindicated.

A. Indications for TPN
   1. Abnormality of the GI tract.
   2. Preparation for surgery in nutritionally depleted and emaciated patients.
   3. After surgery or trauma, especially burns or multiple fractures with complications such as sepsis.
   4. Coma, anorexia nervosa, or refusing to eat.
   5. Supplementation of inadequate oral feedings.

B. Routes of Administration
   1. Central venous catheter.
   2. Peripheral venous infusion.
<table>
<thead>
<tr>
<th>CONTENT</th>
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</tr>
</thead>
<tbody>
<tr>
<td>C. Solutions for Parenteral Nutrition</td>
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<td></td>
</tr>
<tr>
<td>1. Amino acid mixtures.</td>
<td></td>
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<tr>
<td>2. Dextrose solutions.</td>
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<tr>
<td>3. Fats.</td>
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<tr>
<td>4. Vitamins.</td>
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<tr>
<td>5. Electrolytes and inorganic trace minerals.</td>
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<tr>
<td>IV. SUMMARY AND QUIZ</td>
<td>Distribute quiz and discuss.</td>
<td>Complete quiz and discuss.</td>
<td>15</td>
</tr>
</tbody>
</table>
MATERIALS: Paper cups and quiz.

Handout: Enteral Formulas. Tables providing nutritional information on various commercial products.

Nutritional Supplements: Samples of commercial products for tasting.

CRITIQUE:

REFERENCES:


SPECIAL NUTRITIONAL CONSIDERATIONS

1. What types of nutritional problems may occur as a consequence of the following cancer treatments?
   a. Radiation Treatment:
   b. Surgical Treatment:
   c. Chemotherapy:

2. What situations may indicate the need for tube feeding?

3. What medical conditions could necessitate nutritional support through parenteral feeding?