

Batch 95

1. SUBJECT CLASSIFICATION
 A. PRIMARY Health
 B. SECONDARY Health education and manpower--Africa
 NOO-0000-6100

2. TITLE AND SUBTITLE
 A topical outline for the teaching of family health; a life-cycle approach: medicine

3. AUTHOR(S)
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4. DOCUMENT DATE 1977
 5. NUMBER OF PAGES 260p.
 6. ARC NUMBER ARC

7. REFERENCE ORGANIZATION NAME AND ADDRESS
 N.C.

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publisher, Availability)

9. ABSTRACT

Provides guidelines for family health curriculum developers. The volume, which was prepared by the African Health Training Institutions Project at the University of North Carolina, was designed to provide a framework for teaching family health care to medical students in Africa. It opens with an explanation of the development, goals, and most effective methods for using the courses of study suggested. The remainder of the text consists of separate teaching units, or modules, each dealing with a different aspect of general medicine. The outline emphasizes a holistic, life-cycle approach which takes into account the impact of community and family on individual patients and covers the specific medical needs of patients at each stage of life, from prenatal to old age. Each module contains a brief commentary on the subject matter, a list of learning objectives, a comprehensive outline of the subject's key aspects, and appropriate bibliographical information. The volume concludes with guidelines for teaching, program evaluation suggestions, and a directory of sources for teaching aids.

10. CONTROL NUMBER 11. PRICE OF DOCUMENT

12. DESCRIPTORS 13. HOUSE NUMBER

14. CONTROL NUMBER

15. CONTROL NUMBER

16. CONTROL NUMBER

17. CONTROL NUMBER

A TOPICAL OUTLINE

FOR THE TEACHING
OF FAMILY HEALTH

MEDICINE

A TOPICAL OUTLINE FOR THE
TEACHING OF FAMILY HEALTH:

A LIFE-CYCLE APPROACH

(MEDICINE)



prepared by the
AFRICAN HEALTH TRAINING INSTITUTIONS PROJECT

1977

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
Carolina Population Center
and
The Medical School - Office of Medical Studies
Chapel Hill, N.C. 27514, U.S.A.

The publication of this volume has been made possible through the support of the United States Agency for International Development, Bureau for Population and Humanitarian Assistance, Washington, D.C.

Project No. AID-PHA/CM/C-73-33

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P R E F A C E

More than a year has passed since the Working Group on Medical Curriculum in Family Health, composed of a group of African medical educators, met in Chapel Hill to draw up the first draft of a Topical Outline based on the Life-Cycle Approach. Since then, a process of expanding their efforts, trying different formats of presentation, editing, and re-editing has consumed the time and energy of several people. The members of the Working Group and many friends and colleagues, both in Africa and elsewhere, have meanwhile anxiously awaited the finished product. Now it is ready.

This volume is designed for use by the faculty of African medical schools; a companion volume will soon be ready for the faculty of nursing and midwifery schools. Together they mark a significant venture into print of health and educational concepts and educational methods conditioned by four years of working with African health training institutions. We of the AHTIP staff hope that this volume will be as interesting and helpful to use as it has been interesting and challenging to prepare.

Raymond B. Isely, M.D., M.P.H., D.T.M.
General Editor

Chapel Hill, March 1977

CHAPTER 1

THE ORIGIN AND EVOLUTION OF THE TYPICAL OUTLINE

Kevin D. Flitz, Ph.D.

The Typical Outline for the Teaching of Family Health: Medicine has its roots in the Pan African Conference on the Teaching and Practice of Family Health held in Kampala in 1971. This event, sponsored by the Association of Medical Schools in Africa in cooperation with the Association of American Medical Colleges, spawned four regional conferences (Accra, 1973; Benghazi, 1973; Nairobi, 1973; Dakar, 1974).

The African Health Training Institutions Center (AHTIP) emerged in the midst of these regional conferences, in June, 1973. The purpose of AHTIP is to work cooperatively with faculties of health professional schools in Africa to develop and strengthen their teaching of family health. Its basic approach is to assist African medical schools, in the words of Prof. G. J. Monekosse (Kampala, 1971) to "use the most modern concepts and techniques and apply them to their local situations."

AHTIP is a project of the University of North Carolina at Chapel Hill, funded by the United States Agency for International Development. The primary components of the University which are involved in AHTIP are the Carolina Population Center and the Office of Medical Studies in the School of Medicine.

To provide resources for educational materials and curriculum building to our African colleagues, AHTIP has focused its efforts on several approaches:

1. Workshops and seminars hosted by various faculties in Africa
2. Development of self-instructional and other learning materials authored by African faculty
3. Fellowships for African faculty members to pursue short-term clinical and educational family health studies outside their own institutions

4. Publication of seminar proceedings, teaching manuals and a quarterly newsletter, RAPPORT.

During the first two years of the project, an integral part of each faculty workshop-seminar was the development of a self-instructional unit by each participant. In the first few workshops, much attention was given to the skills and techniques needed to create self-learning materials and less attention to the specific subject matter included in the units.

After several workshop-seminars, it was clear that we had accomplished the goal of providing technical assistance to faculty in the methodology of creating self-learning units. The materials, however, while often quite good as individual units, did not adequately form cohesive blocks of useable teaching materials for implementation.

Our problem seemed to be twofold:

1. We needed a better developed definition of family health.
2. We needed a framework (a curriculum) for teaching family health to medical students in Africa, partly as an aid to organizing modules of teaching materials.

Because it had been the philosophy of AHTIP that the teaching materials should be authored by African faculty members, it was logical that these two problems of definition and curriculum organization should also be dealt with by African faculty. Thus the "Curriculum Conference of December 1975" was conceived.

AHTIP staff and consultants from the Office of Medical Studies, UNC School of Medicine, agreed that the role of AHTIP staff in the Curriculum Conference should be to facilitate the development of a curriculum outline, but that the content of the outline should be determined by African faculty members. It was further decided that any agreed-upon definition of family health would have its basis in the theory and practice of Community Medicine, Obstetrics/Gynecology, and Paediatrics. Invitations were thus tendered to four faculty members from each of these three disciplines. Nine African countries were represented at the conference in Chapel Hill. Twelve medical educators began with a blank sheet of paper and a framework for designing a curriculum. After 1 1/2 days, they had reached agreement on the following concept of family health:

The family, as a basic social unit, considerably influences the health of man, and because of the multiple biologic, social and economic interdependencies through which it exerts these influences, it deserves special study.

Family health has as its ultimate goal the successful adaptation of families to their total environment and the delivery of health services to the family as a unit by a team of health workers. It is concerned with the different aspects of the environment: the biologic, physical, social, and economic, taking into consideration the various types of family and the phases of family life. Thus, individual family members and their needs are considered in the light of their family roles, and full advantage is taken of the opportunities provided by the family structure for more effective promotive, preventive, and curative care.

Major family health concerns in developing countries are the reproductive process, child rearing, nutrition, infectious diseases, health education, and environmental hygiene.

The goals of family health can best be achieved by giving due consideration to the community in which the family exists, including participation of communities in the planning, implementation, and evaluation of services delivered as an essential component.

By the end of two weeks, the group had created a topical outline for the teaching of family health to medical students in Africa. (A more detailed description of this process is found in the subsequent chapter.)

This current volume is a refinement of the December 1975 efforts of the twelve African participants. Each of them has corrected and supplemented earlier drafts of the document. The editors have come to the conclusion that it is more of a topical outline than a complete curriculum, and thus the title. The task of creating a complete curriculum is left to the users of this volume.

Hopefully, the document will be helpful to you in organizing the teaching of family health to your students.

Appreciation is due to those other University of North Carolina colleagues who helped plan and execute the conference and who have contributed to this document: Ms. Marjorie Kupper, Ms. Elizabeth Edmonds, Dr. Guy Stewart, and Dr. John Noble, Dr. Catherine Taylor, Dr. Sam Putnam, Dr. Harvey Hamrick, Dr. Frank Luda, Dr. Tom Boyce, Dr. Anthony Whitehead, Dr. K. Omran and Dr. Ernest Kraybill.

Special acknowledgement is given to the AHTIP staff who have assisted with the conference logistics, the typing and the administrative concerns necessary to complete this effort: Ms. Stella Schwartz and Ms. Carolyn Edwards. Ms. Herui Rojahn, in particular, deserves a word of grateful appreciation for her care and perseverance in overseeing the publication from start to finish.

CHAPTER 3 :

DEVELOPMENT OF THE LIFE-CYCLE APPROACH
TO THE TEACHING OF FAMILY HEALTH

Frank T. Stricker, Ph.D., and Raymond L. Isely, M.D., D.T.M., M.P.H.

This chapter will describe how the concepts which gave rise to the conference discussed in the previous chapter were developed. It assumes the viewpoint of the curriculum builder: whether that person be a course instructor, a department chairman, or the person in charge of an entire institution. It poses a set of theoretical questions to which will be given general answers, followed by specific responses taken from the experience of developing the particular approach of this volume. There will thus be constructed simultaneously both a general conceptual framework for the curriculum builder in any institution, and a specific one for the Life-Cycle Approach to teaching family health.

I. A CONCEPTUAL FRAMEWORK FOR THE CURRICULUM BUILDER

A. WHAT IS A CURRICULUM?

A curriculum by definition includes two major components. The first is a set of logical and sequential educational goals. These goals are broad statements of what students are expected to achieve as a result of participation in the curriculum. They may be applied to as short a programme as a course of one term (e.g., a curriculum in paediatrics within the entire medical school programme) or to one as long as the entire preparation for a career (e.g., a four year baccalaureate programme in nursing). They serve both as a planning guide for the developers and evaluators and as a study guide for the student participants in the curriculum. The second component is a series of learning experiences through which students are helped to achieve the various goals. These activities are experiences in which students participate to various degrees. They can be courses, required or optional, taken on a group basis, or

they can be instruction organized individually. The instruction may be didactic or experiential. A curriculum, then, is composed of both the goals and the experiences of a specific instructional programme.

B. WHAT ARE THE TASKS OF THE CURRICULUM DEVELOPER?

The curriculum developer can be a single individual or a committee. One or more individuals can be responsible for presenting the curriculum or an organization can be responsible for administration of the programme, such as a Ministry of Health or Education, a dean or director of a faculty or a faculty committee on educational policy. Whoever or whatever the developer is, several responsibilities or tasks must be accomplished if a curriculum is to be useable. The first task is to select a curriculum framework, that is, some type of overriding philosophy or structure into which all the goals and experiences can be fit. A second responsibility is to determine the basic behaviors, skills, knowledge and attitudes or feelings which the programme's graduates should possess as a result of participating in the curriculum. The general outcomes of a curriculum will often be specified by some higher political authority or may be ascertained by the developer from studies of what a society or profession expects. A third responsibility is to design a series of instructional experiences or activities for students that will enable them to meet the desired outcomes. The fourth and final responsibility is to determine whether the graduates of the programme exhibit the desired behaviors or outcomes, i.e. to evaluate the students and the programme. Once the evaluation is accomplished, the faculty can certify that the students have in fact achieved a standard suitable for entry into a particular profession or occupation, and they can be graduated.

C. WHAT OPTIONS ARE AVAILABLE TO THE CURRICULUM DEVELOPER IN THE CONSTRUCTION OF A TEACHING PROGRAMME?

Decisions affecting curriculum organization are frequently made on the basis of pressure by government, by faculty groups or other influential individuals, on the basis of hunches or on the basis of expediency, instead of clear-cut theoretical considerations or assumptions. In many institutions, this manner of developing curriculum has resulted in a cafeteria array of unrelated topics through which the student is expected to proceed in a sequence determined by a faculty group. The student must sort out all the concepts and

information presented and then put it all together in some meaningful arrangement for future use. This type of curriculum development is of obviously little benefit to the student and questionable from an educational standpoint.

A framework that makes better educational sense can be developed if the needs of one of the constituent groups affected by the curriculum being developed are considered. Some of these groups are the faculty or instructors, the students, or the recipients of the services provided by the graduates.

The needs of a department or a faculty lead a developer to the familiar subject-oriented curriculum from which most instructional programmes have evolved and which characterizes the majority of programmes today. The assumption made is that because the major subjects, such as anatomy and psychiatry, provide a logical and efficient way of organizing existing and new knowledge, they constitute, therefore, an effective way of learning it. A curriculum so organized is characterized by compartmentalization of knowledge and resources, by deficient or absent communication among the individuals responsible for the various subjects and by an overwhelming assortment of material for the student to memorize, some of which is redundant. The advantage of such a curriculum is that it is more easily planned and taught than most other approaches, simply because of the common discipline and the proximity of the individuals responsible for teaching. It is, after all, much easier to discuss curriculum matters with one's peers than with those of different disciplines. This approach thus provides a more efficient structure for development and presentation of facts and preserves faculty time and effort.

The needs of the students form another possible guide for developing curriculum. For example, students frequently have problems in identifying and integrating the important concepts presented in a compartmentalized curricular approach. Interdisciplinary or interdepartmental approaches have been suggested as solutions. Several specific items can be combined in a discussion of larger unifying principles, problems or themes. Such an approach helps to break down the logical fences that specialists have, for convenience, built up between their subject areas and to stimulate the unification of knowledge. For example, medical students frequently have difficulty relating a clinical problem or entity to its relevant factual material from the basic sciences.

A curriculum organization designed to address this problem may be organized on the basis of organ systems, wherein all aspects of a given system - the anatomy, physiology, pharmacology, pathology, and therapeutics - are taught as a single unit. Another organizational framework might be furnished by clinical problems, e.g. hypertension, diabetes, or respiratory tract infections.

A curriculum could also be based on the needs of a societal group such as a defined community or the recipients of health care. A curriculum of this type would be organized around the functions, activities, events or problems which constitute the significant features of life in a culture or society. This organizational pattern would be responding to human needs rather than to the needs of a particular campus group, i.e. faculty or students. In addition to forming a basis for the integration of knowledge, such an organization would be of value in outlining a practitioner's responsibilities. Thus a patterned relationship between the curriculum, the skills of the practitioner and the lives of the practitioner's constituents would be provided. A combination of societal needs, learner's needs, and the life situations of the recipients of health care would be emphasized. A curriculum of this nature, however, is difficult to organize and even more difficult to implement. An example is found in a curriculum based on the life-cycle or life-events of the development of an individual or a family. This approach is the one of this volume.

D. ARE THERE CRITERIA THAT CAN GUIDE THE CURRICULUM BUILDER'S TASK OR BY WHICH A COMPLETED CURRICULUM PROPOSAL CAN BE ASSESSED?

If a set of standards or guidelines is used by the curriculum builder as the curriculum is developed, then it is likely that a more logical and useable curriculum will result. The following list includes several categories that constitute a set of criteria.

1. SCOPE

A curriculum should be limited to a specific area of concern rather than a large amorphous body of knowledge that does not appear to have inner connections. It should present concepts and content which are directly related to that area of concern. If concepts happen to be interrelated, the connections should be identified so that the students will grasp them.

2. COMPREHENSIVENESS

A curriculum should cover all the relevant topics within the specific area chosen. There will often be too much material to include in any one curriculum and the developer will have to establish priorities for selecting the most important topics. When that task is undertaken, however, it should be done empirically to assure the best choices.

3. SEQUENCE

The curriculum should be arranged in some logical order to facilitate meaningful learning. Some possibilities are a world-related sequence, i.e. the way phenomena exist or occur naturally in the world either spatially, temporally or physically; a concept-related sequence, i.e. the way contents relate conceptually; inquiry-related sequence, i.e. a sequence derived from the nature of generating, discovering, or verifying knowledge; learning-related, i.e. a sequence derived from the psychology of learning or the way individuals learn; and utilization-related, i.e. a sequence based on the way information or concepts are used either procedurally or according to anticipated frequency of use.

4. CUMULATIVE LEARNING

The curriculum should be built up in a meaningful way, such as proceeding from the acquisition of factual knowledge to the application of concepts, or from the aetiology of a condition to its treatment and prevention. What is expected of students should also increase in difficulty and intensity as the programme progresses.

5. INTEGRATION

A curriculum should show how facts and principles from one topic or area of concern relate to elements of other topics within the scope of the curriculum.

6. FLEXIBILITY

Curricula must often be adaptable, i.e. useable in different settings by different instructors or by different students. A curriculum designed to be used in several different institutions should be general and not too specific. To assure its flexibility it should be tested in a variety of locations and should be found useable in those settings by different instructors. Not all curricula will necessarily have the same degree of flexibility but in some cases it will be an important criterion.

7. UTILITY

The curriculum should be practical and useable. It should undergo constant testing. Parts found unuseable should be revised or discarded.

A curriculum which receives a systematic evaluation based on the foregoing criteria will be better designed than one that does not. The reviewer or developer, of course, will make individual decisions as to whether the curriculum meets his standards in these criteria, but the criteria nonetheless provide a guide for such decisions.

E. IS THERE AN ORGANIZATIONAL STRUCTURE FROM WHICH A CURRICULUM CAN BE DEVELOPED?

An organizational structure provides a format by which an instructor or a committee can develop a curriculum. It aids in assuring that all relevant areas are considered for inclusion and in a logical sequence. One such structure is a two-dimensional grid or matrix which provides an interrelated system of premises or guidelines for making the various curriculum-related decisions about objectives, topic headings, content, learning experiences and evaluation. The matrix has two principal components. One is the vertical axis or ordinate which details curricular goals or outcomes expressed as the broad skills or abilities which a competent health practitioner should exhibit at the conclusion of an instructional programme. The horizontal axis or abscissa is labelled "curriculum organization". It corresponds to the curriculum framework referred to earlier, in which the organizational elements are the needs of one or more of the constituent

groups. If the axes are extended, both vertically from the elements in the curriculum organization, and horizontally from the curricular goals, these lines will bisect each other, forming cells which provide an additional focus (Figure 1).

Figure 1:

A HYPOTHETICAL CURRICULUM
PLANNING MATRIX

Curricular Goals	Curriculum Organization						
	Elements based on societal needs, for example						
	A	B	C	D	E	F	C etc.
1							
2							
3							
4							
5							
6							

II. DEVELOPMENT OF THE LIFE-CYCLE APPROACH

A. PRELIMINARY CONSIDERATIONS

The first problem encountered was to devise a working concept of family health to guide curriculum building efforts. It needed to be made quite clear that family health does not mean ipso facto family planning or population control. It is not a euphemistic way of talking about birth control. Family health, rather, refers to the health status of the family, however "family" may be defined. Whether the family is made up of four people or an entire hamlet of fifty or sixty people, then, is immaterial. The health status of that social unit is what concerns family health.

The Working Group developed a concept of family health which embodies the concerns expressed above but also includes emphasis on the family as the unit of practice for health services and on the community context where the health of the family is determined. Family health is defined as successful adaptation to the total environment. The statement then spells out the major family health concerns: the reproductive process, child rearing, nutrition, infectious diseases, health education, and environmental hygiene.

The statement of the conference serves as a good introduction to the problems faced by the curriculum builder in designing a programme for teaching family health in African health science institutions. What are these problems?

1. The programme must be broad enough to capture all the important aspects of family health. At minimum it should include family sociology, family planning, maternal and child health, nutrition, major diseases and accidents, occupational hazards, and some elements of community health. It should emphasize the major types of intervention made by health personnel, both curative and preventive.
2. At the same time it must be focused enough to avoid encompassing all of the health sciences. Criteria need to be developed for delimiting what is important to family health and what is less important.
3. The programme should take cognizance of the cultural context in which family health care takes place. Organized systems of belief and practice, most of them family-centered, already exist. These must be given serious consideration.

4. A serious attempt should be made to emphasize the practice of family health more than a theory. As important as proper theoretical base is, the goal of teaching family health is to equip students to practise it. The programme must care for this delicate balance between understanding and skill in accordance with professional role expectations that are nationally defined.
5. The programme must seek ways of linking the teaching of family health, paediatrics, obstetrics and gynaecology, internal medicine and other disciplines without attempting to supplant these programmes.
6. Opportunity should be given for the interrelated problems of fertility regulation, control of infections, and nutrition to emerge as priorities.

Taking a general concept of curriculum and combining it with the specific needs of a family health curriculum, the curriculum builder, then, has his task - the construction of a teaching programme. The Life-Cycle Approach represents the results of such an effort.

B. THE LIFE-CYCLE MATRIX

1. THE CURRICULAR GOALS OR OUTCOMES

The following abilities were chosen. They are ranged along the vertical side of the matrix (see Fig. 1):

1. Interpret the given culture.
2. Describe normal structure and function, whether of an individual, a family, or a community.
3. Discuss important deviations from normal.
4. Make appropriate diagnoses.
5. Describe and apply appropriate therapeutic and preventive measures.
6. Manage health services.
7. Educate and motivate colleagues and population served.
8. Be a consultant to others.
9. Function with limited resources.
10. Perform simple research.
11. See health problems in a total environment.
12. Allocate personal time effectively
13. Collaborate with other health workers.

14. Continue a process of self-instruction.
15. Behave in a professionally ethical manner.

2. THE CONSTITUENT GROUP

The group chosen in this approach was composed of the individuals, families and communities whom the practitioners will serve. The events and processes in the life of the family serve as delimiting factors. Health care needs related to these events and processes were chosen as the specific foci. The rationale for this choice is discussed in C. below. What are the components of the life-cycle? They range from conception to old age:

- c. Fertility and Infertility (incl. family planning and birth control)
- d. Pregnancy, Birth and Puerperium
- e. The Neonatal Period (0-28 days)
- f. The Postneonatal Period (29 days - 12 months)
- g. Pre-school Age (13 months - 4 years)
- h. The School Age Child (5 - 12 years)
- i. Puberty and Adolescence (13 - 17 years)
- j. Adulthood (18 - 44 years)
- k. Old Age (45 years and older)

Two additional areas which could not be classified as either events or processes in the cycle were thought necessary to include, to understand the cycle. These areas provide the student with the context within which to view the cycle. They are:

- a. The Community
- b. Family Structures and Roles

Rosa (1972) in an unpublished paper defines periods of the life cycle similar to c. - k. above and connects them by means of "transitional events". For example, weaning is the transitional event between the postneonatal period and pre-school age, and puberty the transitional event between school age and adolescence. His reasoning is obviously very similar to that of this volume.

C. RATIONALE FOR THE LIFE-CYCLE APPROACH

How does this approach meet the problems outlined in Section B.L.?

1. It offers a framework for orienting teaching to the health needs of the people.

The decision to use the so-called Life-Cycle Approach to the teaching of family health was influenced first of all by the recent movement in medical and nursing education worldwide, toward more relevance in health training programmes. For the first time in modern history, medical, nursing, and midwifery schools have taken up the issues of equal access to medical care, distribution of health manpower, and cost-benefit evaluations of health programmes. They have assumed responsibility, not just for academic treatment of these issues but also for seeking solutions.

In the United States the number of medical students remained relatively stationary between 1945 and 1965. The number of medical schools increased only slightly during those years. The study of medicine as late as the early 1960's was a largely academic pursuit with practice confined to the wards and clinics, mostly the wards of large university teaching hospitals. Nearly 70 % of medical school graduates decided to specialize. Community practice, public health, and preventive medicine took decidedly low positions in the hierarchy of specialties. The ideal of the average medical student of the post-war era and until 1965 was the professor with a long white coat with one foot in the laboratory and the other in the ward.

Nursing education during this period was mostly hospital-centered. Where it was not operated by the hospital, it still trained nurses for administrative and teaching posts in hospital systems. Relatively few nurses entered public health or community-focused areas.

The situation in the United Kingdom during this period was much the same (Mechanic: 1968: 325-364). The nationalization of the health services in 1948 had done little to alter the ever-widening gap between the general practitioner who practised in the community without hospital privileges and the hospital consultant who centered his attention on acute, catastrophic illness. In an even greater isolation were the local authorities who managed preventive, midwifery, and other peripheral services.

Like the United States, British nursing education tended to be hospital-

based and hospital-focused.

Medical and nursing education in much of the rest of the world, including Africa and the People's Republic of China, had been influenced by the patterns established in the United States and the United Kingdom. Much of what was accomplished from 1945 - 1965 was of enormous benefit. The fault lay in the failure either to make the advances in medicine and nursing accessible to the mass of the population or to lay proper stress on the social and economic aspects of health and disease. Events since 1965 have brought about some needed changes.

The most remarkable change in medical and nursing education has taken place in China. Since the Cultural Revolution of 1968-69 the curricula have been shortened, more time has been given to field training in rural areas in keeping with the national policy, and most important, the base of recruitment (Horn: 1969: 124-146) has been considerably broadened. With a firm commitment to serve the rural areas as a priority, to integrate theory and practice, and to infuse the health delivery system with political ideology, working and living with the peasant and worker populations have been deemed as important as theoretical knowledge of medicine (Sidel and Sidel: 1973).

Of the African countries to embark on similar policies Tanzania and Mali have made the most notable progress, but awareness of the Chinese example influences policy-making in many other African countries.

In the United States and the United Kingdom change has also been taking place but more slowly. A rise of social consciousness among students in the mid-1960's led to many action-programmes directed to underserved segments of the population in the United States. Government policy changes meanwhile released hitherto unavailable funds to medical schools to launch community health action programmes as vehicles of service and education. Departments of community medicine arose, followed by departments of family practice, and federal funds began to determine recruitment policies and distribution of physicians.

In the United Kingdom there has been a similar movement to create departments of social and preventive medicine or community medicine and to try to direct students to community practice and stem the tide of emigration of British physicians. One proposal which seems to have found favour is to develop the community practitioner as an age group specialist: for chil-

dren, for women of child-bearing age, for adult males 20 - 65, and for the elderly. Educational programmes would center on the health needs of particular age groups, which tend to be rather homogeneous.

The life-cycle idea is first and foremost, then, a response to the need for a people-oriented approach to training health personnel. Because it focuses on families and what happens to them as they pass through the events and processes of life and offers students an opportunity to look at health and illness in the people's perspective, it bears a distinct advantage over a subject-oriented or an organ systems-oriented approach. It thus helps to meet the fourth need expressed in Section II.A: to train health workers capable of service to families.

2. It makes a serious attempt at orienting medical care to cultural values. Any medical or nursing education programme must in the future try to integrate traditional cultural values into the curriculum. Much of the medical, nursing and midwifery care in African countries is still carried on by shamans, traditional healers, and village midwives. Only an estimated 15 - 20 % of the rural populations ever use modern medical facilities. 70 - 80 % of African populations are rural. At minimum, students should be permitted to value and understand their own cultural backgrounds.

Most cultural belief systems attempt to interpret to people the events and processes of life, and practices are developed to help people cope with them. What are these events and processes? Conception, pregnancy, birth, breast-feeding, weaning, growth, maturation, psycho-motor development, puberty, circumcision, adolescence, marriage, parenthood, disease, old age, and death are the important ones for most ethnic groups. These events and processes are the same ones chosen by the Life-Cycle Approach to teach family health to medical and nursing students.

There are two main reasons for choosing the Life-Cycle Approach, they:

1. Its focus on people and how they experience health and disease in families and communities.
2. Its bias toward organizing the teaching of family health in the same way traditional beliefs and practices are oriented: around the events and processes of life.

Thus, needs 3. and 4. in Section II.A. can be met. But what of the other needs? It is hypothesized, but remains to be verified, that the Life-Cycle Approach can meet them, too, namely:

Need 1: Coverage of the entirety of the subject of family health
It is reasoned that a conception-to-old-age-approach cannot fail to cover every important point.

Need 2: A focus on what is important
The events and processes chosen are those deemed important by the cultures of African peoples. They can serve adequately as nodal points around which to concentrate teaching emphases.

Need 5: Integration of various disciplines
The treatment of the events and processes of life almost without exception requires the efforts of more than one department. For example, is birth the exclusive province of obstetrics or growth of paediatrics, when these phenomena are seen in their family context?

Need 6: Emphasis on the interrelatedness of fertility regulation, nutrition, and control of infection
This need should be met as the teaching focuses on the family and what is happening to the people rather than the disease and what is happening to the organism or the tumor. In the arena of caring for families these three big concerns will have a decided interplay.

All of this reasoning, however, requires validation. The next section will discuss a first attempt at validating these suppositions: the design of a topical outline.

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CHAPTER 3:

A GUIDE TO USING THE TOPICAL OUTLINE

Raymond E. Leely, M.D., D.T.M., M.P.H.

I. CONTEXT

The aim of this book is to help the instructor and the curriculum planner in a variety of settings to formulate a programme for the teaching of family health. Various institutional and other constraints will determine the kind of setting in which this volume will be used. These constraints will also determine the commitments which curriculum planners can make to change toward an increased family and community focus in their teaching.

At the level of an individual course, the change called for will be in the content and teaching methods. Information from the chapters to follow will be useful in making that change.

At a more complex level, a department chairman may need the cooperation of several faculty members to change the departmental teaching programme. Use of the suggestions in this book may require a philosophic as well as a methodologic commitment.

At the institutional level, family health can be taught only by an integrated approach, requiring the cooperation of several departments. The degree of necessary commitment to both a change of philosophy and of methods of teaching will obviously be the greatest in this setting.

Whatever his/her setting, the curriculum planner who is interested in the teaching of family health should find this Topical Outline of interest.

II. TYPES OF INFORMATION SUPPLIED

The information included is of four different types, covered in the next three chapters:

A. AN OUTLINE IN DETAIL OF EACH OF THE ELEVEN ITEMS IN THE TOPICAL OUTLINE (CHAPTER 4)

Topics A and B cover background material on community and family; C through K correspond to stages in the family life-cycle from conception to old age. Each topic is organized into a teaching module which consists of:

1. A RATIONALE which points out the relevance of the content for the medical students and delineates the scope of information covered;
2. A list of OVERALL BROAD LEARNING OBJECTIVES, both cognitive, (information acquisition) and behavioural (skills development)
3. A list of SPECIFIC OBJECTIVES, which are grouped by sections corresponding to aspects of the overall topic of the module. In general there are five sections for each module:
 - a. Cultural aspects - where the belief and practice systems related to the subject are discussed.
 - b. Aspects of normal structure and function whether of the community, the family at a particular stage of the life-cycle, or an individual.
 - c. Deviations from normal - the important problems of a health, social or psychologic nature occurring at a stage of the life-cycle.
 - d. Diagnostic measures useful for the problems occurring at a stage of the life-cycle.
 - e. Medical intervention - the important types of clinical and public health treatments appropriate to the problems raised under the topic.
4. A detailed outline of ORGANIZATION OF CONTENT for each section of each module, in effect the scope of what should be taught under each

topic in the outline.

5. A BIBLIOGRAPHY, useful for planning course content, is to be found at the end of each module. The list includes self-instructional units from the AHTIP library and books judged helpful by AHTIP staff and African medical educators.

B. SELECTING TEACHING METHODS (CHAPTER 5)

Criteria for selecting teaching methods are presented, with guidelines as to how to choose from among multiple approaches to subject matter, objectives, student levels, and available resources.

C. EVALUATING STUDENT LEARNING (CHAPTER 6)

Different ways of evaluating student learning and how to select them appropriately are shown.

III. HOW TO USE THE INFORMATION

The objectives of curriculum planning in an individual institution will determine how the information of the next several chapters will be used. Planning objectives may include one or more of the following:

- A. TO DESIGN A COURSE, e.g. a course in labour and delivery.
- B. TO PLAN OR CHANGE THE PROGRAMME OF A DEPARTMENT, e.g. obstetrics and gynaecology.
- C. TO BUILD AN INSTITUTION-WIDE CURRICULUM, e.g. a medical curriculum focused on the family as the unit of practice and the community as the setting.

A. THE DESIGN OF A COURSE

In the first example, the curriculum planner is a course instructor who wants to improve his/her teaching of labour and delivery, i.e., aspects of the birth event in the family life-cycle. Let us assume that the instructor wishes to teach labour and delivery with a focus on family and community.

The instructor will first turn to Module D, entitled "Pregnancy, Birth and Puerperium" and read the rationale and the overall objectives, paying especially close attention to those parts dealing with labour and delivery. He would compare these overall objectives with his own if he has developed them. If not, he would take the relevant objectives from the module and adapt them to his own course, perhaps later adding others of his own. Then he would turn to the specific objectives and go through the same process.

Once he was comfortable with both the overall and specific objectives, he would proceed to the organization of content, reviewing each of the five sections for items dealing with labour and delivery. Among these would be:

- Section I A and B, concerning beliefs and practices and relations with traditional birth attendants
- Section II C, on normal labour and delivery
- Section III Many of the problems discussed pertain to labour and delivery
- Section IV A, B, on diagnostic measures used during labour
- Section V B, on management of labour both normal and complicated.

The instructor would compare the resulting outline with his own, make the necessary modifications and develop detailed notes on those sections not adequately covered. In doing so, he will make use of the references found at the end of the module. He may want to order some of the self-instructional units. To help him in this decision, there is available from AHTIP an annotated catalogue of all the completed self-instructional units in the AHTIP library. Before deciding on self-instruction, he should also refer to the discussion of various teaching methods in Chapter 5. He may wish to supplement lecture and self-instruction with group discussion, clinical

experience, slide-tape presentations, etc.

As for the books and other references, he may want to purchase some or borrow others from the library of his institution, depending on their usefulness and availability.

Finally, he would turn to Chapter 6, where the evaluation of student learning is discussed. Using the criteria developed there for various evaluation methods, he would choose those that seem most appropriate for his particular circumstances.

B. PLANNING A DEPARTMENTAL PROGRAMME

In this example, a department of obstetrics and gynaecology in a medical school seeks to use the Topical Outline to improve the teaching programme. An approach similar to that of the first example would be useful. First, the department chairman would review the rationales and overall objectives for each module which appears relevant to the departmental programme. Modules A, B, C, D, E, I and J all contain material relevant to obstetrics and gynaecology. The chairman would compare the rationales and overall objectives of these seven modules with those of the department and make necessary modification in both to arrive at general agreement. For example, the departmental programme may not include any teaching of community or family studies, so that the material in modules A and B would have to be added. On the other hand, the departmental programme on pregnancy, birth and puerperium may be more complete than module D and would need no modification. From modules E (neonatal period), I (puberty) and J (parenthood), the chairman may want to select only certain parts to supplement existing teaching.

When agreement has been reached on rationales and overall objectives, the department chairman would then review the specific objectives and organization of content of each module section by section. He may wish to assign this review to a faculty committee. During the review, the objectives and content would be compared with existing courses and modifications made in the programme to correct deficiencies and to expand inadequately covered subjects.

After these modifications had been made, lecture notes could be developed, self-instructional units written, clinical experiences planned

and learning sequences designed using the references and guidelines contained in this book (see end of each module in Chapter 4 and Chapters 5 and 6).

C. BUILDING A FAMILY HEALTH CURRICULUM IN A MEDICAL SCHOOL

In this case, the faculty would need to deal with the Topical Outline as a whole before individual modules. It would be necessary to come to terms with not only the material covered in Chapter 4, but also the philosophical bases discussed in Chapter 2, since these latter determine the way in which the outline is organized.

If agreement can be reached, then the next step is to determine how the modules should be taught; however, the details of content may be modified by those who teach it. It may be that a series of seminars on family health held monthly throughout the year will provide the best format. Individual departments would make their contributions as appropriate. This approach would be a modest attempt at change toward a more family-focused teaching programme. Adding planned clinical experiences, case conferences, field activities, projects, and papers in which departments joined in collaborative efforts would advance further the process of change.

The process may be greatly helped by the formation of an institution-wide committee on the teaching of family health, which would study the recommendations of this Topical Outline, modify them to suit their own circumstances, plan teaching programmes, prepare and order materials and design evaluation schemes accordingly.

Whatever the position or point of view of the curriculum planner reading this volume, some of the information in the ensuing chapters will be useful to him. Whether it be objectives, content, references, teaching methods, evaluation techniques, combinations of these or all of them, the hope is that this Topical Outline will find its way into multiple curriculum and course planning activities in African schools of medicine.

CHAPTER 4:
TEACHING MODULES FOR FAMILY HEALTH:
THE TOPICAL OUTLINE

Raymond B. Isely, M.D., D.T.M., M.P.H., editor

MODULE A:

THE COMMUNITY

1. RATIONALE

The focus of the Life-Cycle Approach to teaching medicine is on the family and its dynamic cycle of life events and processes, but families if must be remembered, exist in the larger context of communities or defined population groups or sub-cultures of larger cultural groupings. These communities may coincide with hamlets, villages, towns, neighbourhoods, districts, provinces, or even entire nations. Many aspects of health are of primary concern to individual families. Many others are dependent upon the resources of the community and are more appropriately discussed in this context. Included among these aspects are food supplies, waste disposal, safe water, access to health facilities, employment, and education. Other important factors that affect the functioning of a community and therefore the health of its families are the quality of its leadership, the size of its population, its politics, its economics, and its cultural beliefs and practices.

For the medical student, it may be advantageous to compare the community with a patient seeking care (preventive or curative). Before deciding what treatment is needed, the physician makes a provisional diagnosis to which the patient gives his or her assent. The same principle holds for health activities in a community. First, an assessment of the nature and resources of the community, to which the community itself contributes, must be conducted. Then presented problems should be analyzed before decisions are made on courses of action.

As future health leaders, medical students will need to develop the skills required for service as community health organizers and resource people. Community health planning is one important skill to be learned. Another is the capacity to foster the development of the independence of the community both in planning for health and in using internal and external resources. There is a juncture in the evolving relationship between a physician and a community where the focus shifts from the physician's role as an organizer

to his or her role as a resource person, whether for technical assistance, care for the sick, or help with organizational problems.

It is important that medical students understand these roles and the change process in the midst of which they play them, so that in the future they can function as managers of health services, supervisors and trainers of community health workers, and as resource persons to communities themselves - in short, so that they can make a significant contribution to national and local development.

II. OVERALL OBJECTIVES

For a given community region, or an entire country, the graduating medical student should be able to:

1. Determine what information is needed to assess both the health needs and resources of a community.
2. Select sources of the above information.
3. Develop or select tools to collect information, including the use of the unstructured interview and strategies for approaching community leaders.
4. Use appropriate tools in a survey.
5. List and discuss types of community resources.
6. List and discuss types of community problems.
7. Analyze information gathered in survey.
8. Interpret information gathered in survey to community leaders.
9. Synthesize information with the views of community leaders and decide on joint priorities.
10. Engage in planning for meeting priority community health needs.
11. Coordinate efforts with other field workers and community leaders.
12. Develop a plan for organizing community health services which maximize available resources.
13. Serve as a resource person to overall community development programmes.
14. Plan and implement a manpower training programme for a community health programme.

Section I: Information Needed in the Assessment of the Health Assets and Needs of a Community. (Relate to a particular community as an example.)

Specific Objectives:

1. Describe the ethnic makeup of the geographic area in question.
2. Explain the land tenure system and how it affects population mobility.
3. List the main aspects of customs surrounding the marital relationship.
4. List dietary habits and taboos and point out those with greatest impact on health.
5. Describe the main traditional healers of the area and give types, their utilisation by the population and their reputed and real effectiveness and roles.
6. Recount the basic belief system supporting their practice.
7. Develop a plan for working with them.
8. Take the prevalent belief and attitudinal system of the area and relate it to at least four health issues, such as infant survival, venereal disease, teenage pregnancy, mental illness.

Organization of Content

- A. Ethnic distribution of the area
 1. Ancestry, history
 2. Clan and sub-clan make-up
 3. Land tenure codes and practices
- B. Marital customs
 1. Roles of husbands and wives
 2. Conjugal mobility
 3. Traditional methods of birth control
- C. Dietary habits and taboos
 1. For the pregnant woman
 2. For children at various ages or according to sex
 3. How to assess impact of these customs on health

Section I: Information Needed in the Assessment of the Health Assets and Needs
of a Community. (Relate to a particular community as an example.)
Organization of Content - cont...

- D. Traditional healing
 - 1. Various practitioner-types
 - 2. Beliefs supporting types
 - 3. Utilization patterns
 - 4. Effectiveness - reputed and real
 - 5. Relation to scientific medicine
 - 6. Roles in the social order
- E. Cultural attitudes and practices toward issues in health and disease
 - e.g. 1. Sexual behaviour
 - 2. Venereal disease
 - 3. Teenage pregnancy
 - 4. Prevention of disease
 - 5. Infant death

Section II: Community Resources (using a particular community as an example)

Specific Objectives:

1. Describe the major demographic variables.
2. Explain the major climatic characteristics and their importance on health.
3. Describe the food supply chain of the community.
4. Describe the biologic environment in terms of insect, bacterial, fungal, and animal parasites.
5. Explain the leadership structure and decision-making process.
6. Describe factors which influence leadership selection and decision making.
7. Tell how decisions are communicated within the community.
8. Estimate the influence of political factors on decision-making.
9. Describe how the factors in objectives 5 - 8 might operate in the situation of a community health issue such as potable water.
10. Give in a few words an analysis of the main parameters of the economy.
11. Estimate the state of the economy in dynamic terms.
12. Describe the harvest and income cycle.
13. Explain how resources are owned, distributed, and used.
14. List available health services and at least four of nine other social services.

Organization of Content

- A. Demographic
 1. Total population of the community
 2. Breakdown by age, sex, ethnic group, religion, school enrollment
 3. Birth and death rates
 4. Fertility rates
 5. Migration rates and types
- B. Climatic and physical conditions
 1. Soil types and distribution
 2. Rainfall patterns
 3. Rivers and other water supplies: springs, wells, ponds, small streams
 4. Roads and other communication links

Section II: Community Resources (using a particular community as an example)
Organization of Content - cont...

C. Biologic conditions

1. Food supply
 - a. Main subsistence crops and their seasonality
 - b. Range of production
 - c. Storage
 - d. Transport
 - e. Import needs
 - f. Exports: internal and external
2. Insects of importance to health
3. Domestic animals
4. Other animals of nutritional significance
5. Potable water
6. Waste disposal

D. Social structure

1. Leadership, authority
 - a. Formal
 - b. Informal
2. How leaders are selected
3. How leaders are organized into networks
4. Inheritance factors
5. Decision-making patterns
6. Communication patterns
7. Political structure and stability
8. Caste system
9. Position of women
10. Illustration of how the social structure might operate to influence the handling of a health-related issue by the community

Section II: Community Resources (using a particular community as an example)
Organization of Content - cont...

E. Economy

1. Basic: cash and subsistence crops, domestic animals, minerals
2. State of growth, magnitude
3. Harvest cycle
4. Land tenure system
 - a. Practices
 - b. Effects on population mobility
5. Ownership and distribution of resources
6. Utilization of resources
7. Occupational groups

F. Community services

1. Health
 - a. Fixed services
 - b. Mobile services
 - c. Manpower-types, number, distribution
2. Family planning
3. Education
4. Recreation
5. Safety
6. Agricultural extension
7. Environmental protection
8. Transportation
9. Communications
10. Religion

Section III: Community Problems (using a particular community region or country as an example)

Specific Objectives:

1. Discuss any fertility-related problems.
2. Describe the effects of migration patterns on the health of a community.
3. Estimate the state of population growth.
4. Discuss the main causes of morbidity and mortality.
5. Describe the nutritional needs of the population.
6. List the main occupational hazards.
7. List any four other problems of a physical/biologic nature and relate them to health status.
8. List the main economic problems.
9. Describe the problems arising from relationships between groups or individuals.
10. Discuss any problems related to education.
11. Discuss problems related to utilization of health services.

Organization of Content

A. Demographic

1. High fertility
2. Infertility and subfertility
3. Mortality rates: age- or sex-specific
4. Excessive migrations such as the rural exodus of adult male work force
5. Movements of young women between rural and urban areas
6. Percentage of population in independent age groups under 15 and over 50
7. Problematic population trends resulting from any of the above

Section III: Community Problems (using a particular community region or country
as an example)

Organization of Content - cont...

B. Physical/Biologic

1. Climatic problems
 - a. Drought
 - b. Floods
2. Food shortages
 - a. Types
 - b. Seasonality
 - c. Effects, especially on children under 5
3. Main causes of mortality
4. Morbidity and main causes
5. Occupational hazards
6. Poor environmental hygiene: waste disposal, contamination of air or water
7. Inadequate water supply
8. Housing problems
9. Insect vectors
10. Rodent and insect destroyers of food supply

C. Socioeconomic

1. Unemployment
2. Employment of women
3. Inadequate transportation
4. Lack of communication links
5. Indebtedness
6. High cost of medical care
7. Inadequate educational facilities
8. Poor utilization of health services
9. Dissension and division
10. Alienation of groups viz. youth, women, certain clans or religious groups

Section IV: Methods of Community Assessment

Specific Objectives:

1. Determine what information is needed to assess any community.
2. Design a community survey to obtain information needed and manage it.
3. Train personnel to do a survey.
4. Design survey instruments and use them.
5. Plan a sampling scheme.
6. Perform the analysis of information collected.
7. Write up and present data.

Organization of Content

- A. Summary of Information Needed (Sections I-III)
- B. Interviews with Community leaders and heads of clans and families
 1. Types
 - a. Structured
 - b. Unstructured
 2. Techniques
- C. Ethnographic methods
- D. Statistical approaches
 1. Sampling theory
 - a. Simple random sampling
 - b. Stratified sampling
 - c. Cluster sampling
 - d. Systematic sampling
 2. Population parameters and sample statistics
 3. Planning sample size
 - a. Precision considerations
 - b. Cost considerations
 4. Survey design
 - a. Elimination of sampling error
 - b. Elimination of non sampling error
 - c. Instrument design
 - d. Training of workers
 5. Survey management

Section IV: Methods of Community Assessment
Organization of Content - cont...

- D. 6. Analytic techniques
 - a. Frequency data
 - b. Continuous data
 - c. Measures of central tendency
 - d. Measures of variation
 - e. Probability measures
 - f. Normal distribution
 - g. Other important distributions
 - h. Point and interval estimation
 - i. Hypothesis testing
 - j. Regression analysis and analysis of variance
- 7. Tabulation
- 8. Report and proposal writing
- 9. Vital statistics
- E. Epidemiologic approaches
 - 1. Incidence
 - 2. Prevalence
 - 3. Two-way tables
 - 4. Control tables
 - 5. Survey design
 - a. Cohort
 - b. Cross-sectional
 - c. Case study
 - d. Advantages and disadvantages of each
 - 6. Surveillance techniques
- F. How to analyze pertinent literature

Section V: Basic Methods of Community Intervention: Community Organization and Planning

Specific Objectives:

1. Approach a community and its leaders about health matters.
2. Assist a community to select priority health-related problems for intervention.
3. Inform a community about selected problems and their solution.
4. Assist a community in planning approaches to problems.
5. Serve as a resource person to community leaders in planning and execution of approaches.

Organization of Content:

- A. Model approaches to communities of various types and sizes
 1. Approaching the leadership network
 2. Using the existing communication patterns
 3. Explaining purposes and objectives
 4. Eliciting community views of health-related problems
- B. Synthesis of data emanating from community surveys
- C. Principles of leadership development
- D. Interpretation of data from surveys to community leaders
- E. Selection of priorities
 1. Epidemiologic considerations
 2. Economic considerations
 3. Manpower considerations
- F. The planning process
 1. Setting objectives
 2. Matching resources (financial, material and human) to what is needed to meet objectives
 3. Soliciting assistance from government and other sources as appropriate
 4. Planning activities, delegating responsibility and setting target times

Section V: Basic Methods of Community Intervention: Community Organization and
Planning

Organization of Content - cont...

- F. 5. Evaluating progress
- 6. Evaluating outcomes

Section VI: Specific Community Intervention Measures

Specific Objectives:

1. Plan, organize, evaluate and manage maternal and child health services, including school health services and nutrition intervention.
2. Plan, organize, evaluate and manage fertility reassuring potable water.
3. Advise on environmental sanitation services including assuring potable water.
4. Serve as a health consultant to rural and urban community development schemes.
5. Serve as a health consultant to agricultural extension services.

Organization of Content:

- A. Maternal and child health services
 1. Services to the pregnant woman including high-risk women
 2. Maternity services
 - a. Labour
 - b. Newborn services, including high-risk infants
 3. Services to the non-pregnant woman
 4. Services to pre-school "under five" children
 5. School health services
 6. Issues in planning and organizing MCH services
 - a. Distribution
 - b. Mobile vs. fixed
 - c. Cost
 - d. Integration of family planning and immunization services
 7. Nutritional aspects of MCH services
 8. Manpower needs in MCH services
- B. Family Planning Services (See Module C)
 1. Principles of planning and organizing
 2. Manpower considerations
 3. Integration with MCH services

Section VI: Specific Community Intervention Measures
Organization of Content - cont...

- C. Environmental sanitation
 - 1. Waste disposal measures
 - 2. Potable water
 - 3. Clean air
 - 4. Housing
 - 5. Vector control
 - 6. Issues in environmental sanitation in rural areas
 - a. Cost
 - b. Self-help
 - c. Cultural barriers
 - d. Back-up technical assistance
- D. Rural development
 - 1. Integrated approaches: give examples
 - 2. Role of health personnel, i.e., physicians, nurses, sanitarians
 - 3. Health aspects of rural development schemes: consider advantages and disadvantages
 - a. Roads
 - b. Dams and irrigation
 - c. Large-scale agricultural production of cash crops
- E. Agricultural extension
 - 1. Health aspects of:
 - a. Crop production
 - b. Land reforms
 - c. Animal husbandry
 - e.g. . Occupational diseases
 - . Nutritional benefits
 - d. Erosion control
 - e. Fish cultures
 - 2. How to cooperate with agricultural extension workers

Section VI: Specific Community Intervention Measures
Organization of Content - cont...

- F. Educational approaches
 - 1. Principles
 - 2. Methods
 - a. Counseling individuals
 - b. Group work
 - c. Community Organization (See Section III.)
 - 3. Major themes
 - a. MCH
 - b. Environmental hygiene
 - c. Disease prevention
 - d. Nutrition
 - 4. Major issues
 - a. Roles of various personnel
 - b. Relative merits of different methods
 - c. Use of media
 - 5. Materials and their use
- G. Endemic disease control
 - 1. Immunization procedures
 - a. Fixed
 - b. Mobile
 - 2. Epidemiologic surveillance and reporting
 - 3. Vector control
 - 4. Case-finding methods
 - 5. Follow-up
 - 6. Manpower development
 - 7. Issues
 - a. Fixed vs. mobile
 - b. Integration with general health services

Section VI: Specific Community Intervention Measures
Organization of Content - cont...

- H. Occupational Health
 - 1. Policy formulation
 - 2. Policy enforcement
 - 3. Physician roles

Section VII: Management of Health Programmes

Specific Objectives:

1. Manage a health programme for a given community.
2. Plan and manage the in-service training of manpower for a programme.

Organization of Content:

- A. Principles of organizational theory
 1. Classical
 2. Systems
- B. Methods of organizational control
- C. Communications in an organization
- D. How to measure efficiency/effectiveness of an organization
- E. Collection, reporting and interpretation of data arising from utilisation of health services
- F. Task analysis
- G. Training needs analysis
- H. In-service training
 1. Planning
 2. Implementation
 3. Evaluation

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MODULE B:

THE FAMILY

I. RATIONALE

As medical students consider the events and processes in the life of the family, it is important that they comprehend some basic concepts of the structure and functions of African and other families. Within the context of these concepts family health can be taught more effectively. This module is particularly relevant as a prerequisite for Module C.

Medical students will need this understanding of the family for their various roles because the dynamics of the family will so often determine the outcome of their intervention with individuals, families, and communities.

First, the family will be looked at in the cultural context, then from a sociologic point of view, both in relation to normal and abnormal function. Finally, appropriate medical intervention in family health problems will be identified and explained.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Discuss the prevalent cultural patterns of family structures, roles, and functions.
2. Discuss variations in family structure and marriage patterns.
3. Discuss the main social and economic roles of the family.
4. Discuss the main medico-social problems affecting family life.
5. Use appropriate measures for diagnosing family disturbances or malfunctions.
6. Intervene appropriately and effectively in family structures disturbed by medico-social problems.

Section I: The Family as Culturally Defined

Specific Objectives:

1. Discuss the prevalent cultural definition of the family.
2. Discuss the main roles of families as culturally defined.
3. Identify prevalent beliefs about and attitudes toward the roles of various family members.
4. Identify attitudes toward widows, divorcees and unmarried adults.
5. Describe the socialization of children within the family.
6. Discuss how various families within a community relate to each other.

Organization of Content

- A. Cultural definition of the family
 1. Extended nature
 2. Unilinearity
 3. Importance of place of origin in defining family
- B. Roles of families
 1. Procreation
 2. Socialization of children
 3. Support of members
 4. Safekeeping of traditions and values such as exogamy
 5. Celebration of events: birth, marriage, death
 6. Inheritance of land, fruit trees, cattle
 7. Influence of social class and status

Section 1: The Family as Culturally Defined
Organization of Content - cont...

- C. Roles of family members
 - 1. Adult male roles
 - 2. Adult female roles
 - 3. Roles of older children
 - 4. Roles of the aged
- D. Attitudes toward unmarried adults
 - 1. Male and female
 - 2. Widows
 - 3. Divorcees
 - 4. Never married
- E. Socialization of children within the family
 - 1. Language
 - 2. Social behaviour
 - 3. Work functions
 - 4. Sexual identity
 - 5. Values acquisition
 - 6. Security and acceptance
- F. Inter-family relationships
 - 1. Intermarriage
 - 2. Dependence, interdependence
 - 3. Various taboos

Section II: Normal Structure and Function of the Family

Specific Objectives:

1. Discuss the family as a social institution.
2. Discuss the biologic, cultural, psychosocial, economic and educational factors influencing family function and family health.
3. Name and discuss three important roles of the family.
4. Describe the roles of individual family members.
5. List and describe the variations in family type and their prevalence.

Organization of Content

A. Factors influencing the family as a social institution:

1. Definition of the family as a social institution
2. Biologic factors
 - a. Heredity
 - b. Acquired diseases
 - c. Nutrition
3. Cultural factors
4. Psychosocial factors
5. Economic factors
 - a. Production
 - b. Employment
6. Educational factors
 - a. Accessibility
 - b. Quality

B. Roles and functions of the family

1. Socialization of members
2. Support
 - a. Material
 - b. Spiritual
 - c. Dimensions of support
3. Reproduction
 - a. Concept of continuity
 - b. Concept of proven fertility

Section II: Normal Structure and Function of the Family
Organization of Content - cont...

- C. Variations in family types
 - 1. Whether extended or nuclear: definitions, prevalences
 - 2. Whether monogamous or polygynous
 - 3. One-parent families
 - 4. Matrilineal or patrilineal
- D. Roles of individual family members
 - 1. Interests and abilities
 - 2. Socially defined responsibilities
 - 3. Rules governing interrelationships, e.g. are there interdictions to intermarriage among certain clans?

Section III: Abnormal Structure and Function of the Family

Specific Objectives:

1. Discuss problematic conjugal associations and their effects.
2. Discuss separation, divorce, death and single-parent status, as they affect family health.
3. Explain the effects of variations in family size on health.

Organization of Content

- A. Effects of problematic conjugal associations
 1. Types
 - a. Intergenerational
 - b. Consanguineous
 - c. Extramarital
 - d. Promiscuous
 2. Effects on:
 - a. Course and outcome of pregnancy
 - b. Child rearing
 - c. Child care
 - d. Diseases with strong social aetiologies
 - e. Mental illness
- B. Disruptions of family life and their effects
 1. Separation of parents
 - a. Legal
 - b. Informal
 - c. Economic or job-related
 2. Chronic illness or death of parent or child
 3. Overwhelming need of handicapped children
 4. Mental incapacity of parents
 5. Environmental catastrophe
 6. Urbanization
 7. Economic catastrophes

Section III: Abnormal Structure and Function of the Family
Organization of Content - cont...

- C. Variations in family size and their effects
 - 1. Health
 - 2. Economic
 - 3. Social
 - 4. Educational

Section IV: Appropriate Medical Intervention

Specific Objectives:

1. Take and interpret a family history.
2. Counsel families on medico-social problems.
3. Make appropriate referrals to community service agencies.
4. Conduct educational counseling with families.
5. Plan and implement medico-social management of family problems.

Organization of Content

- A. Collecting and interpreting family data
 1. The family medical history
 2. The family socio-economic history
 - a. Identification of where authority lies, where decisions are made
 - b. Identification of strengths, weaknesses, and conflicts
 3. Gathering data from other sources
 - a. Medical records
 - b. Social service records
 4. Synthesis and analysis of data
 5. Formulating family-based diagnoses
- B. Counseling for families
 1. Approaches and techniques
 2. Medical counseling
 3. Psycho-social counseling
 4. Approaching the family through traditional healers
 5. Main themes
 - a. Child rearing problems - behaviour problems
 - b. Child care
 - c. Marital problems
 - d. Chronic illness-management
 - e. Educational issues
 - f. Family planning/infertility
 - g. Paying for medical care.

Section IV: Appropriate Medical Intervention
Organization of Content - cont...

- B.5. h. Mental illness in family members as a manifestation of family malfunctioning
 - . Psychosomatic problems
 - . Neuroses
 - . Psychoses
 - . Addictions
- C. Community service referrals
 - 1. Service resources available
 - 2. Criteria for making referrals - appropriate use
 - 3. Types of referrals
 - a. For consultation
 - b. For case management
- D. Educational counseling
 - 1. Techniques for and approaches to families
 - 2. Main themes
 - a. Environmental hygiene
 - b. Disease prevention
 - c. Nutrition
 - d. Family planning - child spacing
 - 3. Use of materials
 - a. Visual
 - b. Printed
- E. Medico-social management of family problems
 - 1. Planning
 - a. Diagnosis - culture-social dimensions
 - b. Assessment of family strengths and weaknesses
 - c. Assessing personnel resources needed
 - . Social service
 - . Nursing
 - . Medical
 - . Traditional healers

Section IV: Appropriate Medical Intervention
Organization of Content - cont...

- B.1. d. Assessing need for other resources
 - . Institutional
 - . Adoption or foster home
 - . Social security or insurance
 - . Employment or training for employment
 - . Housing
- 2. Coordination of efforts with other social, nursing and medical resources, and the family
- 3. Implementation
- 4. Follow-up

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MODULE C:
FERTILITY AND INFERTILITY

1. RATIONALE

This module will attempt to include all essential questions and issues concerning fertility and infertility. It covers the epidemiologic perspective of human reproduction and the parameters of human fertility and infertility. Taking this approach serves as an entree for an extensive discussion of various methods of fertility regulation. Taken together, all these considerations make up the technical aspects of family planning. If modules A, B, and I are combined with this one, the result will be complete coverage of family planning in all its aspects. No better illustration could be offered of the way family planning interrelates with other aspects of family health than our necessity, here, to draw from sociology, paediatrics, and obstetrics in order to define family planning. Family planning thus relates to all of family health without becoming the totality of what is meant by family health.

Family planning assumes that couples possess the right to determine their families: the number of children, the frequency of their births, their nutrition, their cultural and social upbringing, and their education. All parents desire these things in full measure for their children. All cultures look on children as "gifts" and count them of value as sources of labour in the present and of succour in the future. There is a universal wish for as many children as possible to survive.

In Africa, child spacing has been a long-standing means of assuring an adequate period of lactation and therefore survival to the young child. Ancient means have been used to space pregnancies. Urbanization in modern times with its accompanying social upheaval has mitigated many of these ancient means of child spacing.



Modern technology, however, offers new possibilities to couples to space their children. Techniques may be grouped into four categories:

1. Behavioral
2. Mechanical and chemical
3. Systemic
4. Surgical: menstrual regulation and abortion

For the completed family, sterilization is considered as having occasional usefulness for certain families.

When seen against its historical background, the evolution of these techniques can be understood as one answer of modern science to the problems of development. For the use of family planning methods brings benefits, both health and socio-economic to individuals, families, and communities.

Modern technology permits too the continued search for the causes of infertility and the application of the findings to individual cases.

Physicians who care for families need to know how to recommend and use all of these techniques, whether they intervene themselves in the care of families, train others to do so, or manage services to whole communities. Because they will do so in the context of delivering health services, they will also need to understand how government policy is determined, since that policy will determine how family planning services, if any, are delivered.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Discuss the cultural aspects of family planning and the social, psychological, and legal implications.
2. Discuss the epidemiologic perspective of human reproduction using indices and rates.
3. Describe the anatomy and endocrine physiology of the male and female reproductive systems.
4. Describe the processes of human fertility: oogenesis, spermatogenesis, gamete transport, fertilization, and implantation.
5. Discuss the genetic aspects of family planning.
6. Discuss the use of fertility regulation methods.
7. Describe important aspects of the diagnosis of pregnancy.
8. Prescribe fertility control measures appropriately.
9. Treat and manage the complications of fertility regulation methods.
10. Take a rational approach to the diagnosis and management of cases of infertility.
11. Describe and implement family planning services at a local, regional, or national level.
12. Train and support paramedical and auxiliary personnel for family planning services.

Section I: Conception

Specific Objectives:

1. Describe traditional beliefs and practices surrounding fertility and infertility.
2. Describe the anatomy and endocrine physiology of male and female reproductive systems.
3. Describe processes of human fertility.
4. Describe the early development of the embryo.
5. Describe variations in fertility.
6. Diagnose the pregnant state in the first trimester.

Organization of Content:

- A. Cultural aspects of fertility -- knowledge, attitudes, and practices re.:
 1. Menarche
 2. Circumcision
 3. Food taboos
 4. Ceremonial practices
 5. Polygynous union
 6. Intergenerational marriage
- B. Processes of human fertility
 1. Spermatogenesis
 2. Oogenesis
 3. Gamete transport
 4. Fertilization
 5. Implantation
 6. Genetic aspects of reproduction
 7. Development of the implanted ovum
 8. Embryonic development
 9. Variations in fertility

*Section I: Conception
Organization of Content - cont...*

- C. Normal pregnancy
 - 1. Vital statistics: rates and indices of reproduction
 - 2. Clinical and laboratory diagnosis of pregnancy

Section II: Infertility Problems

Specific Objectives:

1. Define the categories of infertility and their prevalence.
2. Describe the causes of infertility - male and female factors.
3. Describe the consequences of infertility - individual, family, community, and national.
4. Describe how infertility is managed by traditional medicine.
5. Describe diagnostic and epidemiologic procedures available for the study of infertility and subfertility.
6. Discuss available epidemiologic and clinical studies of infertility.
7. Describe medical and social management of infertility and subfertility.
8. Diagnose infertility and subfertility in a family, in a community.
9. Manage a case of infertility.
10. Manage counseling services to a community where infertility is a problem.

Organization of Content:

- A. Cultural aspects: knowledge, attitudes, myths, and practices regarding infertility
- B. Definition
 1. Differences among infertility, subfertility and sterility
 2. Concept of fertility threshold
- C. Aetiology
 1. Female factors
 - a. Congenital anomalies
 - b. Vaginal problems
 - c. Cervical problems
 - d. Uterine factors, such as difficulties in nidation
 - e. Tubal transport defects
 - f. Ovarian dysfunction
 - g. Endocrine disorders
 - h. Infectious factors
 - i. Parasitic factors
 - j. Genetic factors
 - k. Psychologic factors
 - l. Nutritional factors
 - m. Endometriosis

Section II: Infertility Problems
Organization of Content - cont....

- C. 2. Male factors
 - a. Reduced sperm production
 - b. Poor quality of sperm
 - c. Obstruction
 - d. Impotence
 - e. Infections, especially venereal disease
 - f. Endocrine disorders
 - g. Genetic defects
- 3. Factors affecting the couple
 - a. Marital maladjustments
 - b. Sexual maladjustments or problems
 - c. Immunologic reactions
 - d. Low fertility threshold
- D. Diagnosis and case finding
 - 1. Female
 - 2. Male
 - 3. Couple as a unit
 - 4. Community-level studies
- E. History taking: prior contraceptive practice, menstrual, sexual, gynecologic, social, family and prior medical history.
- F. General physical and pelvic exams: points to stress in examination
- G. Medical management of fertility/subfertility
 - 1. Counseling especially re: prognosis
 - 2. Treatment of males: medical and surgical
 - 3. Treatment of females: medical and surgical
 - 4. Referral - resources, e.g. artificial insemination
 - 5. Social measures

Section II: Infertility Problems
Organization of Content - cont...

- H. Psychosocial consequences of infertility
 - 1. Individual, marital
 - 2. Family
 - 3. Community
 - 4. National
- I. Prevention
 - 1. Sexually transmitted diseases
 - 2. Other diseases
 - 3. Psychosocial factors

Section III: Introduction to Family Planning

Specific Objectives:

1. Define family planning concepts and describe their historical development.
2. Describe how government policies are determined and their impact on services.
3. Describe culturally relevant traditional methods of family planning.
4. Describe resources, financial and manpower, needed for family planning services.
5. Manage family planning services.

Organization of Content

- A. Definition and historical development of concept of family planning
- B. Historical background
 1. From antiquity
 2. Scientific advances
 3. Personalities and their contributions to the family planning movement
 4. Resources
- C. Culturally relevant traditional family planning practices
- D. Philosophy and objectives
 1. Overall
 2. Differences by country
- E. High fertility
 1. Definition
 2. Community diagnosis

Section III: Introduction to Family Planning
Organization of Content - cont...

- F. Government policy
 - 1. Factors influencing
 - 2. Organization of services
 - a. National
 - b. Regional
 - c. Local
 - d. Private
- G. Manpower
 - 1. Categories
 - 2. Selection
 - 3. Training
 - 4. Functions

Section IV: Benefits of Family Planning

Specific Objectives:

1. Define the determinants of human fertility.
2. Describe the impact of birth interval on the physical and emotional well-being of the mother and child.
3. Describe the interrelationships among birth interval, socio-economic factors and the health of mothers and children.
4. Describe the health and socio-economic benefits of family planning in a culturally relevant manner.
5. Define and discuss the religious aspects of pronatality.
6. Discuss the relation of knowledge and education to attitudes toward family planning.

Organization of Content

- A. Interrelationships of health and socio-economic benefits of family planning
- B. Benefits of family planning as they accrue to individuals, families, and communities
- C. Health benefits
 1. Decrease in mortality
 - a. Maternal
 - b. Perinatal
 - c. Childhood
 2. Decreased complication of pregnancy and delivery
 3. Concept of child-spacing
 - a. Maternal replenishment
 - b. Adequate breast-feeding and care of child
 4. Concept of age of minimum reproductive risk
 5. Prevention of genetic disease
 6. Prevention of infectious diseases
 7. Prevention of abortion

Section IV: Benefits of Family Planning
Organization of Content - cont...

- C. 8. Improvement of nutritional status
 - a. Prevention of severe PCM
 - b. Optimum growth and psychosocial development
 - c. Prevention of low birth weight for gestational age
- 9. Improvement of mental health and family adjustment
- D. Socio-economic benefits
 - 1. Prevention of illegitimacy
 - 2. Decrease in unwanted pregnancies; therefore fewer illegal abortions
 - 3. Improvement in financial potential for families
 - 4. Improvement in child-rearing practices; educational potential for children
 - 5. More individual stimulation of children -- improved development and reduction in child abuse
 - 6. Improved work opportunities
 - a. Heads of families
 - b. Women
 - 7. Decreased drain on community resources
 - 8. Improved standards and quality of life
 - a. Caloric and protein intake per capita
 - b. Supply and distribution
 - c. Quality of food
 - 9. Frequently provision of opportunity for better marital adjustment
 - 10. Increased independence for women, social and economic
 - 11. More land area per capita

Section V: Criteria for Assessing Appropriateness of a Contraceptive Method

Specific Objectives:

1. Describe ten criteria for assessing the appropriateness of a family planning method.
2. Evaluate a community family planning programme. Discuss each of the following criteria:

Organization of Content

- A. Availability
- B. Mode of action
- C. Indications and contraindications
- D. Cultural acceptability
- E. Suitability for couples in a variety of cultural, socio-economic, and psychological circumstances
- F. Safety: short- and long-term side-effects
- G. Effectiveness (reliability)
 1. Biologic
 2. Use effectiveness expressed as Pearl's index:
$$\frac{\text{No. of pregnancies} \times 1200}{\text{total months of exposure}} = \text{Failure rate}$$

e.g., 2/100 women/year of exposure
- H. Cost
 1. Technical aspects - degree of complexity
 2. Specific guidance and counseling needed for the method
- K. Reversibility potential

Section VI: Behavioural Methods

NOTE: In this and the next four sections, in addition to the specific techniques and demonstrations of practice of a particular method, the outline of the preceding section should be followed wherever appropriate.

Specific Objectives:

1. Describe behavioural methods.
2. Assess behavioural methods using suggested criteria in Section V.
3. Recommend appropriate behavioural methods in concrete situations.

Organization of Content

- A. Traditional and local practices
 1. Beliefs and taboos - especially in relation to fertility
 2. Abstinence
 3. Lactation
 4. Separation of mother and newborn from family
 5. Use of herbs and alum
- B. Rhythm and BBT (basal body temperature)
 1. Review of physiology of menstrual cycle
 - a. Concept of the "safe" period
 - b. Individual variations
 2. Ovulation
 - a. How to detect
 - b. Timing relative to fertilization
 3. Calculation of "safe" period
 4. Effectiveness
- C. Withdrawal (coitus interruptus)
 1. Definition
 2. Difficulties
 - a. Mechanical
 - b. Individual - psychological
 3. Advantages
 4. Effectiveness

Section VII: Mechanical and Chemical Methods

Specific Objectives:

1. Describe available mechanical and chemical methods.
2. Assess mechanical and chemical methods using suggested criteria in Section V.
3. Prescribe and apply mechanical and chemical methods.

Organization of Content

- A. General Considerations
 1. Dependence on action just prior to intercourse with most methods
 2. Most require handling of genitalia
 3. Possibility of personal or cultural unacceptability
- B. Condom
 1. Dependence on male cooperation
 2. Kinds - variations in quality
 3. Use in protection against VD
 4. Effectiveness
 5. Distribution system: commercial and other
- C. Diaphragm
 1. Material, sizes
 2. Fitting
 3. Insertion and rules for using
 4. Removal, cleansing, care
 5. Contraindications
 6. Effectiveness

Section VII: Mechanical and Chemical Methods
Organization of Content - cont...

- D. Foams, jellies, tablets, suppositories
 - 1. Mechanisms of action
 - 2. Methods of application
 - 3. Effectiveness - for how long?
 - 4. Allergic reactions
 - 5. Distribution system: commercial and other
- E. Combination of more than one method to improve effectiveness - e.g.,
 - 1. Safe period and condom
 - 2. Safe period and diaphragm
 - 3. Condom and diaphragm
 - 4. Diaphragm and foam or jelly
- F. Intrauterine devices (IUD)
 - 1. Mechanism of action
 - 2. Methods of insertion
 - 3. Timing of insertion
 - 4. Follow-up
 - 5. Complications and their management
 - 6. Contraindications
 - 7. Effect on subsequent pregnancy
 - 8. Incidence of subsequent pregnancy
 - 9. Reversibility
 - 10. Programme implications

Section VIII: Systemic Methods

Specific Objectives:

1. Describe available systemic methods.
2. Assess systemic methods by using suggested criteria in Section V.
3. Prescribe systemic methods where appropriate.

Organization of Content

- A. General considerations
 1. Controversy over distribution
 - a. Physician prescribed vs.
 - b. Paramedical prescribed vs.
 - c. "Over-the-counter" sales vs.
 - d. Household distribution in rural settings
 2. Long-term studies
 - a. Retrospective
 - b. Prospective
 - c. Findings and implications in relation to long-term side effects
 - . Thromboembolism
 - . Liver function
 - . Glucose
 - . Carcinogenesis: breast, cervical, and uterine disease
 - . Hypertension and cardio-vascular disease
- B. Oral contraceptives
 1. Mechanism of action
 2. Types: combined, sequential, low-level supplement
- C. Extended systemic
 1. Injections
 2. Subdermal implants
 3. Vaginal silastic pessaries
 4. Medicated IUD (Alza)
 5. Morning-after pill (DES)
 6. Bicycle and tricycle pills

Section IX: Abortion

Specific Objectives:

1. Define the types of abortion.
2. Describe the aetiologic factors in the various types of abortion: foetal and maternal.
3. Discuss the clinical aspects of the various types of abortion.
4. Describe national abortion policy and how determined.
5. Describe acceptable techniques of therapeutic abortion.
6. Describe techniques of illegal abortion and their complications.
7. Assess abortion techniques using suggested criteria in Section V.
8. Distinguish legal and therapeutic abortion.
9. Describe the morbidity and mortality related to abortion.
10. Perform a therapeutic abortion.
11. Medically manage an abortion case.

Organization of Content

- A. Kinds of abortion
 1. Spontaneous
 2. Induced
 - a. Illegal
 - b. Therapeutic (for medical reasons)
 - c. Legal (on demand) - no restrictions
- B. Legal and therapeutic considerations
 1. Medical indications: emergencies
 2. Relation to length of gestation
- C. Socio-cultural factors
 1. Attitudes pro and con
 2. Religious positions
 3. Historical developments
 4. Government policy - how determined

Section IX: Abortion
Organization of Content - cont...

- D. Clinical aspects of abortion
 - 1. Threatened
 - 2. Inevitable
 - 3. Incomplete
 - 4. Missed
 - 5. Habitual
 - 6. Septic
- E. Methods, including techniques of induced abortion
 - 1. Harman catheter
 - 2. Dilation and curettage
 - 3. Aspiration by vacuum
 - 4. Saline intramniotic injections
 - 5. Hysterotomy and terminal hysterectomy
 - 6. Prostaglandins
 - 7. Abortifacients--drugs
 - 8. Laminaria tents
 - 9. Combined approach: abortion with sterilization
 - 10. Traditional beliefs and (illegal) practices
 - a. Variable effectiveness
 - b. Dangers and precautions
 - c. Epidemiologic dimensions

Section IX: Abortion
Organization of Content - cont...

- F. Medical management
 - 1. Case selection
 - 2. Pre-operative counseling
 - 3. Use of techniques - relate to weeks of gestation
 - 4. Complications
 - 5. Post-operative care, including family planning counseling
 - 6. Psychologic rehabilitation
- G. Long-term sequelae
 - 1. Synechiae infertility
 - 2. Premature infants
 - 3. Incompetent cervix, repeated habitual abortion
 - 4. Rh sensitization

Section X: Sterilization

Specific Objectives

1. Describe how national policy is formulated.
2. Indications for sterilization.
3. Describe sterilization procedures for males and females.
4. Assess sterilization techniques by using suggested criteria, describing pros and cons of each (see Section V).
5. Recommend sterilization procedures in appropriate cases.
6. Perform a sterilization procedure on a male and a female in appropriate cases.

Organization of Content

- A. Indications for sterilization
 1. Medical
 2. Eugenic
 3. Psychiatric
 4. Obstetrical
 5. Socio-economic (controversial)
- B. Timing of female sterilization
 1. Interval since last delivery
 2. Post-partum
 3. Concomitant with abortion
 4. Terminal hysterectomy at Caesarian section
- C. Types of sterilizations
 1. Female
 - a. Tubal occlusion: surgical, electro-coagulation, clips, tubal bands
 - b. Hysterectomy
 - c. Radiation (rare)
 - d. Chemical sterilization
 2. Male: vasectomy

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MODULE D:

PREGNANCY, BIRTH, AND PUERPERIUM

1. RATIONALE

By means of this module and the seven others that follow it the instructor will be able to guide the student in acquiring the clinical skills needed to be a provider and manager of services to family members at different phases of the family life cycle. Armed as well with the skills to deal with whole communities and families, discussed in the first three modules, the student should emerge from the entire series of modules equipped to begin a useful career as a practitioner of family and community health.

In this module the student will learn to deal with the regenerative phase of the family life cycle, namely the three sequential events of pregnancy, birth, and the puerperium. In many African cultures the first pregnancy marks the culmination of courtship, thus providing a link to subsequent phases of family life for young people. Pregnancy for these couples may mean that they are suited for marriage. For the woman herself the pregnancy takes on additional meaning. She has proved that she is fertile and therefore deserving of all the social attributes of womanhood. Tragically for the infertile woman, few of these advantages are hers and through no fault of her own she is often isolated in her own community.

The anatomic and physiologic changes that take place in the woman during pregnancy make demands on her nutritional state, her endocrine function, her defences against infection, and her emotional equilibrium. Her state of health before and during pregnancy will greatly influence the viability and state of health of the infant. Many of these influences, particularly nutritional ones, can be traced to her early childhood. For many women pregnancy becomes a time of increased risk if not to the woman herself, at least to the outcome of the pregnancy.

Birth is the event that initiates the new process of growth and development of the child. Both pregnancy and birth take place in the context of families and are particular sources of joy and celebration to them. At these times, it is customary for all the human resources of a family to gather around the woman to support her. It is also a time when medical intervention is often needed. The puerperium also poses an increased risk to the woman and medical inputs may be particularly important.

Medical students need a thorough familiarity with each of these three events - to become efficient diagnosticians and effective therapists in both a preventive and curative sense, of the problems that occur, teachers of paramedical personnel and managers of services to pregnant and post-natal women.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Discuss prevalent attitudes, beliefs and practices during these life events.
2. Cooperate with traditional midwives.
3. Describe foetal growth and development.
4. Discuss the normal physiology, anatomy, and psychology of pregnancy, labour and delivery, and the puerperium.
5. Describe the anatomy, physiology, and psychology of the initiation and maintenance of lactation.
6. Describe and discuss the major problems and complications of pregnancy, birth, and the puerperium.
7. Describe and use the important screening and diagnostic measures applicable to pregnancy, birth, and the puerperium.
8. Describe and perform all important aspects of antenatal care; care of the woman in labour, delivery, the puerperium; and postnatal care.

Section I: Cultural Aspects

Specific Objectives:

1. Discuss prevalent attitudes, beliefs, and practices during these periods re:
 - a. Hygiene
 - b. Sexual relations
 - c. Clothing
 - d. Food
 - e. Miscarriage and stillbirth
 - f. Preparation for confinement
2. Discuss the role and function of traditional birth attendants and the belief-system supporting them
3. Participate in training and supervising traditional birth attendants.

Organization of Content

- A. Prevalent attitudes, beliefs, and practices
 1. During pregnancy
 2. Attending birth
 3. During the puerperium
 4. Regarding:
 - a. Hygiene
 - b. Sexual relations
 - c. Clothing
 - d. Food
 - e. Miscarriage and stillbirth
 - f. Preparation for confinement
- B. Traditional birth attendants
 1. Their role as viewed culturally and beliefs about them
 2. Prevalence of births so attended
 3. Their function
 4. Experiments with training and integration into the health care system
 5. How to work with, train, supervise, advise

Section III: Problems of Pregnancy, Birth, and the Puerperium

Specific Objectives:

1. List the main causes of maternal morbidity and mortality.
2. List the main factors influencing the outcome of pregnancy.
 - a. Biologic
 - b. Social
 - c. Psychologic
3. Discuss the health effects of:
 - a. Multiparity
 - b. Teenage pregnancy
 - c. Unmarried pregnancy
 - d. Elderly pregnancy
4. Discuss the prevalence, the genetic mechanisms, the types, and complications of multiple pregnancy.
5. Discuss the aetiology, incidence, and complications of spontaneous abortion.
6. Describe the pathology, pathophysiology and incidence of hydatiform mole.
7. Discuss the aetiology, pathophysiology, incidence, and complications of:
 - a. Toxaemias
 - b. Hypertensive disorders
 - c. Diabetic complications
 - d. Cardiac complications
 - e. Anaemias
 - f. Hyperemesis gravidarum
 - g. Antepartum haemorrhage
8. Describe the important infections and parasitic infections of pregnancy.
9. Describe the harmful effects of both traditional and modern drugs in pregnancy.
10. List the causes of intrauterine death.
11. Discuss abnormalities of labour.
12. Discuss complications of labour.
13. Describe puerperal complications: infection, haemorrhage, post-partum psychosis.

Section III: Problems of Pregnancy, Birth, and the Puerperium

Organization of Content

- A. Aetiology of maternal morbidity and mortality. Discuss incidence and/or prevalence
 - 1. Haemorrhagic problems
 - 2. Infections
 - 3. Toxaemias
 - 4. Malnutrition
 - 5. Complications of labour
 - 6. Complications of the puerperium
 - B. Multiple pregnancies
 - 1. Types
 - 2. Prevalences
 - 3. Genetic mechanisms
 - 4. Complications
 - C. Spontaneous abortion
 - 1. Aetiologies
 - 2. Incidence
 - 3. Complications
 - D. Extra-uterine (ectopic) pregnancy
 - 1. Aetiology
 - 2. Complications
- 

Section III: Problems of Pregnancy, Birth and the Puerperium
Organization of Content - cont...

- E. Hydatiform mole
 - 1. Pathology
 - 2. Pathophysiology
 - 3. Incidence
- F. The Toxaemias
 - 1. Aetiology
 - 2. Incidence
 - 3. Pathophysiology
 - 4. Complications
- G. Hypertensive disorders
 - 1. Aetiology
 - 2. Incidence
 - 3. Pathophysiology
 - 4. Complications - relation to toxaemias
- H. Diabetes in pregnancy
 - 1. Types
 - a. Gestational
 - b. Latent
 - c. Complicated
 - 2. Incidences
 - 3. Pathophysiology
 - 4. Complications
 - a. Maternal
 - b. Foetal

Section 14: Problems of Pregnancy, Birth and the Puerperium
Organization of Content - cont...

- I. Cardiac complications
 - 1. Incidence
 - 2. Pathophysiology
 - 3. Complications
 - a. Maternal
 - b. Foetal
- J. Anaemia and protein deficiency
 - 1. Aetiologies
 - 2. Incidences
 - 3. Complications
 - a. Maternal
 - b. Foetal
- K. Hyperemesis gravidarum
 - 1. Aetiology
 - 2. Incidence
 - 3. Pathophysiology
 - 4. Complications
- L. Antepartum haemorrhage
 - 1. Aetiologies
 - 2. Types
 - 3. Incidences
 - 4. Complications
- M. Major infections of pregnancy: aetiologies, incidences, complications for mother and child
 - 1. Urinary tract infection
 - 2. Syphilis

Section III: Problems of Pregnancy, Birth, and the Puerperium
Organization of Content - cont...

- M. 3. Gonorrhea
- 4. Cytomegalic inclusion disease
- 5. Group B streptococcal infection
- 6. Viral hepatitis
- 7. Pneumonia -bacterial, viral

- N. Infections: aetiologies, incidences, complications for mother and child
 - 1. Malaria
 - 2. Bilharziasis
 - 3. Hookworm
 - 4. Toxoplasmosis

- O. Effects of drugs, traditional and modern
 - 1. Types of harmful drugs
 - 2. Mechanisms of harmful effects
 - a. Differential transplacental passage
 - b. Metabolism: different mechanisms
 - c. Interference with or inhibition of normal enzymatic action and/or transport mechanisms
 - 3. Complications

- P. Intrauterine death
 - 1. Incidence
 - 2. Causes
 - a. Infection
 - b. Blood group incompatibility
 - c. Metabolic/nutritional
 - d. Inherited abnormalities

- Q. Complications of multiparity

- R. Complications of teenage pregnancies

- S. Complications of pregnancy in an unmarried woman

- T. Complications of pregnancy in an older woman

- U. Emotional problems of pregnancy

Section III: Problems of Pregnancy, Birth, and the Puerperium
Organization of Content - cont...

- V. Abnormal labour
 - 1. Malpresentations
 - 2. Uterine inertia
 - 3. Foeto-pelvic disproportion
- W. Complications of labour
 - 1. Haemorrhage
 - a. Placenta praevia
 - b. Placenta abruptio
 - c. Other
 - 2. Uterine rupture
 - 3. Infection
 - 4. Toxaemia
- X. Puerperal complications
 - 1. Haemorrhage
 - 2. Sepsis
 - 3. Post-partum psychosis

Section IV: Diagnostic Measures in Pregnancy

Specific Objectives:

1. Discuss screening procedures used in antenatal care.
2. Screen for high-risk pregnancy.
3. Discuss means used for monitoring labour.
4. Diagnose normal and abnormal labour.
5. Discuss diagnostic measures for puerperal sepsis, haemorrhage and use them.

Organization of Content

- A. Screening for high-risk pregnancy
 1. Purpose of screening
 2. Assessment of various procedures in terms of ease of use, cost, productivity, reliability and validity
 - a. Medical obstetric and social history
 - b. Physical examination including anthropometry
 - c. Blood pressure
 - d. Urinalysis
 - e. Vaginal examination
 - f. Monitoring foetal heart
 - g. Pelvimetry
 3. Various classes of risk and criteria for assignment
- B. Monitoring labour
 1. History
 2. Physical examination
 3. Foetal heart tones
 4. X-ray and laboratory tests
 5. Diagnosing the classes of complications under V and W of Section III
- C. Diagnosis of puerperal haemorrhage and sepsis
 1. History
 2. Physical examination
 3. Laboratory

Section V: Medical Intervention

Specific Objectives:

1. Outline elements of complete antenatal care.
2. Discuss prevention of complications of pregnancy.
3. Provide antenatal care to a panel of patients.
4. Describe how to conduct a normal delivery.
5. Discuss the optional ways of handling abnormal deliveries.
6. Describe operative techniques used in normal and abnormal deliveries.
7. Perform a normal vaginal delivery.
8. Perform a vacuum extraction.
9. Perform a low forceps delivery.
10. List the indications for a Caesarian section.
11. Determine the need for a Caesarian section in a case.
12. Perform a Caesarian section.
13. Perform a dilatation and curettage.
14. Perform destructive operations.
15. Perform a uterine evacuation and manual removal of the placenta.
16. Perform a laparotomy.
17. Describe the management of the puerperium.
18. Manage several puerperal cases, both normal and complicated.
19. Discuss the elements of postnatal care.
20. Follow several cases postnatally with emphasis on:
 - a. Breast care
 - b. Family planning
 - c. Child care
 - d. Nutrition

Section V: Medical Intervention
Organization of Content

- A. Antenatal care
 - 1. Objectives
 - 2. Elements
 - 3. Preventive aspects
 - a. Primary prevention
 - e.g. tetanus immunization
 - b. Secondary prevention
 - e.g. screening for and treatment of hypertension and/or oedema.
 - 4. Management of various categories of high risk, including tubal pregnancy, i.e., screening, detection, assessment, treatment, and follow-up to delivery.
 - 5. Roles of physician, nurse, and midwife in providing emotional support
- B. Delivery
 - 1. The conduct of a normal vaginal delivery
 - a. Techniques
 - b. Precautions
 - c. Use of anaesthesia
 - d. The episiotomy
 - e. Use of vacuum extractor
 - f. Use of low forceps
 - 2. Management of a complicated delivery
 - a. Indications for Caesarian section
 - b. How to perform a Caesarian section—the laparotomy
 - c. Indications for destructive procedures
 - d. Techniques of destructive procedures
 - e. Uterine evacuation and manual removal of placenta
 - f. Induction: indications and techniques
- C. Puerperal management
 - 1. General principles
 - 2. Treatment of haemorrhage
 - a. Uterine evacuation
 - b. Use of drugs
 - c. Other operative techniques
 - d. Follow-up
 - 3. Treatment of infection
 - a. Antibiotics
 - b. Hydration

Section V: Medical Intervention
Organization of Content - cont...

- D. Postnatal care
 - 1. Objectives
 - 2. Elements
 - a. Breast care
 - b. Family planning
 - c. Physical and pelvic examination
 - d. Nutritional evaluation
 - e. Counseling in self care and child care
 - f. Support - both by health personnel and natural support system
 - g. Emotional support

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MODULE E:

THE NEONATAL PERIOD

0 - 28 days

I. RATIONALE

in many respects the concepts and issues discussed in the previous module on Pregnancy, Birth and the Puerperium (Module D) should not be separated from those discussed here. The concerns of pregnancy and birth extend in large part to the care of the newborn infant. Many of the biologic and social risk factors affecting the outcome of pregnancy will also influence the outcome of the first month of life. In fact, the first month of life represents for the infant the period of greatest risk of his entire life. It is this fact which justifies discussing it separately, despite obvious interrelationships with prenatal influences.

Physicians in developing countries need to learn how to intervene effectively and appropriately by means of preventive and therapeutic measures in this period of life. To do so requires intimate knowledge of cultural attitudes and practices, normal processes, and the major problems contributing to the increased risk. This module will attempt to cover the essence of what is needed to achieve this goal.

11. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Discuss prevalent attitudes and practices related to the care of the newborn infant.
2. Describe and discuss the characteristics of a newborn infant.
3. Discuss the major factors contributing to increased risk in the neonatal period.
4. Diagnose the problem of the neonatal period and their complications.
5. Perform appropriate therapeutic and preventive measures affecting the health status of the newborn.
6. Implement family planning counseling.
7. Advise and treat women who are breast-feeding.
8. Teach, supervise and support paramedical personnel in the care of newborn infants.
9. Manage services to newborn infants and their families.
10. Make appropriate referrals for social services.

Section I. Cultural Aspects

Specific Objectives:

1. Discuss prevalent attitudes and practices related to:
 - a. The social worth of newborn infants
 - b. Multiple births
 - c. Infant's sex
 - d. Management of cord and placenta
 - e. Naming the child
 - f. Feeding the newborn
 - g. Circumcision: male and female
2. Discuss the role of the traditional birth attendant in the care of the newborn.
3. Cooperate with and advise traditional birth attendants in caring for newborn infants.

Organization of Content

A. Prevalent attitudes and practices regarding:

1. The social worth of newborn infants
2. Multiple births
3. Congenital abnormalities
4. Infant's sex
5. Serious illness in the newborn period, especially prematurity
6. Management of cord
 - a. Cutting the cord
 - b. Dressing the cord(Discussing practices leading to tetanus of the newborn)
7. Naming the child
8. Feeding
 - a. Initial feeds
 - b. Supplementary feeds
9. Circumcision
 - a. Male
 - b. Female

B. Role of the traditional birth attendant

1. Care of the newborn
2. Care of the cord

Section I: Cultural Aspects
Organization of Content - cont...

3. Any procedures involved
4. Cooperating with and supervising
- C. ~~Setting~~ setting for childbirth - factors affecting choice
 1. Home
 2. Health center
 3. Hospital

Section II: Normal Structure and Function

Specific Objectives:

1. Describe the normal physical measurements of the newborn infant.
2. Describe the normal appearance.
3. Describe the normal reflexes and reactivity patterns.
4. Describe the normal physiology.
5. Discuss the normal process of adaptation to extra-uterine life.
6. Discuss the emergence of maternal-infant bonding and the influences of the maternal-infant relationship on the development of the infant.
7. Discuss the influences of other environmental factors on the newborn.

Organization of Content

- A. The normal newborn infant
 1. Physical measurements
 - a. Weight
 - b. Height
 - c. Head and chest circumference
 - d. Temperature
 - e. Pulse
 - f. Respiratory rate
 2. Appearance
 - a. Facies
 - b. Skin color
 - c. Movement
 - d. Respirations
 3. Reflexes and reactivity
 - a. Cry
 - b. Suck
 - c. Response to pain
 - d. The Moro and other generalized reflexes.
 - e. Grasp reflexes
 - f. Response to voice, face, objects
 - g. Sleep and waking patterns

Section II: Normal Structure and Function
Organization of Content - cont...

- A. 4. Normal physiology
 - a. Central nervous
 - b. Cardio-circulatory
 - c. Respiratory
 - d. Urinary
 - e. Gastrointestinal, hepatic
- B. Adaptation of the infant to extra-uterine life
 - 1. Respiratory
 - 2. Metabolic, including haemoglobin
 - 3. Circulatory
 - 4. Central nervous system, including temperature regulation
 - 5. Immunologic
- C. Influences of the early environment on development
 - 1. The mother-infant relationship
 - a. Touch
 - b. Sound
 - c. Sight
 - d. Nourishment
 - 2. Temperature
 - 3. The biologic environment
 - a. Saprophytic parasites
 - b. Food supply
 - c. Water quality

Section III: Problems Increasing the Risk to the Newborn Infant

Specific Objectives:

1. Discuss the concept of risk, and list the factors contributing to it.
2. Discuss each of the major biologic risk factors: infectious, nutritional, obstetrical.
3. Discuss each of the major social and psychological risk factors: maternal, environmental.
4. Discuss and describe other factors contributing to increased risk for the newborn: congenital abnormalities, immaturity, toxicities.
5. Describe the problems of the newborn in epidemiologic terms.

Organization of Content

- A. The concept of risk
 1. Relation to maternal risk: review maternal risk factors
 2. Major contributors to risk
 - a. Biologic including obstetrical
 - b. Socio-economic
 - c. Psychologic
- B. Biologic risk factors
 1. Obstetrical complications
 - a. Premature labour and delivery
 - b. Caesarian section
 - c. High forceps delivery
 - d. Prolonged labour
 - e. Breech delivery
 - f. Drugs used in delivery
 - g. Haemorrhage
 - . Placenta praevia
 - . Premature separation of the placenta
 - . Other vaginal bleeding
 - h. Toxaemia of pregnancy, especially eclampsia
 - i. Precipitous delivery
 2. Nutritional/metabolic
 - a. Low birth weight for gestational age - intra-uterine malnutrition
 - b. Anaemia of the mother
 - c. Diabetes in the mother

Section III: Problems Increasing the Risk to the Newborn Infant
Organization of Content - cont...

- B. 3. Infectious
 - a. Malaria
 - b. Tetanus neonatorum
 - c. Septicaemia: cite main offending organisms
 - d. Meningitis
 - e. Syphilis
 - f. Ophthalmia neonatorum
 - g. Tuberculosis
 - h. Other CNS infections, including toxoplasmosis and cytomegalic inclusion disease
- C. Socio-economic risk factors
 - 1. Illegitimacy
 - 2. Teenage mothers (under 18) or mothers over 35
 - 3. Maternal death
 - 4. Low maternal (and/or paternal) educational level
 - 5. Low income
 - 6. Poor housing
 - 7. Inadequate access to medical care
 - 8. Intra-partum interval less than 24 months
- D. Psychologic risk
 - 1. Maternal anxiety
 - 2. Maternal rejection - cite common causes
 - 3. Maternal separation
- E. Epidemiology
 - 1. The concept of the perinatal period
 - 2. Foetal, neonatal, and perinatal mortality rates
 - 3. Neonatal morbidity rates
 - 4. Prematurity rates and their meaning

Section IV: Diagnosis of Problems of the Infant

Specific Objectives:

1. Perform, record, and interpret Apgar, anthropometric, and other measurements.
2. Take, record, and interpret a pre-natal and birth history.
3. Make, record and interpret observation of newborn infants.
4. Perform, record, and interpret an accurate physical examination of a newborn infant.
5. Interpret data supplied by other health workers.

Organization of Content

A. Measurements

1. The Apgar rating scale and its use
2. Anthropometric measurements
 - a. Weight
 - b. Height
 - c. Head and chest circumference
3. Vital measurements

B. History taking

1. The prenatal period -- review of risk factors
2. Childbirth
 - a. Any complications of labour?
 - b. Any complicated obstetrical procedures?
 - c. Use of drugs, anaesthetics?
 - d. Apgar score?

C. Observations

1. Continuous measurements of temperature, pulse, respiration
2. Nursing observations
3. Characteristic signs of difficulty in newborn -- discuss significance
 - a. Jaundice
 - b. Cyanosis
 - c. Pallor
 - d. Respiratory distress
 - e. Lethargy, poor suck
 - f. Absence of stools
 - g. Blood in stools
 - h. Vomiting
 - i. Sharp cry

Section IV: Diagnosis of Problems of the Infant
Organization of Content - cont...

- C.3.
 - j. Scanty or absent urine volume
 - k. Foul smelling or oozing umbilicus
 - l. Obvious abnormalities
 - m. Enlarging head
 - n. Signs of congenital syphilis
 - o. Seizures
- D. Physical examination
 - 1. Timing
 - a. Immediately after birth
 - b. Before discharge
 - c. On demand of nursing or midwifery staff
 - 2. Elements in the examination
 - a. Observations of appearance, movements, reactivity, assessment of gestational age
 - b. Inspection, palpitation, percussion, auscultation
 - c. Eliciting reflexes
 - d. Examining the eyes and ears
- E. Appropriate laboratory and x-ray procedures - appropriate use and techniques
 - 1. Haemoglobin concentration
 - 2. Haematocrit
 - 3. White cell count
 - 4. Bilirubin
 - 5. Gram stain
 - 6. Bacterial cultures
 - 7. Stool for blood
- F. Record keeping

Section V: Medical Intervention

Specific Objectives:

1. Discuss appropriate therapeutic and preventive measures affecting the health status of the newborn: antenatal, intrapartum, postnatal.
2. Discuss the rationale for and the implementation of family planning services.
3. Carry out family planning counseling.
4. List the elements in the care, both routine and special, of newborn infants.
5. Deliver care to both well and sick newborn infants.
6. Discuss the promotion of breast feeding.
7. Advise women on the care of the breast and early breast feeding.
8. Discuss and perform specific techniques in the care of the newborn, such as: resuscitation, including endotracheal intubation; umbilical vein catheterisation; and exchange transfusion.
9. Describe appropriate social services for families during the newborn period.
10. Make appropriate referrals to social services.

Organization of Content

- A. Therapeutic and preventive measures affecting health status of newborn infants
 1. Prenatal
 - a. Maternal nutritional counseling and therapy
 - b. Tetanus immunization
 - c. Antimalarial prophylaxis
 - d. Haematinics
 - e. Treatment of maternal infections, especially syphilis
 - f. Screening for risk factors and directing high-risk women to careful follow-up and supervised delivery
 - g. Preparation for breast feeding
 2. Birth
 - a. Importance of maternity services - trained personnel
 - b. Oxygen administration
 - c. Suction of airway
 - d. Use of silver nitrate
 - e. Resuscitation
 - . Intubation
 - . Bag and mask
 - f. Care of cord
 - g. Prevention of haemorrhagic disease - vitamin K

Section V: Medical Intervention
Organization of Content - cont...

- A. 3. Postnatal
 - a. Nursing care
 - b. Immunizations when indicated
 - . BCG
 - . Smallpox
 - c. Use of antibiotics in the neonatal period
 - . Therapeutically
 - . Prophylactically
 - d. Exchange transfusion
 - e. Endotracheal intubation
 - f. Umbilical vein catheterization
 - . Indications
 - . Techniques
 - g. Circumcision
 - . Techniques
 - . Complications
 - h. Antimalarials
 - i. Health visiting
 - j. Health and nutrition education
 - . Breast care
 - . Promotion of breast-feeding
 - . Discussion of alternative feeding methods: indications, precautions
 - . Cord and circumcision care
- B. Family planning services in the newborn period
 - 1. Appropriateness
 - 2. Techniques of counseling
 - 3. Technical aspects
 - 4. Timing

Section V: Medical Intervention
Organization of Content - cont...

- C. Managing services to newborn infants
 - 1. Routine
 - a. Elements of care - procedures, policies, including follow-up
 - b. Minimal facilities and equipment needed
 - c. Minimum personnel needed
 - 2. Special infant care
 - a. Elements of care - procedures, policies
 - b. Facilities and equipment, personnel needs
 - 3. Training, administration and support of paramedical and auxiliary personnel
 - 4. Delegation of responsibilities - criteria, qualifications
 - 5. Promotion of communication among personnel
 - a. Techniques
 - b. Objectives
- D. Social services
 - 1. Indications for referrals
 - 2. Mechanisms of referrals

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MODULE F.

THE POSTNEONATAL PERIOD

(28 days to 12 months)

1. RATIONALE

The physician who cares for families, trains others to do so, or manages services to families needs an extensive familiarity with the health problems of young children, for in most developing countries these individuals contribute the greatest share of the mortality and morbidity in the population. Module E has already laid out the recommended content concerning the newborn infant and its unique problems, most of which are related to prenatal and perinatal factors. From the end of the first month and onward, perhaps even earlier, it is the child's environment which will largely determine its survival, and, if it survives, the quality of life it will lead. That environment is at once biologic, social and psychological.

One of the chief determinants of the child's survival will be the success of both breast feeding and weaning. If both are successful, the child may survive the constant threats of malnutrition, physical and mental impairment, and death due to infection, and experience instead continued well-being. Child spacing is of capital importance to assure the right kind of survival, by permitting adequate time for the gradual weaning of the child at the breast onto the family dietary regimen before the next pregnancy.

The other important determinant besides good nutrition and adequate pregnancy intervals is the control of infectious disease, particularly dysentery, respiratory infections, measles, and malaria.

All of these problems affect the growth and psycho-social development of the child. Their effects and the impact of preventive programs can be best measured in fact, by the physical growth and psycho-motor

development of a child.

Physicians need an understanding of normal growth and development, of these determinants of survival, and of the appropriate preventive and therapeutic approaches to take; for they will function in multiple roles: as diagnosticians, as therapists, as managers of child health services, and as educators of families, communities, and other health personnel.

This module will cover the period 29 days through 12 months; module G will focus on the pre-school child aged 1-4 years. Many of the concerns are the same in both periods. However, together in these two periods, 90% of the factors occur which influence the child's eventual ability to function in school and society.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Describe and interpret prevalent cultural attitudes and practices regarding the postneonatal infant and the lactating mother.
2. Describe the normal growth and development of the infant.
3. Describe normal lactation, breast-feeding and weaning.
4. Describe and discuss the major deviations from normal growth and development in infancy, their causes and their complications.
5. Diagnose disorders of the breast.
6. Apply appropriate diagnostic measures to the problem of infancy.
7. Describe and discuss the major complications of breast-feeding.
8. Apply appropriate medical interventions in infancy and to the lactating mother, including drugs, counseling, education, environmental change, and management methods.

Section I. Cultural Aspects

Specific Objectives:

Describe the prevalent cultural attitudes and practices regarding

1. Infant feeding
2. Lactation and breast feeding
3. Causes of diseases in postneonatal infants
4. Preventive measures, especially child-spacing
5. Growth and psycho-motor development

Organization of Content

- A. Infant feeding: attitudes and practices regarding
 1. Breast feeding
 2. Supplemental feeding
 3. Weaning foods
- B. Lactation: beliefs and attitudes
- C. Causes of diseases: attitudes, beliefs and practices regarding
 1. Malnutrition
 2. Measles
 3. Dysentery
 4. Pertussis
 5. Malaria
 6. Pneumonia
 7. Tuberculosis
- D. Preventive measures: attitudes and practices especially regarding child spacing
- E. Growth and psycho-motor development
 1. Beliefs about factors influencing growth and psycho-motor development
 2. Home education and child stimulation practices

Section II. Normal Processes

Specific Objectives:

1. Describe the normal growth curve for the first year of life.
2. Discuss the normal variations in growth.
3. Describe the normal pattern of psychosocial development during the first year of life.
4. Discuss the normal variations in development.
5. List and discuss the nutritional requirements for normal growth and development.
6. Describe the normal physiology of lactation and the normal process of breast feeding.
7. Describe the normal process of growth and development of a breast fed infant.
8. Describe the normal weaning process.
9. Discuss the normal development of immune mechanisms.

Organization of Content

- A. Normal physical growth
 1. The growth curve
 2. Variations in growth depending on genetic potential
 3. Physiologic aspects of growth: asorption, metabolism, assimilation, endocrine influences
- B. Normal psycho-motor development
 1. Milestones
 2. Variations within the normal range
 3. Neurophysiologic correlates of normal psycho-motor development
 4. Specific components of development:
 - a. Gross motor
 - b. Fine motor - visual
 - c. Speech and hearing, language
 - d. Social
 - e. Neurointegrative behavior
 - f. Concept of primary reactive patterns
- C. Nutritional requirements in the first year
 1. Concept of minimum essential requirements for growth
 2. Protein
 3. Carbohydrates and fats
 4. Vitamins
 5. Iron and other trace metals and minerals
 6. Fluids

Section II. Normal Processes
Organization of Content - cont...

- D. Lactation and breast feeding
 - 1. Normal physiology and psychology of maintenance
 - 2. Nutritional requirements
 - 3. Techniques of breast-feeding
 - 4. Growth pattern of breast-fed infants
 - 5. Psychosocial benefits to mother and infant
- E. Weaning
 - 1. Timing
 - 2. Physiologic aspects
 - 3. Psychologic aspects
- F. Development of immune mechanisms
 - 1. Normal pattern and variations
 - 2. Nutritional aspects, i.e., effect of nutrition on immunologic development
 - 3. Environmental aspects
 - 4. Prenatal vs. postnatal factors: importance of breast milk

Section III. Abnormal Processes

Specific Objectives:

1. Discuss the concept of the infant "at risk".
2. Describe the consequences to the infant of cessation of breast feeding.
3. Discuss the aetiology, epidemiology, pathophysiology, and natural history of growth failure in the first year of life.
4. List categories of psycho-motor delay in the first year under the groupings mild, moderate and severe.
5. Discuss the aetiologies, prognosis of the conditions listed.
6. List the main infectious diseases of the first year of life.
7. Discuss the aetiology, epidemiology, pathophysiology and complications of each infection listed.
8. Discuss the major hereditary and other congenital conditions affecting the infant: their aetiology, pathophysiology, prognosis, and complications.
9. Describe the main causes of accidents.
10. Describe the main types of behavioural disorders.

Organization of Content

- A. The concept of the infant "at risk"
 1. Prenatal factors: maternal age, weight, and height, parity, obstetric and medical history, social and environmental situation
 2. Perinatal factors: low birth weight, prematurity, multiple births, infants of diabetic mothers
 3. Postnatal factors
 - a. Social: marital breakdown, death or disability of parent, intelligence of parent, low education of parent, size of family
 - b. Biologic: disease in infant or mother, environmental factors
 - c. Economic: low income, crop failure, other disasters
- B. The concept that most medical and social problems of infancy are preventable
- C. Failure of breast-feeding
 1. Causes
 2. Consequences
 3. Problems of artificial feeding

Section III. Abnormal Processes
Organization of Content - cont ...

- D. Growth failure: early mild, moderate, severe
1. Causes
 - a. Nutritional
 - b. Infectious
 - c. Hereditary-congenital
 - d. Endocrine-metabolic
 - e. Social-psychological
 2. Pathophysiology of each
 3. Natural history of each
 4. Marasmus as a special case of severe growth failure
 - a. Aetiology
 - b. Pathophysiology
 - c. Prognosis
- E. Developmental delay
1. Categories
 - a. Mild, moderate, severe
 - b. Predominantly motor disorders
 - c. Predominantly mental disorders
 - d. Mixed psycho-motor delay
 2. Aetiologies
 - a. Nutritional
 - b. Social/environmental
 - c. Perinatal and prenatal
 - d. Hereditary
 - e. Specific diseases, e.g. meningo-encephalitis
- F. Main infectious diseases
- For each discuss the aetiology, epidemiology, pathophysiology and complications:
1. Bacillary dysentery
 2. Bronchopneumonia and bronchiolitis
 3. Measles
 4. Pertussis
 5. Malaria
 6. Tuberculosis
 7. Helminthic infection
 8. Skin infections
 9. Meningitis

Section III. Abnormal Processes

Organization of Content - cont ...

G. Hereditary and other congenital conditions

For each discuss the aetiology, pathophysiology, prognosis, and complications

1. Sickle-cell anaemia
2. Consequences of neonatal jaundice: kernicterus
3. Structural abnormalities: musculo-skeletal, cardiovascular, CNS
4. Congenital infections, e.g., syphilis
5. Birth injuries
6. Congenital or perinatal infections, e.g., meningitis, toxoplasmosis, cytomegalic inclusion disease

H. Accidents

For each discuss the causes and the complications

1. Poisonings
2. Burns
3. Falls from heights

I. Behavioural disorders

For each discuss the aetiology, the manifestations, the complications

1. Disorders of maternal-infant bonding
2. Disorders of affective development, e.g., autism
3. Colic
4. Feeding problems

Section IV. Diagnostic Measures

Specific Objectives:

1. Take a history from the parents of an infant: medical, obstetric, dietary, environmental, socio-economic and family medical.
2. Examine an infant at various ages: physical, developmental.
3. Interpret the results of the above two at similar times.
4. Use and interpret x-ray and laboratory examinations in appropriate cases.
5. Perform certain tests: tuberculin, haematocrit, thick smear stool examination, urinalysis, cultures of urine, stool and skin lesions, spinal fluid exam, chest x-ray
6. Use and interpret charts of weight, height, and head circumference.
7. Use and interpret data supplied by other health workers and from home visits.
8. Examine the breasts.

Organization of Content

- A. General principles of diagnosis in infancy
 1. Dependence upon history-taking from parents
 2. Subtlety of most signs
 3. Observation: an essential faculty
 4. The concept of variations of normal
 5. The importance of family and social factors
- B. History-taking and interpretation
 1. Techniques: use of open-ended interview
 2. Medical and obstetrical
 3. Dietary: estimating caloric intake
 4. Socio-economic
 5. Family medical
- C. Physical examination and interpretation
 1. Approach to the infant of different ages
 2. Varying physical signs with age
 3. Techniques of examination
- D. X-ray and laboratory examinations
 1. Appropriate use for each of the conditions discussed in Section III
 2. How to do the following:
 - a. Tuberculin testing
 - b. Haematocrit
 - c. Stool examination

Section V. Medical Intervention

Specific Objectives:

1. Monitor growth through the use of appropriate measures.
2. Test and follow psycho-motor development.
3. Describe effects of main categories of drugs in lactating mothers and infants.
4. Use appropriate drug therapy of lactating mothers and infants.
5. Use appropriate dietary therapy in lactating mothers and infants.
6. Discuss basic environmental hygiene measures necessary to promote infant health.
7. Manage extension of environmental hygiene services.
8. Administer appropriate basic immunizations and chemoprophylaxis of malaria.
9. Apply appropriate counseling and therapy where indicated in the care of the breasts.
10. Counsel parents in accident prevention.
11. Carry out personally and collaborate in education of parents regarding nutrition and general health of mothers and infants.
12. Treat under supervision each of the conditions listed in Section III, A.-G.
13. Interpret to parents cases of growth failure and/or development delay; make recommendations as to what parents can do.
14. Assist in the training and support of paramedical and auxiliary health workers in the care of mother and infant in the first year of life.
15. Participate in the planning and management of community, regional, or national strategies and programmes of health services to mothers and infants.

Organization of Content

- A. Monitoring growth and development
 1. Anthropometric measurements and their interpretation
 - a. Growth charts as diagnostic tools
 - b. Growth charts as educational tools
 2. Psychomotor monitoring
 - a. Use of developmental testing, e.g., Denver, Bayley, Brazelton
 - b. Anticipatory guidance techniques

Section V. Medical Intervention
Organization of Content - cont...

B. Use of drug therapy in lactating women and infants

For each of the following groups of drugs discuss the pharmacologic effects, the side effects, the distribution in breast milk if any, the recommended dosage and the preferred route of administration in infants.

1. Analgesics
2. Antibiotics
3. Anthelmintics
4. Antimalarials
5. Psychotropics
6. Hormones
7. Vitamins
8. Sedatives
9. Antihypertensives and diuretics
10. Cardiac drugs

C. Dietary therapy in lactating women and infants

1. Review normal requirements in terms of calories, protein, carbohydrates, fats, vitamins, minerals and fluids
2. Preventive therapy and counseling of normal infants and lactating mothers.
3. Therapy and counseling in early deficiency states
4. Same in moderate and severe deficiency states; emphasize treatment of marasmus at this age.

D. Environmental management

1. Minimum requirements
2. Techniques for assuring potable water, adequate waste disposal, vector control, safe food storage, and adequate housing
3. Understanding the roles of the sanitary engineer, the sanitarian, and other environmental hygiene workers
4. Organization of rural and urban environmental hygiene services
5. Influencing agricultural practice to assure more adequate food supply

E. Immunizations and chemoprophylaxis

1. Dosages, routes of administration, and precautions for each of the following vaccines
 - a. BCG
 - b. Smallpox
 - c. Diphtheria, Tetanus, and Pertussis

Section V. Medical Intervention
Organization of Content - cont...

- E.1.
 - d. Polio
 - e. Measles
 - f. Mumps
 - g. Rubella
 - h. Yellow fever
- 2. Arguments pro and con, dosages and precautions for the prophylactic use of each of the following antimalarials
 - a. Pyrimethamine (Daraprim)
 - b. Chloroquine
 - c. Others
- F. Breast care
 - 1. Principles of self-care
 - 2. Therapy of breast conditions
 - a. Breast abscess
 - b. Acute mastitis
 - c. Nipple abnormalities
 - 3. Counseling techniques
- G. Accident prevention
 - 1. Principles of preventing burns, poisonings and falls in infancy
 - 2. Principles and techniques of counseling
- H. General health and nutrition education of parents
 - 1. Principles
 - 2. Methods
 - 3. Techniques
 - 4. Collaboration with other health workers
 - 5. Themes
 - a. Infant care
 - b. Disease prevention
 - . Immunizations
 - . Hygienic measures
 - c. Feeding
 - . Breast
 - . Artificial
 - . Supplementary
 - . Weaning
 - d. Family planning
 - e. Psychomotor development
- I. Treatment of the major conditions listed in Section III, B.-G.
 - For each one discuss:
 - 1. Drug or specific therapy where indicated
 - 2. Supportive therapy, including counseling
 - 3. Criteria for referral
 - 4. What the patient or parent must do

Section V. Medical Intervention
Organization of Center - Cont...

- I. 4. a. During intense therapy
 b. In follow-up
5. Follow-up
6. Chronic or long-term care where indicated
7. Roles of various auxiliary and paramedical personnel
 - a. Collaboration with
 - b. Support of
- J. Planning, managing, and evaluating services to mothers and infants
 1. Administrative principles
 2. Personnel
 3. Costs
 4. Planning
 5. Evaluation
 6. Implementation
 7. Maintenance

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MODULE G:

THE PRE-SCHOOL CHILD

(13 months - 4 years)

I. RATIONALE

• Once having passed through the postneonatal period (Module F), the child has successfully encountered the gravest threats to his survival. After the first year of life, however, still other obstacles loom great along the path to adulthood. There is, in fact, a resurgence of the mortality rate near the end of the second year of life and into the third year, which, although not so great as the peak mortality rate of the first month, reflects nonetheless the impact of the twin dangers of infection and malnutrition, frequently accentuated by pregnancies too closely spaced.

Early and abrupt weaning practices contribute heavily to the latter problem, while environment hazards are most important in determining the former. The physician who cares for families and communities will need an intimate understanding of these two categories of problems and the interplay between them if he or she is to be an effective contributor to the health of children. Preventive practices must take the lead: immunizations, malaria prophylaxis, environmental hygiene, family planning, and nutrition and health education. Available and effective therapy must be carefully administered. Efficient use of paramedical and auxiliary personnel must be made. All of these measures imply a responsible role for the physician as diagnostician, therapist, manager, and teacher.

For the promotion of the health of pre-school children the physician must also be equipped with knowledge of child development, knowledge of the cultural milieu, and specific preventive and therapeutic skills. This module will outline what is essential to become an effective physician to this age group in the developing world.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Discuss the prevalent child rearing and child care practices of the surrounding culture.
2. Describe the normal growth and development of the pre-school child.
3. Describe the major diseases and other health problems of the 1 - 4 age group.
4. Apply appropriate diagnostic measures to both sick and well children aged 1 - 4.
5. Treat the main diseases and other health and social problems of pre-school children.
6. Institute and manage preventive measures to pre-school children, both individually and en masse.
7. Act as a consultant, trainer, and administrator and support to other health personnel in the care of the pre-school child.
8. Plan and manage health services to pre-school children.

Section 1: Cultural Aspects

Specific Objectives:

1. Discuss prevalent feeding practices, especially regarding weaning.
2. Discuss prevalent attitudes and practices toward the child's role (including domestic duties).
3. Describe prevalent practices with respect to the personal and environmental hygiene of the pre-school child.
4. Discuss prevalent beliefs and practices concerning the cause and treatment of childhood illnesses.
5. Describe traditional surgical procedures practiced in childhood.
6. Describe prevalent attitudes toward modern education.
7. Describe other prevalent child-rearing practices, home education and child stimulation practices.

Organization of Content

- A. Prevalent feeding practices
 1. Food taboos for infants and lactating mothers
 2. Usual supplemental foods during lactation
 3. Weaning
 - a. Timing
 - b. Mode
 - c. Weanling foods
- B. Prevalent child-rearing practices
 1. Concepts of the child's role
 2. Domestic duties
 3. Home education - inculcation of values
 4. Child stimulation
 5. Toilet training and other personal habits
 6. Disciplinary practices with advancing age of child
- C. Prevalent beliefs, attitudes and practices regarding illness
 1. Ideas of cause and prognosis

Section I: Cultural Aspects

Organization of Content - cont...

- C. 2. Treatment practices
 - a. Local remedies and healing ceremonies
 - b. Roles of various healers
 - c. Roles of family members
- 3. Surgical practices
 - a. Circumcision, male and female
 - b. Frenulectomy
 - c. Ear-piercing
 - d. Sacrificiation
- 4. Specific diseases concerned in local belief and practice system
 - a. Measles
 - b. Malaria with convulsions
 - c. Malnutrition, especially Protein-Calorie-Malnutrition (PCM)
 - d. Pneumonia
 - e. Dysentery
 - f. Seizures
 - g. Congenital deformities
 - h. Genetic diseases
 - i. Mental retardation
- D. Prevalent attitudes toward modern education for boys and girls

Section II: Normal Structure and Function

Specific Objectives:

1. Describe the normal growth pattern of ages 1 - 4.
2. Describe the normal development pattern: motor, language, social.
3. Discuss nutritional requirements for normal growth and development.
4. Discuss psychological and educational needs for normal growth and development.
5. Describe and discuss the child who passes normally through weaning.

Organization of Content

- A. Normal growth of the 1 - 4 year old child
 1. Height and weight - the normal growth curves
 2. Physiologic development, especially central nervous and immune systems
- B. Normal chronologic development
 1. Motor development
 - a. Gross
 - b. Fine
 2. Language development
 3. Social development, including development of sexual identity
- C. Nutritional requirements for normal growth and development
 1. Need for prolonging breast-feeding to at least 15 - 18 months
 2. Special needs at weaning
 3. Relation of nutrition to psychomotor development
 4. Specific needs related to age
 - a. Calories
 - b. Protein
 - c. Carbohydrates and fat
 - d. Vitamins
 - e. Minerals, especially iron
 - f. Fluids
- D. Psychological and educational needs
 1. Stimulation and manipulation, especially verbal
 2. Creative activity
 3. Socialization
 4. Affection

Section III: Medico-Social Problems

Specific Objectives:

1. Describe the aetiologies, the pathophysiology, and the complications of growth failure in the 1-4 age group.
2. Describe the aetiologies, the pathophysiology, the variations and complications of psycho-motor delay in the 1-4 age group.
3. Describe the aetiology, pathophysiology and complications of moderate and severe malnutrition (P.C.M. Marasmus), nutritional anaemia, and obesity.
4. Describe the aetiologies, pathophysiology, and complications of the main infectious diseases.
5. Discuss the main causes of accidents and their complications.
6. Describe the manifestations, pathophysiology and complications of the main hereditary and congenital disorders.
7. Describe the aetiology, pathophysiology, and complications of important acquired systemic diseases.
8. Describe the aetiologies and complications of disorders of vision, hearing and speech.

Organization of Content

- A. Growth failure in the 1-4 age group
 1. Aetiologies
 - a. Nutritional
 - b. Infectious
 - c. Social and psychological factors
 - d. Endocrine, especially hypothyroidism
 2. Pathophysiology - emphasize metabolic aspects in relation to signs and symptoms
 3. Complications
 - a. Physical: especially tendency to contracted pelvis, and low-birth-weight babies in females
 - b. Psychomotor: note studies on malnourished children, especially those regarding the effects of malnutrition on neuro-integrative development
 - c. Immunologic
 - . reduced cellular (delayed)immunity
 - . other effects of undernutrition on the immune system
 - d. Metabolic - see Section C below

Section III: Medico-Social Problems
Organization of Content - cont ...

- B. Psycho-motor delay
 - 1. Aetiologies
 - a. Hereditary
 - b. Perinatal
 - c. Social-environmental
 - d. Infectious
 - e. Nutritional
 - 2. Pathophysiology: emphasize mechanisms in relation to manifestations
 - 3. Variations
 - a. Degrees of moderate to severe
 - b. Variation according to predominant symptoms
 - . Gross motor
 - . Fine motor
 - . Speech, language
 - . Conceptual
 - . Impairment of integrative functions: auditory and visual-motor
 - 4. Complications
 - a. Psychosocial
 - b. Educational
 - c. Physical
 - d. Occupational
- C. Nutritional deficiencies: moderate and severe
 - 1. Types
 - a. Degrees of severity
 - b. Protein-calorie malnutrition of marasmic type
 - c. Protein-calorie malnutrition of Kwashiorkor type
 - d. Mixed clinical pictures
 - e. Nutritional anaemia
 - 2. Concept of a spectrum of disease
 - 3. Aetiological factors
 - a. Breast-feeding disorders
 - b. Weaning malpractices
 - c. Food shortages
 - d. Social factors such as death of parent, social disruption
 - e. Infections: measles, tuberculosis, pertussis
 - 4. Pathophysiology: relate mechanisms to signs and symptoms
 - 5. Complications
 - a. Increased susceptibility to infection - note impact on delayed immunity
 - b. Growth failure
 - c. Intellectual deficiencies
 - d. Death

Section III: Medico-Social Problems
Organization of Content - cont ...

6. Other malnutrition viz. obesity

a. Aetiologies

- . Nutritional
- . Psychosocial

b. Pathophysiology

c. Complications

- . Social, psychologic
- . Biologic

D. Infectious ieseases

1. For each of the following, discuss the aetiology, pathophysiology, and complications:

- a. Measles
- b. Malaria
- c. Bronchopneumonia and other respiratory tract infections including acute streptococcal pharyngitis
- d. Dysentery: bacillary and amoebic
- e. Tuberculosis
- f. Schistosomiasis
- g. Ankylostomiasis
- h. Ascariasis
- i. Filariasis
- j. Urinary tract infections
- k. Impetigo
- l. Meningitis and encephalitis
- m. Otitis media
- n. Conjunctivitis
- o. Soft tissue abscesses
- p. Osteomyelitis
- q. Sepsis complicating several of the above

2. Emphasize interplay of aetiologic agent, host factors and environmental factors

E. Accidents

1. Main causes

- a. Burns
- b. Falls, e.g. from mango trees
- c. Ingestions
- d. Traffic and road
- e. Drowning and near-drowning

2. Complications

- a. Morbidity
- b. Deformity
- c. Death

Section III: Medico-Social Problems
Organization of Content - cont ...

F. Hereditary and congenital

For each of the following, discuss the manifestations, their pathophysiology, and complications:

1. Sickle-cell anaemia
2. Congenital heart disease
3. Deformities secondary to perinatal diseases and birth injuries

G. Acquired systemic diseases

For each of the following, discuss the aetiology, pathophysiology, and complications:

1. Malignancies

- a. Leukemia
- b. CNS tumors
- c. Wilms tumor
- d. Neuroblastoma

2. Idiopathic or systemic conditions

- a. Acute glomerulonephritis
- b. Nephrosis
- c. Acute rheumatic fever
- d. Bronchial asthma
- e. Anaemias: factors to consider
 - . Nutrition: iron, folic acid, ascorbic acid, protein
 - . Infection: malaria, hookworm, impact of chronic infections such as tuberculosis and urinary tract infections, hemolysis associated with certain bacterial and viral infections
 - . Congenital and hereditary conditions: haemoglobinopathies, abnormal red cells
 - . Blood loss: intestinal polyps, thrombocytopaenia, intussusception, Henoch-Schoelein purpura
- f. Seizure disorders
- g. Orthopedic problems
 - . Disorders of gait
 - . Rickets
 - . Osteomyelitis

H. Disorders of hearing and vision

1. Aetiologies

- a. Hereditary
- b. Congenital infection, e.g. rubella
- c. Perinatal

Section III: Medico-Social Problems
Organization of Content - cont ...

- H. 1. d. Acquired
 - . Infectious
 - . Traumatic
 - . Nutritional
- 2. Complications
 - a. Psychosocial
 - b. Educational
 - c. Occupational

1. Behavioural Disorders

For each of the following, discuss manifestations, the possible causes and complications:

1. Phobias
2. Affective disorders
3. Enuresis
4. Encopresis
5. Stammering
6. Temper tantrums, breath-holding spells
7. Psychogenic abdominal pain, vomiting

Section IV: Diagnostic Measures

Specific Objectives:

1. Take a medical, nutritional, developmental, family medical, and social history from the parent(s) or caretaker of a pre-school child.
2. Use an age-appropriate approach to the examination of the pre-school child.
3. Perform a complete physical and developmental examination of a pre-school child.
4. Select appropriate laboratory tests in given clinical situations.
5. Perform certain basic diagnostic tests: haemoglobin/haematocrit, urinalysis, tuberculin test, bacterial culture.
6. Use and interpret growth records.
7. Perform an assessment of the home of a pre-school child.
8. Use and interpret data concerning pre-school children from other health workers.

Organization of Content

A. History-taking

1. Medical (including prenatal and perinatal)
2. Nutritional
 - a. Dietary habits: breast and supplemental foods
 - b. Economic issues: family and community production, purchasing ability, storage of crops, foods, and staples, distribution of food
3. Developmental
 - a. Milestones (motor)
 - b. Speech, language
 - c. Social development
4. Social
 - a. Family income, occupations
 - b. Housing
 - c. Family size
 - d. Family planning practices
 - e. Education of parents
 - f. Interpersonal relations
 - g. Extended family support and authority system
 - h. Community resources and problems, e.g. day care, health committees, water supply, roads etc.
5. Family medical
 - a. Genetic
 - b. Illness and disability
 - c. Deaths: adults, siblings

Section IV: Diagnostic Measures
Organization of Content - cont ...

- B. Approaching the pre-school child
 - 1. Principles
 - 2. Techniques
- C. Examining the pre-school child
 - 1. Systematic physical examination at various ages, including dental
 - 2. Appropriate use of partial examination
 - 3. Developmental testing (Denver)
 - 4. Ear curettage
- D. Selecting laboratory tests
 - 1. Principles
 - 2. Appropriate tests for conditions in Section III, A.-I.
- E. Performing basic laboratory procedures
 - 1. Haemoglobin/haematocrit
 - 2. Urinalysis
 - 3. Tuberculin testing
 - 4. Thick smear
 - 5. Bacterial culture
 - 6. Lumbar puncture and analysis of cerebro-spinal fluid
 - 7. Venepuncture
- F. Using and interpreting growth records
 - 1. Diagnostically
 - 2. Educationally
- G. Home assessment
 - 1. Physical: cleanliness, water supply, food preparation and storage space, safety hazards.
 - 2. Social: interpersonal relations, support, dissensions; ill family members.

Section IV: Diagnostic Measures
Organization of Content - cont ...

H. Data from other health workers

1. Types

- a. Reports, written and oral
- b. Health records

2. Interpretation

- a. Source
- b. Reliability

Section V: Medical Intervention

Specific Objectives:

1. Plan and manage the immunization and chemoprophylaxis of pre-school children.
2. Educate parents and families of pre-schoolers in matters of health promotion and accident prevention.
3. Monitor the growth of pre-school children.
4. Institute and manage nutritional therapy, rehabilitation, and follow-up.
5. Use drugs appropriately in the treatment of conditions discussed in Section III, A.-I.
6. Promote and manage appropriate environmental hygiene measures.
7. Be a consultant to a day care center, a center for the mentally handicapped, for the physically handicapped, or other institutional care for pre-schoolers.
8. Utilize follow-up measures for sick and well children.
9. Contribute to the training, supervision, and support of paramedical and auxiliary health personnel in the care of pre-schoolers.
10. Plan and manage health services to pre-school children.

Organization of Content

- A. Immunization and Chemoprophylaxis
 1. Conditions for which appropriate:
 - a. Smallpox
 - b. Poliomyelitis
 - c. Diphtheria
 - d. Tetanus
 - e. Measles
 - f. Tuberculosis
 - g. Rubella
 - h. Mumps
 - i. Malaria
 - j. Trypanosomiasis
 - k. Yellow fever
 2. Techniques
 3. Contraindications
 4. Complications and their management
 5. Methods of mass coverage
 - a. Fixed communities
 - . Scattered
 - . Dense
 - b. Nomadic communities

Section VI: Medical Intervention
Organization of Content - cont...

B. Health education of parents

1. Principles
2. Methods
 - a. Individual counseling
 - b. Group work
 - c. Community organization
3. Techniques and materials
4. Themes
 - a. Disease prevention: immunization and chemoprophylaxis, personal hygiene, vector control
 - b. Early treatment of major infections
 - c. Accident prevention
 - d. Home hygiene measures
 - e. Nutritional requirements of pre-schoolers
 - f. Breast-feeding
 - g. Growth patterns of healthy children

C. Monitoring child growth

1. Weight
2. Height
3. Interpreting findings - when to intervene
4. Using the growth record to educate parents

D. Monitoring development

1. Relative significance of delays in gross motor, fine motor, language and social development
2. Interpretation of findings
3. Use of findings to encourage family to stimulate children and plan for care of retarded children

E. Nutritional measures

1. Treatment in hospital of severe malnutrition
2. Nutrition rehabilitation of mild to moderate malnutrition
3. Community level preventive and educative treatment of early malnutrition
Note: Same model applies to protein-calorie malnutrition, nutritional anaemia, and obesity

Section V: Medical Intervention
Organization of Content - cont...

- F. Drug therapy in pre-schoolers
 - 1. Calculating dosage according to age, weight and/or body surface
 - 2. Methods of administration
 - 3. Contraindications for major therapeutic agents
 - 4. Side effects and their management
- G. Environmental hygiene measures
 - 1. Water protection
 - 2. Waste disposal
 - 3. Food protection
 - 4. Housing concerns
 - 5. Vector control
- H. Institutional care
 - 1. Types
 - a. Day care
 - b. Centers for mentally handicapped
 - c. Centers for physically handicapped
 - 2. Principles
 - a. Epidemiologic
 - b. Hygienic
 - c. Nutritional
 - d. Social organization
 - 3. Role of the physician
 - a. Diagnostician and therapist
 - b. Consultant to other personnel
- I. Follow-up methods
 - 1. Importance for certain diseases, e.g. urinary infections, tuberculosis, malnutrition, behavioural problems
 - 2. Importance for well children

Section V: Medical Intervention
Organisation of Content - cont...

- I. 3. Methods and techniques
 - a. Site: clinic, home, mobile clinic
 - b. Records
 - c. Use of other health personnel and community workers

- J. Use of all the foregoing methods in the treatment of the conditions listed in Section III, A-I.
 1. Referral of more severe cases according to set criteria
 2. Management and follow-up of less severe cases

- K. Training, supervision, and support of other health personnel
 1. Principles of delegation of tasks
 2. Methods
 3. Major emphasis
 - a. Screening of pre-schoolers
 - b. Health education of parents
 - c. Follow-up
 - d. Community preventive measures
 - e. Rudimentary clinical tasks

- L. Planning and managing services to under-fives
 1. Administrative principles
 2. Personnel management
 3. Costs - relative cost effectiveness of main approaches to organizing health services to under-fives and relative cost-effectiveness of various diagnostic, preventive and curative procedures.
 4. Planning and implementation
 - a. Major concerns for pre-schoolers
 - b. Major constraints
 5. Evaluation

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MODULE H: *131*

THE SCHOOL AGE CHILD

(5-12 years)

I. RATIONALE

The child has now crossed the watershed of childhood morbidity and mortality and has entered into one of the healthiest stages of life. But he may have left behind up to half of his birth cohorts. They have fallen victim to the twin dangers of malnutrition and infection. With infancy and early childhood past, the child can now look forward to an increased life expectancy.

Accidents arise as probably the chief threat to life in this age group. Among the infections, tuberculosis, hookworm, malaria, schistosomiasis, filariasis, trypanosomiasis and urinary tract infections are important, depending upon the area. School-related problems: behavioural disorders, vision and hearing disorders, and learning disorders emerge if the child crosses the threshold into the school environment. However, the proportion of school age children who are enrolled in school varies from 30 % to 95 %, depending on the region of the country. In any case, the attention of the physician should be directed not only at enrolled children, but also at those of the same age who are not. The psychological problems of this latter group may be different as well as the nature of the child's psychosocial development. All of this is to emphasize the overwhelming importance of the school experience in shaping the course of this phase in the life-cycle.

The physician, with the family as his unit of practice and the community as the context, needs the knowledge and skills necessary to deal with the problems of this phase of the life-cycle, both as he cares for individuals and as he trains others to do so or manages health services to school age children.

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This module will thus cover the period between the previous one on the 1 - 4 age group and the one to follow on adolescence. Many of the skills and much of the knowledge of disease that were necessary for the care of the pre-school child will have equal applicability in this age group. Where repetition occurs it is only for emphasis; otherwise, a simple reference will be made to material already covered.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Describe and interpret prevalent cultural beliefs and practices affecting the health and education of school age children.
2. Describe the normal growth and development of the child 5 - 12.
3. Discuss the nutritional, psychologic and educational needs of the child 5 - 12.
4. Discuss the criteria for a healthful school environment.
5. Discuss the aetiology, pathophysiology, symptomatology, and complications of the main health problems of children 5 - 12.
6. Use and interpret screening tests appropriately.
7. Evaluate the physical, emotional, and nutritional status of a school age child.
8. Diagnose the main medico-social conditions affecting school-age children.
9. Assess environmental hazards.
10. Manage a school health screening programme.
11. Carry on individual and group health education of children and parents and other adults on major health themes.
12. Plan, organize, implement, and evaluate School Health Services.
13. Manage the treatment and follow-up of both severe and less severe cases of the major conditions occurring in the 5 - 12 age group.
14. Describe the changes in family functioning and organization which occur as a result of a child's starting school.
15. Discuss the effect of a child's entry into school on the health of other family members.

Section I: Cultural Aspects

Specific Objectives:

1. Describe prevalent attitudes and practices toward modern education and child labour.
2. Describe prevalent attitudes toward education especially of girls.
3. Discuss prevalent nutritional practices among school age children.
4. Discuss family roles of school age children.
5. Discuss training of school age children for traditional roles.

Organization of Content

- A. Modern education and child labour
 1. Prevalent attitudes toward each one and their cultural underpinnings.
 2. Practices regarding child labour and education
 - a. Training of children for traditional roles
 - . Boys
 - . Girls
 - b. Use of children in subsistence agriculture, trade, commerce, artisanry
 - c. Selection of children for education
 - d. The role of religion as a determinant
- B. Education of girls
 1. Attitudes toward
 2. Prevalent practices
 3. Consequences and complications
- C. Nutritional practices among school age children
 1. Dietary habits
 2. Dietary attitudes
- D. Family roles of school age children
 1. Child care
 2. Housework
 3. Fieldwork
 4. Care of invalids, elderly

Section 11: Normal Structure and Function

Specific Objectives:

1. Describe the normal patterns of growth.
2. Describe the normal patterns of physiologic and psychologic development.
3. Discuss the nutritional requirements of the child 5-12.
4. Discuss the educational, emotional, and social needs of the school age child.
5. Describe the parameters of a healthful school environment.
6. Discuss the impact of school entry on the child and his family.

Organization of Content

- A. Normal growth pattern of the school age child
 1. Growth in height and weight - normal curves
 2. Dental growth pattern
- B. Physiologic and psychosocial development
 1. Development of the lymphatic system
 2. Patterns of development of other organ systems as deemed important
 3. Intellectual development patterns
 - a. Development of abstract thought
 - b. Development of curiosity
 4. Emotional development patterns, especially development of sexual identity
 5. Social development patterns
 - a. Re: family
 - b. Re: peers outside the family
 - c. Re: authority figures
 6. Impact of school entry
 - a. On the child himself
 - b. On family functioning and organization
 - c. On the health of other family members
- C. Nutritional requirements of the child 5 - 12
 1. Caloric need commensurate with age
 2. Protein requirements

Section II: Normal Structure and Function
Organization of Content - cont...

- C. 3. Carbohydrate and fat needs
 - 4. Requirements in vitamins and minerals
 - 5. Fluid requirements

- D. Educational, emotional, and social needs
 - 1. Intellectual stimulation and challenge
 - 2. Role models in parents, teachers
 - 3. Books, toys, games, and other aids to learning
 - 4. Love, affection, affirmative support
 - 5. Friendship and support of peers
 - 6. Knowledge and skills appropriate to various environments:
rural, urban, industry, commerce

- E. Parameters of healthful school environment
 - 1. Cleanliness
 - 2. Fresh air
 - 3. Adequate light
 - 4. Potable water
 - 5. Adequate waste disposal
 - 6. Adequate space
 - 7. Adequate nutritional intake
 - 8. Recreational opportunities

Section III: Health Problems of the School Age Child

Specific Objectives:

1. Discuss the main handicapping disorders of this age group.
2. Describe malnutrition as it occurs in this age group.
3. Discuss the main infections and endemic diseases occurring in this group of children: their aetiology, epidemiology, pathophysiology, and complications.
4. Describe the chief hereditary diseases affecting the school age child: aetiology, epidemiology, pathophysiology, and complications.
5. Discuss the main causes of accidents and their complications.
6. Discuss the aetiology, epidemiology, pathophysiology, and complications of the main non-infectious systemic diseases.
7. Discuss and describe the main behavioural disorders.
8. Describe the chief dental problems.

Organization of Content

- A. Handicapping disorders
 1. Physical handicaps
 - a. Paralyzes and skeletal deformities
 - . Aetiologies
 - . Complications and consequences
 - b. Respiratory disorders, e.g. bronchial asthma
 - c. Certain degrees of chronic rheumatic heart disease
 - d. Severe chronic renal disease
 - e. Blindness or disorders of vision
 - f. Deafness and hearing loss
 - g. Speech defects
 2. Mental handicaps
 - a. Mental retardation
 - . Types
 - . Degrees
 - . Relation to nutrition
 - b. Emotional disturbance
 - c. Specific learning disorders - aphasias, minimal brain dysfunctions, neuro-integrative disorders
- B. Malnutrition in the school age child
 1. Prevalence
 2. Types
 - a. Iron deficiency
 - b. Obesity
 - c. Protein-energy deficiency

Section III: Health Problems of the School Age Child
Organization of Content - cont ...

B. 3. Relation to learning ability

C. Infections and endemic diseases

Include the aetiology, epidemiology, pathophysiology, and complications of the following diseases in school age children:

1. Tuberculosis
2. Leprosy
3. Malaria
4. Filariasis
5. Schistosomiasis
6. Trypanosomiasis
7. Cholera
8. Yellow fever
9. Mumps
10. Urinary tract infections in females
11. Otitis media
12. Broncho- and other pneumonias
13. Infectious hepatitis
14. Dysenteries
15. Skin infections
16. Meningo-encephalitis

D. Hereditary diseases

Include the aetiology, epidemiology, pathophysiology, and complications in the school age child of:

1. Haemoglobinopathies, particularly SS haemoglobin
2. Childhood diabetes

Section III: Health Problems of the School Age Child
Organization of Content - cont ...

E. Accidents

The main causes and complications of

1. Falls from heights, e.g. mango trees
2. Burns
3. Road mishaps
4. Eye injuries
5. Snakebite
6. Drowning
7. Lacerations
8. Poisonings

F. Important systemic diseases

The aetiology, pathophysiology, and complications of the following in the school age child:

1. Bronchial asthma
2. Convulsive disorders
3. Rheumatic fever and rheumatic heart disease
4. The nephrotic syndrome
5. Malignancies
6. Rheumatic arthritis

G. Main behavioural and psychosomatic disorders

1. Types of family organization encouraging somatization of stress
 - a. Enmeshment
 - . Over interdependence of family relationships
 - . Intrusions on personal boundaries
 - . Poorly differentiated self: patient and other family members
 - . Weak family subsystem boundaries
 - b. Use of sick child to avoid facing conflict and resolving it
 - . Formation of triangular relationships
 - . Parent-child coalitions
 - . Detouring around conflicts
 - c. Physiologic vulnerability of the child

Section III: Health Problems of the School Age Child
Organization of Content - cont...

- G. 2. How symptoms are elicited
 - a. Precipitating events: challenges to establish family transactional patterns: e.g. death of a parent.
 - b. Family response to the symptom rewarding the sick role
 - 3. How symptoms are maintained
 - a. Family exercises increased protective control leading to decreased independence of child
 - b. Child uses illness to manipulate interpersonal relationships
 - c. Parents feel exploited
 - 4. Types of conditions in which above mechanisms appear to operate
 - a. Primary conditions
 - . Asthma
 - . Diabetes
 - . Epilepsy
 - . Migraine headache
 - . Ulcerative colitis
 - . Obesity
 - b. Secondary conditions
 - . Chronic abdominal pain of childhood
 - . Chronic chest pain
 - . Chronic limb pain
 - . Acting out in school
 - . School phobia or withdrawal
 - . Enuresis
 - . Encopresis
 - H. Dental problems
- The aetiology and complications of each of the following in the school age child:
- 1. Caries
 - 2. Gingivitis
 - 3. Malocclusion

Section IV: Diagnostic Measures

Specific Objectives:

1. Utilize appropriate screening tests in school age children.
2. Evaluate the nutritional status of school age children.
3. Take a medical, obstetrical, family medical and socio-economic history from the parents of a school age child and from the child.
4. Do a physical examination on a school age child.
5. Perform certain diagnostic procedures.
6. Make an assessment of environmental hazards.
7. Organize a school health screening service.

Organization of Content

- A. Screening tests in school age children - how and when to do:
 1. Haemoglobin analysis
 2. Urinalysis
 3. Tuberculin testing
 4. Hearing and speech screening
 5. Vision screening
 6. Psychological testing
- B. Evaluating the nutritional status
 1. Height and weight - use and interpretation of growth curves
 2. Evaluation of iron nutrition
 3. Evaluation of dietary history information
- C. History taking
 1. See Module G for what to cover here
 2. Add:
 - a. Analysis and use of information supplied by the school
 - b. Taking a history from the school age child
- D. Physical examination - see Module G

Section IV: Diagnostic Measures
Organization of Content - cont ...

E. Diagnostic Procedures

1. See Module G
2. Add:
 - a. Skin biopsy
 - b. Skin scraping for fungi and *O. volvulus*

F. Assessment of environmental hazards

1. At home
2. In the school
3. In recreational areas
4. Principle questions
 - a. Inflammable substances out of reach?
 - b. Adequate traffic regulation in areas of concentration of children?
 - c. Potable water supply?
 - d. Adequate waste disposal?
 - e. Adequate space?

G. Organization of a school health screening programme

1. Personnel needs
2. Logistic aspects
3. Supplies
4. Publicity
5. Cooperation of school personnel

Section V: Medical Intervention

Specific Objectives:

1. Educate children, parents, teachers, and community leaders about accident prevention.
2. Plan, organize, implement and evaluate school health services as well as services to school age children not in school.
3. Advise on and manage a school environmental hygiene programme.
4. Make appropriate referrals of severe cases of the diseases listed in Section III, A.-H., to secondary and tertiary care centers.
5. Manage the treatment and follow-up of less severe cases of the same diseases.

Organization of Content

- A. Education in accident prevention
 1. Methods
 - a. Group work
 - b. Community organization
 - c. Mass media
 2. Techniques
 - a. Field trips
 - b. Work days
 - c. Posters, displays, radio programming
 - d. Organizing community campaigns
- B. Planning, organizing, implementing and evaluating school health services
 1. Application of management techniques to organizing
 - a. Screening services
 - b. Immunization services
 - c. School health education
 - d. Treatment of common infections and nutritional deficiencies
 - e. Psychological counseling
 - f. Management of epidemics in boarding institutions
 - g. School meals services
 2. Implementation of each item under Section B.1., a-g.
 3. Training paramedical and auxiliary personnel in the implementation of Section B.1., a-g.
 4. Evaluation of these services
 5. Extension of these services to school age children who are not enrolled in school

Section V: Medical Intervention
Organization of Content - cont ...

- C. School environmental hygiene programmes
 - 1. Main concerns (See Section II.E., 1-8)
 - 2. Methods
 - a. Organization of students and teachers
 - b. Class-room teaching
 - c. Use of media: posters, filmstrips, photos, displays
 - d. Supportive organization of community leaders
 - 3. Role of the physician as advisor
- D. Referral of severe illness
 - 1. Teach criteria for referral of each condition in Section III.A.-H.
 - 2. Survey referral sources in country for each condition listed in Section III, A.-H.
- E. Management of treatment and follow-up of less severe cases
Discuss these items for each condition listed in Section III, A.-H.
 - 1. Mode of treatment
 - 2. Prognosis
 - 3. Follow-up needs
 - 4. Roles of parents, the child himself, the school, the community, the physician and the nurse in the follow-up period
 - 5. The physician as teacher, support, advisor

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CHAPTER 10

PEDIATRIC AND ADOLESCENCE

1001-1005 pages

1. RATIONALE

As a group, adolescents are the most neglected by the practitioners of medicine. Yet they have pressing medical and social needs that require particular attention. Because adolescence is a period of rapid growth, there are special nutritional requirements. Because sexual maturation is taking place, parenthood is an ever-present possibility; many adolescents in fact become parents before maturation is complete. As they acquire adult responsibilities and adult roles, special educational and social needs come to the fore. Adolescents are particularly open to counseling about career planning, preventive health measures especially accident prevention, venereal disease, marriage and family planning. Medical students need this special knowledge and the skills associated with the care of adolescents if they are to fulfill their future roles in family health.

This module links the previous ones, which concerned the turn of one life cycle through the stages of childhood with the next one in adulthood which in fact will complete a full turn of the cycle. It will attempt to cover the important medical and social needs of adolescents and the appropriate intervention of physicians in meeting these needs. Complementary to these two concerns will be sections related to cultural beliefs and practices, normal physiology and sociology, and special diagnostic measures. Where there is overlap with other modules, it will be noted, but items will be repeated at times for the sake of emphasis.

Section I: Cultural Aspects

Specific Objectives:

1. Describe prevalent practices regarding initiation to adulthood.
2. Describe prevalent sexual habits, practices, beliefs.
3. Discuss prevalent marriage customs, especially those concerned with choice of partner, the importance of virginity, assurances of fertility, polygyny, bride price, and rupture of union.
4. Discuss the respective status of adolescent boys and girls in the society in question, especially the implications for co-education and other forms of inter-relationship.
5. Describe local beliefs and practices regarding venereal disease.

Organization of Content

- A. Initiation to Adulthood
 1. Description of local practices
 - a. For boys
 - b. For girls
 2. Belief system surrounding practices
 3. Historical evolution of initiation rites to the present
- B. Sexual practices, beliefs
 1. Those relating to boys
 2. Those relating to girls
 3. Those responsible for upholding sanctions
- C. Marriage customs
 1. Choice of partner
 - a. Age considerations
 - b. Endogamy vs. exogamy
 - c. Affective considerations
 - d. Roles of parents, older siblings, other special persons
 2. Concerns with virginity
 - a. How determined
 - b. Relative importance
 3. Fertility considerations
 - a. Importance of beliefs about
 - b. How determined
 - . male
 - . female
 - c. Prevalent practices
 4. Polygyny
 - a. Prevalence
 - b. Beliefs

Section II. Normal Structure and Function

Specific Objectives

1. Describe the normal pattern of anatomic and physiologic change during puberty and adolescence, including the normal variations.
2. Describe the psychosocial and cognitive aspects of development during early, middle, and late adolescence.
3. Describe normal patterns of group behaviour in adolescence.
4. Discuss the nutritional requirements of adolescents.

Organization of Content

- A. Anatomic and physiologic change
 1. Somatic growth
 - a. Bony and muscular
 - b. Organs
 - c. Changes in height and weight
 2. Sexual development
 - a. Primary sexual characteristics
 - b. Secondary characteristics
 3. Metabolic changes
 - a. Glucose
 - b. Fats
 - c. Iron
 4. Concept of normal variation
- B. Nutritional requirements
 1. Caloric needs - variations with age and activity
 2. Protein requirements
 3. Requirements in carbohydrates and fats
 4. Needs for minerals, especially iron
 5. Vitamins
 6. Fluid needs
- C. Psychosocial and cognitive aspects of development during early, middle and late adolescence
 1. "Tasks" of adolescence
 - a. Attainment of separation and independence from parents with subsequent return to parents in modified relationship
 - b. Identification of biological sex role and establishment of sexual identity
 - c. Attainment of ethical and moral standards acceptable to their society and the development of a personal moral system
 - d. Decision making regarding educational and vocational futures

Section II. Normal Structure and Function

Organization of Content - cont...

6. 2. Role of family in promotion of normal adolescent psychosocial development.
 1. The adolescent's cognitive development
 - a. Development of ability to think about concepts abstracted from reality
 - b. Ability to evaluate his or her behaviour in terms of ideals and ideologies.
 4. Psychosocial needs relating to normal development
 - a. Gradual relinquishing of parental limits and controls
 - b. Need for gradual development of capacity for intimacy as well as consolidation of feelings of self-assurance and independence
 - c. Understanding and support by parents during normal adolescent rebellion and ongoing separation process from parents
 - d. Peer group acceptance and support
 - e. Role models in various walks of life, including models for the establishment of sexual identity and marital roles
 - f. Availability of information and opportunity to discuss questions resulting from heightened curiosity about their bodies and sexual development
 - g. Community resources offering both acceptable and desirable peer group activities
 5. Educational needs relating to normal development
 - a. Information on body function and needs and how to fulfill them.
 - . Nutritional
 - . General Health
 - . Sexual
 - b. Education for citizenship as well as intellectual achievement
 - c. Conceptualization of affirmative cultural values, family roles and functions and social relationships

Section III. Health and Social Problems of Adolescents

Specific Objectives:

1. Discuss the aetiology, pathophysiology, and complications of delayed or precocious puberty.
2. Discuss the aetiology and symptomatology of the disorders of menstruation.
3. Discuss the main causes and complications of accidents.
4. Describe the aetiology, epidemiology, pathophysiology, and complications of the main infectious diseases.
5. Describe the main types of malnutrition, their causes and complications.
6. Discuss the aetiology, epidemiology, symptomatology, pathophysiology, and complications of venereal disease.
7. Describe and discuss the main psychosocial problems: their presumed aetiology, their symptomatology, their epidemiology, and complications.
8. Discuss the chief problems of teenage (under age 17) pregnancy.

Organization of Content

A. Delayed puberty

1. Aetiology
 - a. Endocrine disturbances
 - b. Chromosomal disorders
 - c. Chronic infections
 - d. Malnutrition
2. Pathophysiology
 - a. In girls
 - b. In boys
3. Complications
 - a. Biologic - where sterility or lowered fertility occurs
 - b. Psychologic and social

B. Precocious puberty

1. Aetiology
 - a. Endocrine disturbances
 - b. Iatrogenic causes
 - c. Neoplastic conditions
2. Pathophysiology
 - a. In girls
 - b. In boys
3. Complications
 - a. Biologic - where fertility is affected
 - b. Psycho-social

Section III. Health and Social Problems of Adolescents
Organization of Content - cont...

G. Disorders of menstruation

1. Types

- a. Amenorrhoea
- b. Endocrine
- c. Psychologic
- d. Nutritional
- e. Neoplastic

3. Pathophysiology of each aetiologic classification

D. Accidents amongst adolescents,

1. Causes

- a. Motor and route accidents
- b. Burns
- c. Sports
- d. Occupational

2. Complications

- a. Permanent handicaps
 - . Mental And/or psychologic impairment
 - . Disfigurement
 - . Physical disabilities
- b. Death

E. Infectious diseases

For each of the following discuss the aetiology, epidemiology, pathophysiology, and complications in adolescents:

1. Tuberculosis
2. Urinary tract infections
3. Schistosomiasis
4. Trypanosomiasis
5. Filariasis
6. Leprosy
7. Infectious hepatitis
8. Mumps
9. Meningoencephalitis

F. Venereal disease

For each of the following, discuss the aetiology, epidemiology, symptomatology, pathophysiology, and complications:

- a. Syphilis
- b. Gonorrhoea
- c. Lymphogranuloma venereum
- d. Granuloma inguinale
- e. Trichomoniasis

Section III. Health and Social Problems
Organization of Content - cont...

G. Haemoglobinopathies

1. Course

2. Complications

H. Psychosocial problems

For each discuss the presumed aetiology, the symptomatology, the epidemiology, the family dimensions, and the complications:

1. Abuse of drugs, including alcohol

2. Sexual promiscuity and prostitution

3. Sexual assault, including incest

4. Juvenile delinquency

5. Abuse and neglect of adolescents

6. Abusive and negligent teenage parents -- especially high-risk parents

7. The psychosocial problems of the mentally retarded adolescent

I. Psychiatric disorders and psychiatric aspects of other diseases

Discuss the manifestations, the family dimensions and the complications of the following in adolescents (see Section III, G. in the preceding module)

1. School phobia

2. Conversion reaction

3. Depression and/or suicidal behaviour

4. Schizophrenia

5. Psychogenic abdominal pain

6. Impulse-ridden personality disorder

7. Obsessive compulsive personality

8. Anorexia nervosa

9. "Rootwork", hex, witchcraft manifestations

10. Psychosomatic disorders, including

a. Ulcerative colitis

b. Asthma

c. Peptic ulcer

d. Rheumatoid arthritis

e. Uncontrolled diabetes mellitus

11. Chronically ill adolescents with diabetes, renal disease, heart disease, orthopedic disorders, seizures, etc.

12. Adolescents with terminal illnesses - e.g. leukemia, chronic renal disease, far advanced tuberculosis, far advanced schistosomiasis, and other malignancy

13. The adolescent with learning disabilities

Section IV. Diagnostic Measures

Specific Objectives:

1. Take a medical and social history from an adolescent.
2. Perform a physical, neurologic, and gynaecologic examination as appropriate on adolescent clients.
3. Diagnose gonorrhoea and tuberculosis by laboratory methods.
4. Diagnose iron deficiency and sickle-cell anaemia by laboratory methods.
5. Use combined clinical and laboratory methods to diagnose the other conditions mentioned in Section III, A.-I., but especially pregnancy, drug addictions, and psychosocial problems.

Organization of Content

- A. History taking
 1. The approach to the adolescent
 - a. Techniques for use with boys
 - b. Techniques for use with girls
 2. The medical history
 3. The social and psychologic history
- B. Physical examination
 1. Anthropometric measurements and their interpretation
 2. Vital signs, particularly blood pressure
 3. Major features of the remainder of the physical, such as posture and skeletal deformities, signs of tuberculosis, signs of venereal disease
 4. The neurologic examination
 5. The gynaecologic examination
- C. Laboratory methods (see also Modules F, G, H, Section IV in each)
 1. Smear and culture for gonorrhoea
 2. Sputum examination and tuberculin testing
 3. Haemoglobin, haematocrit, red cell morphology, red cell indices, sickle-cell preparation
- D. Diagnostic criteria

Review conditions in Section III, A.-I., and discuss diagnostic methods and criteria for each one. In addition, emphasize the following:

 1. Diagnosis of pregnancy
 2. Diagnosis of drug addiction
 3. Diagnosis of psychosocial conditions

Section V. Medical Intervention

Specific Objectives:

1. Perform individual counseling and guidance regarding menstruation, puberty, personal hygiene, nutrition, accident prevention, conception, pregnancy, contraception, smoking, alcohol, and drug addiction.
2. Carry on group health education on any of the subjects in (1) above - for adolescents and parents.
3. Plan, organize, implement, and evaluate a school health service at the secondary level.
4. Serve as medical adviser to sports and/or recreational programmes.
5. Recommend and prescribe and/or apply appropriate contraceptive techniques for adolescents.
6. Make appropriate referrals of conditions in Section III., A.-I., to secondary and tertiary care centers.
7. Manage the treatment and follow-up of less severe cases of the conditions in Section III., A.-I.

Organization of Content

- A. Individual counseling and guidance
 1. Techniques for adolescents and their parents
 2. Themes
 - a. Menstruation
 - b. Puberty
 - c. Personal hygiene
 - d. Nutrition
 - e. Accident prevention
 - f. Conception
 - g. Pregnancy
 - h. Contraception
 - i. Smoking
 - k. Drug addiction
- B. Group health education
 1. Techniques for different age groups
 2. Themes as above
- C. School health services
 1. Screening and immunizations
 - a. Disease in question
 - b. Methods
 - c. Role of physician, nurse, aide
 - d. Follow-up and treatment

Section V. Medical Intervention
Organization of Content - cont...

2. School health education
 - a. Methods
 - . Group work
 - . Organization of students and teachers
 - b. Techniques
 - . Use of media
 - . Contests
 - . Drama etc.
 - c. Themes
 - . School health environment
 - . Human reproduction
 - . Venereal disease
 - . Nutrition
 - . Child care
 - . Aetiology and prevention of diseases
 - d. Roles of teacher, nurse, physician, sanitarian, and other health personnel
3. School health environment:
 - a. Major concerns - see Module H (Section II.E.)
 - b. Methods of improvement
 - . Organization of teachers and students
 - . Classroom teaching
 - . Supportive organization of community leaders
 - . Self-help projects such as latrines, garbage pits, wells, clean-up campaigns
 - c. Role of the physician as advisor, role of teacher, nurse, sanitarian
- D. Sports and recreation
 1. Elements in a well-run programme
 2. Role of physician as advisor
 3. Health problems arising from
 - a. Types
 - . Physical from injury
 - . Psychologic
 - b. Treatment and follow-up
- E. Contraception for adolescents
 1. Types available to adolescents
 - a. Condom
 - b. Pill
 - c. IUD
 2. Advantages and disadvantages of each one
 3. Criteria for recommending each one
 4. Insertion of IUD or prescribing the pill for an adolescent

Section V. Medical Intervention
Organization of Content - cont...

- F. Referral of serious cases of conditions in Section III., A.-I.
 - 1. Criteria for referral
 - 2. Available secondary and tertiary care facilities
- G. Management of the treatment and follow-up of milder cases of conditions in Section III, A.-I.
 - 1. Modes of treatment for each one
 - 2. Prognosis
 - 3. Follow-up
 - 4. Roles of the family, the client, the school, the community, physician and nurse in follow-up

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MODULE 12

ADULTHOOD

Pages 18-14

I. RATIONALE

The family life-cycle has now made a complete turn. The children who once were the objects of parental concern have now become parents themselves. With this turn of the cycle, a host of health problems which preoccupies health personnel caring for a younger population has now given way to a set of problems peculiar to adults. Medical personnel need to be particularly cognizant of the important social, psychologic, and biologic aspects of parenthood, as well as factors which help and those which hinder adults from playing important family roles.

This module is organized differently from previous ones. First, adults are viewed largely in their family roles, parenthood is defined culturally and socially, then it is treated from three different points of view, depending upon the influence of various factors of parental function. The biologic aspects will include nutritional requirements, physiologic phenomena, and important diseases and accidents of men and women. Social aspects will touch on education, employment, roles, relationships, mobility, marital practices and a range of socio-economic problems. Finally, the psychologic aspects will be discussed; the aspirations and expectations of parents and the psychological problems they face, such as addictions, psychoses, neuroses, psycho-sexual problems, and marital problems.

After this discussion, the module continues as the others covering diagnostic measures and medical intervention in the final two sections.

By taking the approach of this module the curriculum builder or course instructor will be able to help students focus on adults in their family roles as various health and disease factors impinge upon them. Other viewpoints are possible; adults as economic providers, adults as community members, but the one taken here emphasizes adults in their roles as parents and family leaders.

Section I: Cultural and Social Concepts and Definitions

Specific Objectives:

1. Describe prevalent beliefs and practices pertaining to marriage, parenthood and the rights and roles of men and women.
2. Describe traditional medical and surgical practices related to male and female roles.
3. Define food and other taboos as applied to males and females.
4. Define parenthood and various other adult roles according to socio-economic concepts.

Organization of Content

- A. Beliefs and practices pertaining to marriage, parenthood and the rights and roles of men and women. Include the following:
 1. Courtship: criteria for selection of wives/husband, exogamy vs. endogamy
 2. Marriage ceremonies and fertility rites
 3. Plural marriage
 4. Pre-marital pregnancy: significance
 5. Extra-marital pregnancy: how handled
 6. Abortion: how viewed, how practiced
 7. Venereal disease: implications
 8. Promiscuity: male and female
 9. Prostitution, especially where pregnancy occurs
 10. Determination of family size
 11. Practices in early stages of infant care, e.g. does wife return to village of origin for a period of time?
 12. Roles of male and female parent regarding rearing and education of male and female children
 13. Rights and responsibilities of various adult family members regarding formal education of children, approval of children's decisions about their marriage and career, and the inheritance of family land and possessions
 14. Roles of various family members in the event of the death of one or both parents, or in the case of divorce or separation

Section 1: Cultural and Social Concepts and Definitions
Organization of Content - cont ...

- A. 15. The problems of both primary and secondary infertility
- 16. Responsibilities of more affluent adult family members for the offspring of less affluent family members.
- 17. Religious roles of adult family members: male and female
- B. Traditional medical and surgical practices
 - 1. Male/female circumcision
 - 2. Tribal markings
 - 3. Treatment of certain diseases and symptoms
 - a. Tuberculosis
 - b. Venereal diseases
 - c. Malaria and other parasitic diseases
 - d. Impotence
 - e. Infertility
 - f. Pain syndromes: headache, backache
 - g. Problems associated with the menopause
 - h. Fever
 - i. Mental illness
 - j. Physical handicaps, including blindness and deafness
- C. Taboos: food, sexual, reverence for ancestors
 - 1. Male
 - 2. Female
- D. Social and economic concepts of parenthood and other adult roles
 - 1. Parents as economically active family members
 - 2. Parents as purveyors of cultural values
 - 3. Parents as educators
 - 4. Parents as protectors of children
 - 5. How parental roles are learned
 - a. Influence of one's own parents
 - b. Intragenerational influence - influences of peers
 - 6. Evolving parental roles
 - a. Effects of urbanization
 - b. Influences of education especially that of women
 - c. Influence of shift from employment exclusively in agriculture to industry

Section II: biologic Factors Influencing Parental Function

Specific Objectives:

1. Define the nutritional requirements of adult males and females aged 18 - 44.
2. Describe the anatomic and physiologic evolution of men and women aged 18 - 44, i.e. the aging process.
3. Describe the aetiology, pathophysiology, epidemiology, and complications of the major diseases and accidents affecting men and women aged 18 - 44.

Organization of Content

- A. Nutritional requirements: male and female; for males when working strenuously and when sedentary, for females when pregnant, when lactating, and when non-pregnant.
 1. Total calories
 2. Protein
 3. Carbohydrates and fats
 4. Vitamins
 5. Minerals
 6. Fluids
- B. The aging process
 1. Male
 - a. Cardio-respiratory
 - b. Musculo-skeleto-cutaneous
 - c. Nutritional needs
 - d. Gastrointestinal
 - e. Psychosexual and endocrine
 - f. Neurological
 - . Brain function
 - . Peripheral nerve function, including sight and hearing
 2. Female
 - a. Cardio-respiratory
 - b. Musculo-skeleto-cutaneous
 - c. Nutritional needs
 - d. Gastrointestinal
 - e. The menopause and other endocrine
 - f. Neurological
 - . Brain function
 - . Peripheral nerve function, including sight and hearing

Section II: Biologic Factors Influencing Parental Function
Organization of Content - cont ...

C. The biologic environment

1. Food supply, variety
2. Water supply
3. Waste disposal
4. Vector prevalence

D. Major diseases and accidents

For each discuss the aetiology, pathophysiology, epidemiology, and implications:

1. Bacterial diseases

- a. Lobar pneumonia
- b. Staphylococcal infections
- c. Bacterial dysentery
- d. Brucellosis
- e. Meningococcal meningitis
- f. Urinary tract infection
- g. Typhoid fever
- h. Cholera
- i. Gonorrhoea
- j. Tuberculosis
- k. Leprosy
- l. Syphilis
- m. Relapsing fever
- n. Leptospirosis
- o. Trachoma

2. Viral diseases

- a. Yellow fever
- b. Other arbovirus infections
- c. Viral hepatitis
- d. Smallpox

3. Rickettsial diseases

- a. Typhus: murine and epidemic
- b. Tick bite fever.

4. Fungal infections - Dermatomycoses

5. Parasitic infections

- a. Malaria
- b. Trypanosomiasis
- c. Amoebiasis

Section II: Biologic Factors Influencing Parental Function
Organization of Content - cont ...

- D. 5. J. Bilharziasis
 - e. Filariasis
 - . Wuchereria bancrofti
 - . Loa loa
 - . Onchocerca
 - f. Intestinal parasites
- 6. Physical handicaps
 - a. Epilepsy
 - b. Diabetes mellitus
 - c. Paralysis or other loss of function due to injury or disease
 - d. Blindness and deafness
- 7. Accidents and injuries, including homicide, suicide and other violence
- 8. Malignant diseases
- 9. Intoxications and addictions
- 10. Diseases confined to women
 - a. Infections of the pelvic organs
 - . Gonorrhoea
 - . Syphilis
 - . Other venereal diseases
 - . Tuberculosis
 - . Schistosomiasis
 - . Streptococcal
 - b. Neoplastic disease: cervix, endometrium, ovary
 - c. Diseases of the breast
 - . Infection
 - . Neoplasia
- 11. Diseases confined to men
 - a. Infections of the genito-urinary tract
 - . Gonorrhoea
 - . Syphilis
 - . Other venereal disease
 - . Tuberculosis
 - . Viral infections, e.g. mumps
 - b. Neoplastic disease of penis, testes, scrotum, prostate

Section III: Psychologic Factors Affecting Parental Function

Specific Objectives:

1. Describe the main psychologic aspects of parental function.
2. Describe the important psychologic problems of parents.

Organization of Content

- A. Psychologic aspects of parental function
 1. Development of a positive self-image/feelings of adequacy as a parent.
 2. Degree of security felt during one's own childhood.
 3. Ability to develop realistic expectations of children both pre-natally and subsequently.
 4. Ability to form strong bonds of relationship with spouse and with offspring as well as with friends and other family members.
 5. Ability to cope with the independence/dependence vacillations of adolescents.
- B. Psychologic problems of parents
 1. Psychiatric disorders
 2. Addictions (drugs, alcoholism)
 3. Sexual problems
 4. Failure of maternal-infant bonding
 5. Disordered perceptions and expectations of children
 6. Complications of menopause

Section IV: Diagnostic Measure for Use with Adults 18 - 44

Specific Objectives:

1. Take a complete medical and social history from both men and women.
2. Do a complete physical and neurological examination on men and women.
3. Do a psychiatric screening examination.
4. Order and interpret laboratory and x-ray examinations appropriately.
5. Perform certain rudimentary laboratory tests.

Organization of Content

A. History taking

1. History of present illness
2. Past medical history: physical and mental illnesses
3. Review of systems
4. Family medical history
5. Social history

B. Physical examination

1. General exam using observation, taking of vital signs, palpation, percussion, and auscultation
2. The neurologic examination
3. The gynaecologic examination
4. Aspects of dermatologic diagnosis
5. Endoscopic technique

C. Psychiatric screening

1. Major symptoms of psychiatric disorders
 - a. Anxiety neurosis
 - b. Manic-depressive psychosis
 - c. Schizophrenia
 - d. Hysteria
 - e. Alcoholism and drug addiction
 - f. Psychosomatic illness, such as
 - . Asthma
 - . Irritable colon
 - . Ulcerative colitis
 - . Regional enteritis

Section IV: Diagnostic Measures for Use with Adults 18 - 44
Organization of Content - cont ...

- C. 2. Other psychologic evaluation of importance
 - a. Orientation to time, place and person
 - b. Description of affect
 - c. Estimate of "coping" power
 - d. Estimate of self-image
- D. Laboratory and x-ray examinations
 - 1. Appropriate use
 - 2. Evaluation of relevant studies to conditions described in Section II, D., 1-11.
 - 3. Selection of studies according to accuracy, reliability, cost and convenience
 - 4. How to perform certain tests
 - a. Haemoglobin analysis
 - b. Haematocrit
 - c. Urinalysis
 - d. Thick smear for parasites
 - e. Stool for ova and parasites
 - f. Stool for occult blood
 - g. Cerebrospinal fluid
 - h. Skin scrapings for fungi and onchocerca
 - i. Gram stain of pus, urine sediment, other sediments and aspirates
 - j. Plating and reading simple bacterial cultures: throat, urine, skin infections, CSF
 - k. Electrocardiography
 - l. Spirometry

Section VI: Medical Intervention

Specific Objectives:

1. Make appropriate use of referral to community agencies.
2. Engage in general health education and counseling of young adults.
3. Perform screening tests for certain key diseases.
4. Treat each of the conditions listed in Section II, D., 1-9 in both hospital and health center settings as appropriate.
5. Manage occupational, physical and other rehabilitative therapy where called for.
6. Carry on domiciliary care using auxiliary and paramedical personnel whenever possible.
7. Train, support and administer auxiliary and paramedical personnel in each of the activities 1 - 6 just above.
8. Manage both curative and preventive/promotive services to a whole community or region with attention to the needs of adults 18 - 44.

Organization of Content

- A. Appropriate use of community agencies
 1. Types of agencies
 - a. Employment
 - b. Housing
 - c. Planned parenthood
 - d. Child care
 - e. General welfare
 - f. Special education of blind, deaf, retarded
 - g. Health insurance
 - h. Food and nutrition
 - i. Other
 2. Criteria for referral to each one
- B. Health education
 1. Methods
 - a. Individual counseling
 - b. Group work
 - c. Community organization
 - d. Mass media
 2. Techniques
 - a. Effectiveness
 - b. Cost
 - c. Convenience of use

Section V: Medical Intervention
Organization of Content - cont...

- B. 3. Themes
- a. General health and hygiene
 - b. Available diagnostic preventive and curative services
 - c. Premarital counseling
 - d. Marital counseling
 - e. Family planning
 - f. Chemoprophylaxis for malaria and trypanosomiasis, occasionally for epidemic meningitis or yaws.
 - g. Child rearing
 - h. Normal growth and development of children
 - i. Behaviour problems in children, feeding problems
 - j. Alcohol and drugs
 - k. Smoking
- C. Screening tests
- 1. Conditions for which used include:
 - a. Hypertension
 - b. Cervical carcinoma
 - c. Diabetes mellitus
 - d. Tuberculosis
 - e. Urinary tract infection
 - f. Schistosomiasis
 - g. Other
 - 2. Criteria of evaluation
 - a. Accuracy - define
 - b. Reliability - define
 - c. Cost
 - d. Convenience
- E. Therapy of each of the conditions listed in Section II, D., 1-11. focus on:
- 1. Whether hospital or out-patient treatment is more appropriate, criteria for decision
 - 2. Follow-up needs
 - 3. Where domiciliary care appropriate - define criteria
- F. Occupational, physical and rehabilitative therapy: as appropriate in the treatment of conditions listed in Section II, D., 1-11
- G. Training, medical direction, and support of auxiliary and para-medical personnel
- 1. Role of physician in each of these functions

Section V: Medical Intervention
Organization of Content - cont ...

- G. 2. Specific aspects of each function in relation to conditions listed in Section II.D., 1-11.
- H. Management of health services to young adults
 - 1. Principles of management
 - a. Setting objectives based on assessment of needs
 - b. Planning activities
 - c. Estimating and allocating resources
 - d. Implementation
 - e. Evaluation
 - 2. Communication methods
 - 3. Accounting and budgeting
 - 4. Reporting

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MODULE K:
OLD AGE
(45+ years)

I. RATIONALE

As the health status of a population improves, more children survive the first five years of life, thanks to better control of infections, improved nutrition, and increased pregnancy intervals. When the mortality rates decline in this highly vulnerable group, more children survive to become adults. In turn, these adults also benefit from improved health conditions. They survive to become members of a group that is ever-increasing in size - the elderly. As elderly people occupy a greater proportion of the population, their particular health problems come to have more influence on the delivery of services. Such a pattern has already emerged in the industrialized nations of Europe, North America and Japan. There is no reason to believe that increasing child survival rates in developing African countries will not have the same effect.

Even for the relatively small group of older adults (45+) now existing in African countries, some special considerations must be made. The purpose of this module is to outline those considerations as they pertain to the teaching of family health. First, cultural aspects of the care of the aged will be presented; then the discussion of the normal process of aging begun in the last model will be continued. The unique health and social problems of old age will then be covered, followed by treatment of appropriate diagnostic, therapeutic, and preventive measures. The choice of the conditions to be covered will be determined by their importance, in epidemiologic terms, to the expenditure of public funds for treatment and care, and to the family in terms of potential loss of active members.

This module brings to an end the Life-Cycle Topical Outline for the Teaching of Family Health; old age as simply an extension of the process of early adulthood, is a part of the stage marking a complete turn in the cycle. The event which brings old age to a close is death, but conception and birth are recurrent events in the life of a family, and so the cycle does not stop but goes on.

II. OVERALL OBJECTIVES

The graduating medical student will be able to:

1. Describe prevalent traditional beliefs and practices related to the aged and their care.
2. Describe the normal physiology and psychology of aging.
3. Describe the important medical and social problems of the aged.
4. Employ diagnostic measures appropriate to the care of the aged.
5. Use appropriate therapeutic and preventive measures with the aged.
6. Train, administer, and support paramedical and auxiliary health personnel in the care of the aged.
7. Manage health services to the aged.

Section I: Cultural Aspects

Specific Objectives:

1. Define traditional values concerning the aged and their care.
2. Describe the roles of the elderly in the extended family.
3. Describe prevalent attitudes and beliefs about death and practices associated with the death of aged persons.

Organization of Content

- A. Traditional values concerning the aged
 1. Respect for authority
 2. Respect for wisdom
 3. Usefulness in domestic work
 4. General esteem with which regarded
 5. Deserving of charity
- B. Roles of older adults
 1. Male
 - a. Judiciary role in family decisions
 - b. Religious roles
 - c. Role in guarding fetishes, taboos, reverence for ancestors, traditions
 - d. Ceremonial role
 - e. Role as transmitters of information from generation to generation
 2. Female
 - a. Household tasks
 - b. Initiation of young women
 - c. Overseer and support functions related to labour and childbirth
- C. Death
 1. Beliefs about
 - a. Meaning
 - b. Ultimate outcome
 - c. Role of family members
 2. Practices, e.g. ceremonies, mourning, weeping
 3. Attitudes
 - a. Acceptance
 - b. Grief
 - c. Fatalism and its function

Section II: Normal Physiology and Psychology

Specific Objectives:

1. Describe the physiologic process of aging, system by system.
2. Describe the psychology of aging in terms of the evolution of one's self-image.
3. Define the nutritional requirement of the aged.
4. Define the social and emotional needs of the aged.

Organization of Content

- A. The physiologic process of aging
 1. The endocrine system
 2. The musculo-skeletal-cutaneous system
 3. The nervous system
 4. The cardiovascular-respiratory system
 5. The gastrointestinal system
 6. The genitourinary system
 7. Perceptual changes: hearing, vision, and sensation

Discuss each system for males and females aged 45 and older
- B. The psychology of aging - the evolving self-image
 1. Feelings of usefulness
 2. Importance of support from children and family
 3. Attitudes and feelings re: sexuality
 4. Feelings about changes in body habitus, physiognomy
- C. Nutritional requirements of the aged
 1. Reduced caloric needs as activity diminishes
 2. Requirements in protein, fats and carbohydrates, vitamins, minerals, and fluids with advancing age
- D. Social and emotional needs
 1. Defined roles

Section II: Normal Physiology and Psychology
Organization of Content - cont...

- D. 2. Surviving offspring
- 3. Peer supports
- 4. Intellectual and mental stimulation
- 5. Affection, emotional support

Section III. Medical and Social Problems of the Aged

Specific Objectives:

1. Describe the aetiology, pathophysiology, and complications of the degenerative diseases of the aged.
2. Describe the aetiology and pathophysiology of the complications of the menopause.
3. Describe the pathophysiology, epidemiology, and complications of the important neoplastic diseases of the aged.
4. Describe the aetiology, epidemiology, and complications of the frequently occurring accidents of the aged.
5. Describe the pathophysiology, epidemiology, and complications of the nutritional problems of the elderly.
6. Describe the cause, characteristics, and complications of the important socio-economic problems of the aged including their interrelation with the aetiology of other diseases.
7. Describe the presumed aetiology, the characteristics, and complications of the prominent psychiatric disorders of the aged.
8. Describe the aetiology, pathophysiology, and complication of senile dementia.

Organization of Content

- A. Degenerative and chronic diseases - aetiology, pathophysiology, epidemiology, and complications of each of the following:
 1. Osteoarthritis
 2. Arteriosclerosis and its complications
 3. Hypertension and hypertensive cardiovascular disease
 4. Prostatic disease
 5. Late onset diabetes mellitus
 6. Chronic renal disease
 7. Tertiary syphilis
 8. Late-stage gonorrhoea
 9. Complications of alcoholism
 10. Blindness and deafness
- B. Complications of the menopause - aetiology and pathophysiology of:
 1. Physical complications of loss of oestrogen protection

Section III. Medical and Social Problems of the Aged
Organization of Content - cont...

- B.
 - 1.
 - a. Arthritis
 - b. Arteriosclerosis
 - c. Hot flashes
 - d. Fatigue
 - 2. Psychological complications
 - a. Difficulties with self-image
 - b. Clinical depression
 - c. Anxiety symptoms
 - d. Seeming aggravation by childlessness
- C. Neoplastic diseases - pathophysiology, epidemiology and complications of the following:
 - 1. Primary hepatoma
 - 2. Carcinoma of the cervix
 - 3. Endometrial carcinoma
 - 4. Burkitt's lymphoma
 - 5. Chronic leukemia
 - 6. Carcinoma of the stomach
 - 7. Carcinoma of the bladder
 - 8. Carcinoma of the large intestine
 - 9. Carcinoma of the breast
- D. Accidents - aetiology, epidemiology and complications of the following:
 - 1. Falls
 - 2. Burns
 - 3. Other effects or trauma
 - 4. Relation of changes in mentation and perception to incidence of accidents
- E. Nutritional problems - pathophysiology and complications of the following:
 - 1. Nutritional deficiencies
 - a. Total calories
 - b. Protein
 - c. Iron
 - d. Vitamins
 - 2. Hypernutrition - obesity

Section III. Medical and Social Problems of the Aged
Organization of Content - cont...

- F. Dental problems
- G. Endocrine disorders
 - 1. Thyroid
 - a. Hypothyroidism
 - b. Hyperthyroidism
 - 2. Adrenocorticoid
- H. Socio-economic problems - presumed cause, characteristics and complications of the following:
 - 1. Childlessness - particularly a problem for women and resulting in isolation.
 - 2. Poor housing
 - 3. Poor nutrition resulting from inability to function in a subsistence economy
 - 4. Inadequate access to medical care - secondary to lack of money, and lack of transportation
- I. Psychiatric disorders - presumed aetiology, characteristics and complications of the following:
 - 1. Depression, occasionally leading to suicide
 - 2. Anxiety symptoms
 - 3. Alcoholism
 - 4. Drug addiction
 - 5. Senile dementia - see arteriosclerosis
 - 6. Psychosomatic problems, see Section V B.3., a.b., in the preceding module.

Section IV. Diagnostic Measures

Specific Objectives:

1. Take a medical and social history from an elderly person.
2. Evaluate the optic fundus for hypertensive and diabetic changes.
3. Examine the heart and read an electrocardiogramme.
4. Do a rectal examination to evaluate the rectum and prostate.
5. Perform a proctoscopic examination.
6. Perform a gynaecologic examination
7. Perform a complete neurologic examination
8. Use and interpret laboratory and x-ray to diagnose conditions in III B. 1-g.

Organization of Content

- A. The medical and social history
 1. Special techniques for use with an elderly person
 2. Importance of speaking the person's language and understanding his or her culture.
 3. Special emphasis on evaluating nutrition, cardiac status, mental status, mobility.
- B. Evaluation of the optic fundus for
 1. Hypertension
 2. Diabetes mellitus
- C. Examination of the heart
 1. Percussion and palpation
 2. Auscultation
 3. Electrocardiography: taking and interpreting a reading
 4. X-ray examination
- D. The rectal examination
 1. Techniques and precautions
 2. Evaluating the rectum
 3. Evaluating the prostate
- E. Proctoscopy
 1. Techniques and precautions
 2. Interpretation of findings

Section IV. Diagnostic Measures
Organization of Content - cont...

- F. Gynaecological examination
 - 1. Special techniques in the elderly
 - 2. Interpretation of findings
- G. The neurologic examination
 - 1. Components
 - a. Cranial nerves
 - b. Peripheral motor and sensory function
 - c. Deep tendon reflexes
 - d. Superficial reflexes
 - e. Cerebellum function
 - f. Posterior spinal function
 - g. Gait and stance
 - h. Vision
 - i. Hearing
 - 2. Techniques for each
 - 3. Interpretation of frequent findings - arteriosclerosis, hypertensive cardiovascular disease, alcoholism, diabetes mellitus, and malignant neoplastic disease
- H. Laboratory and x-ray examinations specific to conditions in Section III, B, 1-g
 - 1. Appropriate use
 - 2. Interpretation

Section V. Medical Intervention

Specific Objectives:

1. Carry out health education of the aged and their families.
2. Promote proper nutrition of the aged.
3. Make appropriate referrals to community service agencies.
4. Make appropriate referrals for rehabilitative services.
5. Describe and evaluate results of pharmacotherapeutics in geriatric disease and terminal care.
6. Early intervention in the diseases discussed under Section III.
7. Train, administer, and support paramedical and auxiliary personnel in the care of the aged.
8. Organize, plan, and manage medical services to the elderly.

Organization of Content

- A. Health education
 1. Methods to use with the aged
 - a. Individual counseling
 - b. Group work
 2. Techniques
 - a. Group discussions
 - b. Demonstrations
 3. Themes
 - a. Proper nutrition
 - b. Accident prevention
 - c. Alcohol and drugs
 - d. Early diagnosis and treatment of disease
 - e. Precautions to take with medications, especially multiple ones
 - f. Supportive therapy for depression and other psychological problems
- B. Promoting proper nutrition of the aged
 1. Use of health education methods as above
 2. Collaboration with community leaders and agricultural agents to help lonely, isolated, or widowed persons
- C. Referrals for services in the community
Criteria and resources for
 1. Social security
 2. Health insurance
 3. Food supplements
 4. Housing
 5. Recreation

Section V. Medical Intervention
Organization of Content - cont...

- D. Referrals for rehabilitative services; criteria and resources
- E. Use of pharmacotherapeutic agents in geriatric disease and terminal care, consider especially:
1. Analgesics
 2. Sedatives
 3. Cardiac glycosides
 4. Antihypertensive agents
 5. Diuretics
 6. Antibiotics and anti-parastic drugs
 7. Chemotherapeutic agents
- F. Early intervention in diseases discussed in Section III.
Consider:
1. Choice of therapeutic preventive, and rehabilitative regimen
 - a. Cost
 - b. Effectiveness
 - c. Complications
 2. How to evaluate results of therapy
 3. Follow-up needs
- G. Training, management, and support of paramedical and auxiliary personnel
Pay attention to special features of training and management pertaining to the care of the elderly.
1. Home visitation
 2. Nutritional considerations
 3. Screening and follow-up physical assessment, lab tests
 4. Health education
- H. Management of health services to the aged. (See this section in previous modules for administrative aspects).
Features:
1. Transportation
 2. Home visitation
 3. Rehabilitation
 4. Community support systems

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CHAPTER 5 :

INSTRUCTIONAL STRATEGIES

Frank T. Stritter, Ph.D.

An instructional strategy can be very simply defined as a plan of learning activities designed to enable students to achieve a particular educational goal.

I. FACTORS INFLUENCING THE EFFECTIVENESS OF INSTRUCTION

Two important considerations influence the instructor's use of strategies for his/her instructional responsibilities. The first consideration is a workable set of programme/course goals or objectives defined as indications of what the students are expected to know, to do, or to feel as a result of instruction. Goals are general, often expressed in broad or abstract terms, and apply to an entire programme or course. An example of a goal is, "Students will develop an awareness of the needs of the elderly in relation to biological, sociological and psychological changes in the process of aging." (see Module K). An objective is more specific and might relate to a smaller segment of the instruction. An example might be, "Students will be able to describe the stages of psychological development in late life and be able to indicate the stage of a particular patient." The instructor can use goals and objectives as a guide in preparing a meaningful and consistent programme and in selecting and organizing appropriate strategies.

A second important consideration influencing choice and use of strategies is an understanding of how people learn. A series of factors or variables should be considered regardless of the particular instructional strategy that one chooses. The more that one can attend to each factor in the development of instruction, the more he/she can be assured that

optimal conditions for learning have been provided. The more important of these factors described together with specific illustrations from the teaching of the medical care of the aged are the following:

A. MEANINGFULNESS

Students tend to learn more if they know why they are studying a particular topic, subject or skill - that is, what meaning it has for them. By carefully outlining the relative importance of the subject matter, its relation to what has been studied previously and to what will be studied in the future and its possible utility in the student's future, the meaningfulness of the subject can be enhanced.

"It is recognized by medical practitioners in rural areas of Africa that many of the symptoms suffered by the elderly are either caused by or exacerbated by emotional factors. Understanding the psychological aspects of aging now will enable you to better deal with the medical care of elderly persons."

B. EXPECTATIONS

Students tend to learn better if they know what is expected of them than if they do not know. Teachers should therefore inform students what they should be able to do as a result of the instruction and how well they should be able to do it. It is not necessary to be overly specific, but students do benefit from a guide for organizing their learning.

"You should be able to illustrate the impact of 1) loss of self-image, 2) loss of family support, 3) diminished sexual ability, on the health status of the elderly by citing specific clinical examples, and then generalize your examples to the population of the elderly as much as you can justifiably."

C. PLEASANT CONDITIONS

A comfortable, congenial setting is important to learning. If students like what they are doing and are not distracted by unpleasant characteristics of the environment, their learning will be likely to be more effective and efficient.

"An introduction to the psychology of aging might be to have the students interview a variety of elderly men and women in their homes in both urban and rural settings and then to present and discuss the findings in a series of student conferences in the student lounge."

D. ACTIVE PRACTICE

The instruction should include opportunities for students to use the knowledge and/or skills which they are expected to learn in exercises. Such practice might be in the form of self-tests, oral quizzes, simulated or practical exercises and should be provided for all students relatively frequently during the learning sequence. Requiring that students use the information actively - in ways that are consistent with one's objectives - is one of the most important learning principles that a teacher can apply in his/her teaching.

"Illustrate the impact of psychological factors on the health problems of the aged by analyzing the results of one of your interviews. Generalize to the extent justified by the quality of your findings."

E. FEEDBACK

After students participate in practice exercises, they should be able to determine the results of their practice. Only through feedback of this nature can a student try out his understanding of the concepts being taught and correct any misunderstandings or deficiencies that may be present. Feedback should provide some discussion of the appropriate response and indicate what can be done to achieve a better result.

"You have obviously understood the psychodynamics of the health situation of the widow you interviewed. You should be able to give her good medical care. Your generalizations however, are weak. After all, not all widows are childless as in the case you discussed."

F. REINFORCEMENT

Students should receive some type of reward or incentive for an appropriate response or behaviour. A positive reinforcement of this nature

will be likely to strengthen the behaviour that produces it and increase the probability that it will recur. The best reinforcement comes through the task itself, that is, when the student is correct and can make that determination. Other forms of reinforcement include attention, recognition, praise and/or confirmation of correct answers from the instructor, free time at the conclusion of a successful performance, time for social interaction with peers, grades and other awards. Whenever possible, be positive.

"I intend to take the interview schedule you used in the rural setting and use it as an illustration for next year's course."

II. CATEGORIES OF INSTRUCTIONAL STRATEGIES^{*)}

Instructional strategies can be divided into two categories. One is instructional formats, the activity through which instruction occurs, or the manner in which it is organized. The other is instructional media, the manner in which information is communicated to a student. Representative types of media are diagrammes or illustrations, printed language in books, self-instructional materials, films, slides or the individual teacher lecturing to the students. The following section will focus on a description of the principal instructional formats, indicate the major uses of each and list representative advantages and disadvantages.

A. LECTURE/DISCUSSION

This approach is most often used with large groups of students where the instructor is the primary source of information and normally communicates to students in a one-way manner at a specific time and place, usually a lecture setting. Some students may have an opportunity to participate, but their interaction is generally limited and not planned. Lectures are efficient ways of communicating factual information and

^{*)} Material in this section is derived from a typology developed by CHARLES P. FRIEDMANN, of the Office of Medical Studies, University of

students generally find this approach adequate when recall of that information is tested at a later time. In addition, the lecture often serves a modeling function, allowing students the opportunity to observe scholars and professionals in their roles. There are some disadvantages, however.

1. The learning needs of individual students cannot be accommodated easily.
2. The students' role is generally passive.
3. Students do not generally acquire higher level intellectual abilities and attitudes as well as with some other formats.

Some important points should be remembered regarding lectures:

1. The purpose and objectives of the lecture and their importance to learners should be communicated.
2. Any "ground rules" for audience participation should be set.
3. The material and its message should be organized and presented logically and sequentially.
4. Attention should be drawn to or focus upon the main points.
5. Specific examples should be used to illustrate main points.
6. The presentation should be paced so that students can take notes. Consider distributing outlines which will guide note taking.
7. Transitions should be made between different segments of the lecture.
8. Evidence should be cited to support statements, and facts should be separated from opinion.
9. The instructor should work with only one medium at a time.
10. Supplementary resources should be prepared and presented and authorities should be cited when appropriate.
11. The instructor's own viewpoint should be presented along with divergent viewpoints for contrast and comparison.
12. New and/or technical terminology should be clarified.
13. Student questions and comments should be stimulated, responded to, and reinforced.

14. Summaries should be made periodically to reinforce important points and to achieve closure on issues.

B. SMALL GROUP INSTRUCTION

This approach promotes extensive peer interaction. It is organized around a specific task and utilizes small groups of less than 13 students. The sessions are student-centered and controlled, with the instructor serving only as a resource. Studies have shown that groups tend to generate more and better information and that the members are more inclined to accept the results when they have an opportunity to discuss them in a group than if they merely accept them from a teacher or work them out individually. Group members in addition are more likely to apply correct concepts, develop appropriate attitudes, increase their motivation, and develop collaborative skills as a result of participation in small student-centered groups.

Student-centered or small group discussion should have a task as its basis, not so specific that it will stifle creativity and student desired directions, but specific enough to provide some direction for the group. To begin the discussion, one might use a common experience followed by a "Why did --?" question, a problem which does not have a specific solution or a controversy. For students to learn effectively through student-centered discussions, they should develop certain skills:

1. Clarifying what the group is trying to do
2. Developing a willingness to talk about one's ideas openly and to listen and respond to the ideas of others
3. Planning effectively and efficiently so that issues can be formulated and out-of-class assignments can be determined before the group breaks up
4. Reinforcing the ideas of others so that their motivation to participate will be increased rather than decreased
5. Sensitivity to the feelings of other group members
6. Evaluating the various aspects and outcomes of the discussion.

C. SEMINARS

Like the previous approach, this one is based on group learning and active student participation, but in contrast each session is led by the instructor. In small group instruction, the instructor acts as only a resource and does not interfere unless asked by the students. In the seminar, the group leader adopts a democratic method of conduct. Policies and decisions are a matter of group discussion, but he facilitates, encourages and assists the process. By selecting the stimulus that sets the group in motion and by outlining the goals and procedural rules, he defines the group task. He establishes a model for behaviour of other group members. He is the chief facilitator of communication and interaction and is prepared to assume the role of expert when he feels it appropriate.

There are several seminar/discussion processes that can be used in a classroom setting:

1. Get-acquainted activities which facilitate group members' getting to know each other before significant discussion is undertaken. Each participant might be responsible for finding out something significant about another participant and then describe him/her to the group.
2. Individuals might work in pairs to undertake specific tasks or to provide each other feedback on the results of a task.
3. Discussions can be started with questions to specific people about problems, opinions, etc., which the leader knows that individuals hold.
4. Different participants and observers can be designated from meeting to meeting so that roles will be distributed and large groups can be broken into a manageable size for discussion.
5. Tasks can be organized so that groups compete against each other for results.
6. Cooperative tasks can be developed in which groups work together to complete a project or produce a product.
7. Paper and pencil exercises or questionnaires can be completed

by individuals and then responses compared as a stimulus for discussion.

8. Case studies may be used in which students read background information prior to discussion and then arrive at a solution or recommendation. The group is asked the question - "Now what to do?"
9. In role playing students act out a particular situation or interaction, using clearly defined roles as a discussion stimulus.
10. Games can be used, usually involving two or more persons. Specific information, on rules, opposing interests or conflict, constraints, goals or expected conclusions may be provided.

D. INDIVIDUALIZED INSTRUCTION

In this approach the individual student works to accomplish specific learning tasks at his own rate. It has several unique characteristics. First, the content is organized into a series of sequential units. Second, each unit has objectives, i.e., statements describing what the learner is expected to know, do or feel as a result of the instruction. Third, each unit includes a learning activity provided in any of a variety of forms which can be pursued individually. Fourth, through a readiness test after each unit, the student demonstrates that he can perform the objectives of the present unit before he/she can begin to work on the next one. Finally, the whole process has to be accomplished at the student's own individual rate. Students move step by step through each unit of the course or programme, ending only when they have completed all objectives. Contact with the instructor can be much or little, depending on the way instruction is organized. A course organized in this manner is designed to maximize success and reduce failure by permitting some students to finish before and others after the regularly scheduled completion time.

E. EXPERIENTIAL LEARNING

Through this approach a student or group of students learn indepen-

dently. The instructor usually helps the students formulate problems, find answers and evaluate their progress. Through an apprenticeship the students assume some portion of the role of a professional and endeavours to experience as much of that role as possible. This experience assists students to determine the "real world" relevance of the material, information or skills that they have been learning in the formal academic portion of the programme. Alternatively, the students may design, initiate or carry out their own projects. Here the students generally have complete responsibility for a project with a finite beginning and ending. For example, the student might carry out a survey and write the report. A final option for the student is to participate in an instructor-led project or team as a participant. He/she participates relatively autonomously, but nevertheless is definitely a junior colleague contributing only to the extent of his knowledge and experience.

III. ONE IMPORTANT POINT TO STRESS.

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One well-known fact about instruction is that there probably is no one best teaching strategy for all teachers to use with all students in all situations. There are ways for the teacher to make a decision, however. First, a teacher may, on the basis of educational philosophy and personal preference, choose the strategy that best suits the needs of his students. Students learn differently; consequently this consideration may well be the most important. More than one format or approach should be used whenever possible. Finally, a teacher must make a choice, yet be prepared to test and modify the decision. Thus, he must collect information on how well and how much students learn, how well they like it, how costly it is in time and money and how well the instructors like it. Using this information, the instructor can revise his programme to provide a better experience the next time it is offered.

CHAPTER 6 :

GUIDELINES FOR THE SELECTION AND UTILIZATION OF
EVALUATION METHODS IN THE TEACHING OF FAMILY HEALTH

Robert D. Stone, Ph.D.

I. PURPOSES OF EVALUATION

Plans for programmes of instruction usually include evaluation as a last step if they consider it at all. Evaluation is frequently conducted after teaching has been designed and implemented, yet if it is to achieve its primary goals, it must be planned before the teaching takes place in order to be maximally effective. If the teacher seriously thinks about what students should learn and how they can best learn it, he will have already laid a firm foundation upon which to base useful and productive evaluation efforts. In essence the three basic evaluation questions will have been posed:

1. Did the students learn what they should have learned?
2. How effective was the teaching in helping the students to learn what they should have learned?
3. What changes must be made in the teaching so that students will learn more effectively?

It is the task of evaluation to answer these questions. To do so the evaluation design should have:

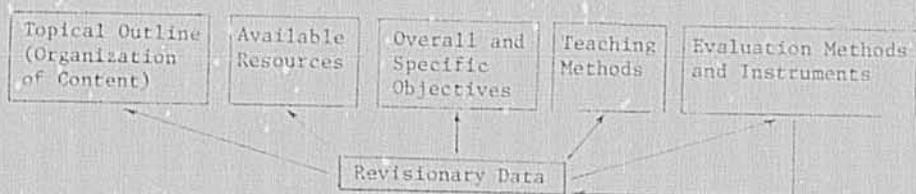
1. diagnosed shortcomings in student learning,
2. established which skills and competencies students have acquired,
3. provided a solid base for assigning grades to students, and
4. detected areas of instruction that need revision, as well as

those that are already effective in bringing about the desired learning outcomes.

This last point is extremely important since it suggests that much of the responsibility, and consequently, much of the credit or discredit for student learning rests in the hands of the teacher. As the designer, controller, and frequently, deliverer of instruction, the teacher must also be willing to share the consequences of his or her instructional actions. Students are not absolved of their responsibility for learning the material; on the contrary, learning is one of their major roles. But the teacher as the person who is a professionally recognized authority in a given field of learning must identify, define, and teach what is to be learned, and evaluate finally what is learned. If students are not sufficiently motivated to learn the material, the expert teacher cannot fault the students without first asking how he or she, as a teacher, can better motivate them to learn.

Instructional evaluation focuses on the teaching program designed and presented to the students. It is useful to conceptualize an instructional programme as a system for producing student learning. Although the components of instructional systems may differ according to the needs of a particular school, department, course, or teaching programme, there are generalizations which can be made. The Topical Outline for the Teaching of Family Health and its accompanying chapters illustrate the general categories of component parts. Such an instructional system is presented below, featuring the role of evaluation in relation to each component.

Figure 1: THE MAJOR COMPONENTS OF AN INSTRUCTIONAL SYSTEM AND THE ROLE OF EVALUATION IN PROVIDING REVISIONARY INFORMATION FOR IMPROVING THE SYSTEM



In the diagramme, the revisionary information is obtained from the evaluation methods and accompanying instruments that are utilized. Evaluation itself is also one of the major components in this instructional system. Although it generally occurs last in a sequence of components, it serves a controlling function over all of the other components, including itself. Evaluation provides the information necessary to improve each component in the system and to improve the interrelationships among components.

II. EVALUATION BASED UPON OBJECTIVES

A fundamental strategy is to evaluate on the basis of instructional objectives: that is, to start with the behavioural objectives of the instructional programme and determine through appropriately designed instruments if they were, in fact, attained. These instruments must be so designed as to help the instructor detect which parts of the instructional system need improvement to provide more effective learning. Since the relationships among components of an instructional system are dynamic, a modification in one component will usually affect the other component, too. Thus, the evaluation plan should examine relationships among components while examining the individual components.

The specific instructional objectives are the keys to any instructional system. In measurable terms, they indicate precisely the skills the student must demonstrate. If these skilled behaviours cannot be performed, the student has probably not learned, or at least not very well, and the instructional system in one or more of its components is likely to need revision.

For example, if a number of students are unable to achieve a given instructional objective, one or more problems may be present:

1. evaluation methods inaccurately measure results
2. resources are inappropriate or inadequate
3. teaching methods are ineffective
4. specific objectives are too difficult to attain - unrealistic
5. curricular topics are irrelevant to the achievement of objectives

The first problem to consider is the quality of the evaluation methods. Do they provide useful information on student learning and the effectiveness of the instructional programme. Fortunately, this problem can be minimized fairly easily, if instructional objectives are specified, since they indicate observable, measurable skills that students must exhibit. The success of student learning or instructional programmes is based on the performance of the skills specified in the objectives. The challenge for faculty therefore is: to specify the conditions under which the behaviour must be demonstrated and measured, and the degree to which or how well it must be performed (setting standards of performance).

These questions having been settled, evaluation methods can be devised. Once they provide valid, consistent, and objective information, the remaining components of the instructional system can be assessed and revised accordingly.

III. EVALUATION PROBLEMS, CRITERIA, AND METHODS

Teaching faculty are likely to be the best judges of what evaluation conditions (situation in which students demonstrate learning) and criteria (how well they must perform) are most representative of the professional context in which their students will eventually practice. They should identify these conditions and criteria, therefore, and incorporate them into each performance objective as they see fit.

Out of a general pool of evaluation techniques, those that are appropriate for measuring and teaching certain kinds of student skills can be selected. These techniques are presented in the table below.

EVALUATION OF STUDENTS		
Skill Area	Evaluation of Criteria	Evaluation Methods
1. Clinical procedures	Quality of student performance	Observation checklists, case studies, simulations, rating scales, patient records, patient interviews, student interviews
2. Clinical knowledge of scientific material	Quality of student performance	Written and oral examinations, problem solving, case studies

EVALUATION OF TEACHING		
Skill Area	Evaluation Criteria	Evaluation Methods
1. Motivation of students	Quality of student performance, degree of student effort	All types of examinations, interviews, perception of content relevance
2. Evaluation methods	Consistency and usefulness of results	Questionnaires or interviews with checklists, rating scales, open-ended items related to specific problem areas, observation forms
3. Teaching methods	Instructional characteristics, logical consistency with objectives and resources cost-benefit	Interviews with students and colleagues, observation checklists, cost analysis
4. Resources	Cost-benefit of instructional materials, aids or personnel, logical consistency between objectives and teaching methods	Observation forms, cost origins, document examination
5. Objectives	Degree of student achievement	Test scores, interviews and questionnaires to students or colleagues
6. Topics	Agreement of experts	Professional literature, survey of colleagues

IV. CONTINUOUS EVALUATION

Evaluation of students and instruction should occur continuously from the planning stages, through the teaching itself, and finally, after it has been completed. Just as each of these stages is necessary, so are evaluation data regarding the success of each one. The sooner a component is evaluated, the sooner it can be improved. The sooner a student's behaviour is assessed the sooner he or she can correct it if necessary. For example, student abilities and interests can be assessed before the curriculum is implemented, resources and restraints can be identified early. So can teaching and evaluation methods.

By the same token, all of these can be monitored throughout the design and implementation of the course and after it has been completed.

V. IMPLICATIONS OF THE EVALUATION STRATEGY

Evaluation by objectives can be an extremely powerful strategy for implementing A Topical Outline for the Teaching of Family Health: A Life-Cycle Approach since it provides continuous valid, consistent and objective data regarding student achievement and instructional effectiveness. The evaluation-by-objectives strategy is of particular value with respect to the Topical Outline because the objectives have already been defined by a representative group of outstanding African health practitioners and educators familiar with the kinds of skills needed in the practice of family health care in the African context. The evaluation-by-objectives strategy gives primary consideration to the professional judgement of each faculty member by drawing on his or her expertise in the specification of the conditions and criteria that should be employed in assessing student competence in important skill areas.

ADDRESSES OF PUBLISHERS

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SOURCES OF TEACHING AIDS

The following is a partial list of organizations where various types of teaching materials on topics in family health may be obtained. These organizations produce and/or distribute printed materials, films, slides, posters, flip charts, and multi-media packages. Most materials must be purchased; however, some sources can offer their media free of cost. By writing to the addresses below, information or catalogues listing types of media, content areas, intended students, cost, and descriptions of their audio-visual materials can be obtained.

African Medical and Research Foundation
Wilson Airport
P.O.B. 30125
Nairobi
Kenya

Bureau d'Etudes et de Recherches Pour la Promotion de la Sante
Kangu-Mayumbe
Republique du Zaire
(has materials in French and English)

Carolina Population Center
Educational Materials Program
University of North Carolina
401 University Square
Chapel Hill, N.C. 27514
U.S.A

Catholic Relief Fund
11 Rue de Cornavin
CH-1201 Geneva
Switzerland

ENI Communication Centre
P.O.B. 2361
Addis Ababa
Ethiopia

Foundation for Teaching Aids at Low Cost (TALC)
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30 Guilford Street
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P.O.B. 30234
Nairobi
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African Regional Council Sub-Office:
IPPF
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Accra North,
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151 Madison Avenue
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National Food and Nutrition Commission
P.O.B. 2669
Lusaka
Zambia

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850 Boylston Street
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1755 Massachusetts Avenue, N.W.
Washington, D.C. 20036
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