

Step Forward To Inculcate The Knowledge And Practice Of Nutritional Course In Undergraduate Medical Curriculum

Rehana Rehman, Rabiya Ali, Fatima Syed, Rakhshaan Khan

INTRODUCTION:

World Health Organization has recognized the importance of nutrition as an indicator in the Millennium Development Goal (MDG) focusing on the reduction of maternal and under-5-years mortality, especially in the developing countries¹. Maternal dietary micronutrient intake is associated with neonatal anthropometry even in women not at risk of malnutrition hence further research is necessary to determine optimal micronutrient intake in all pregnant women with different body mass indices².

Appropriate information regarding nutrition promotes healthy eating³. Poor or deficient knowledge about health and nutrition on the part of health professionals is reflected in lack of identification of risk factors for nutritional deficiency diseases. This also plays an important role in insufficient use of dietary component while managing patients recovering from illness, leading to increased morbidity and mortality⁴.

It has been proposed that by improving nutritional knowledge and dietary practices of population in general and vulnerable groups in particular, would encourage the people to change their health behavior and dietary habits⁵. With the recognition of disease burden due to nutritional factors deficiency and perspective of its correction, comes the demand that physicians update their knowledge of health and nutrition and improve their counseling skills related to diet, nutrition and healthy life styles⁶.

The prevalence of micronutrient deficiencies in both pregnant and non-pregnant women continues to be endemic⁷. The National Nutrition Survey (NNS), discovered the following micronutrient deficiency levels in pregnant women: anaemia 50.4%, iron deficiency anaemia 24.7%, vitamin A deficiency 42.5%, zinc deficiency 47.6%, hypocalcaemia 58.9% and vitamin D deficiency 68.9%. The prevalence of micronutrient deficiencies in non-pregnant women were as follows:

Anaemia 51%, iron deficiency anaemia 19%, vitamin A deficiency 42.1%, zinc deficiency 41.3%, hypocalcaemia 52.1% and vitamin D deficiency 66.8%⁷. Among children under 5, 43.7% were stunted in 2011 as compared to 41.6% in the 2001 NNS, 15.1% were wasted as compared to 14.3% in 2001 and 31.5% were underweight. These indicators have not changed much since 2001⁸. The anthropometric indices were however, relatively better in urban areas⁷.

According to Shams et.al, about 38 percent of children less than five years of age are underweight and 12 percent are severely underweight, reflective of wide spread malnutrition among women during adolescence⁹. Under-nutrition is a recognized health problem that plays a substantial role in elevated maternal and child morbidity and mortality and has lifelong negative effects on skeletal growth and cognitive development of children⁸. Infant mortality (95/1000 live births) is a major cause of death due to infections coupled with malnutrition in nearly 80% of the infant deaths¹⁰ which is enhanced with a high incidence (25-40%) of diarrhoea in the malnourished babies.

OBJECTIVE: To introduce knowledge regarding nutrition in undergraduate medical curriculum. Rationale for selection of task. The problem needs to be addressed in terms of national requirements; social needs, institutional missions and accreditation requirements.

National Requirement: Pakistan is a developing South Asian country, which faces nearly the same problems as the rest of the developing countries. In order to enter the 21st century in a more respectable way, we need to improve the health indicators of the country. Nutrition Survey (NNS 2011) states that very little has changed over the last decade in terms of core maternal and childhood nutrition indicators, reflecting a lack of coordination to formulate a coherent nutrition strategy^{7,8}.

Requirement of accreditation Bodies: As per requirement of Pakistan Medical & Dental Council (PMDC), graduating doctors need to work in health teams, communicate with patients and their caregivers effectively and use their critical thinking and problem-solving approach to apply evidence based medicine for health promotion, disease prevention, curative and rehabilitative care. The competencies of a doctor as a scholar, scientist, practitioner and professional, demand training of doctors so that they are able to cater the prevalent health problem¹¹.

General needs assessment: The situation analysis will

Rehana Rehman,
Associate Professor Biological and Biomedical Sciences
Aga Khan University

Rabiya Ali,
Senior Lecturer, BUMDC

Fatima Syed,
Final Year MBBS Student of Jinnah Sindh Medical
University

Rakhshaan Khan
Manager Health Programs ICAT Transmission

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comprise of:

- I. Review of existing curriculum: It will be acquired through Informal discussions with Director Maternal & Child Health (MNCH), faculty members, GIT, Head & Neck, and Endo Repro module representatives, curriculum co-coordinators from pre-clinical and clinical years. Information will be acquired by observations in clinical wards, exit interviews with mothers, portfolio of faculty members and relevant desk records.
- II. Health Care Professionals: It is a general observation that doctors spend little time with patients to discuss the role of nutrition. Dissatisfaction with the quality of nutrition education in primary care ¹² is evident from literature as well.
- III. Society: Lack of; awareness of selection of right foods (due to high illiteracy rate), optimal child and maternal care and preventive measures for nutritional deficiency disorders in the community has been observed. Use of DACUM Chart for development of Curriculum: It will be developed with the help of DACUM (Development of Curriculum) chart with allocation of duties and tasks to bring changes in the thematic curriculum so as to sequence the objectives of nutrition and health in order to achieve the desired outcomes. The following steps will be undertaken

Targeted Needs Assessment (TNA)

The following objectives will be catered in approximately two months' time period by the curriculum developers.

Objectives:

- Ø To explore knowledge, ability, interest and attitude of medical students for "Nutrition and Health component" introduction in longitudinal theme of UGME.
- Ø To assess knowledge, attitude and nutritional practices of general public
- Ø To identify willingness of stake holders to accept the innovation
- Ø To search mind set of medical educationist to implement the change

METHODS:

TNA from targeted learners will be conducted following ERC approval and informed consent through a cross sectional survey (Figure 1) by both qualitative and quantitative methods. Awareness about concept of nutrition from public; patients and their care takers will be acquired. Response from students (fourth, final year) and interns will be obtained through a self-reported validated questionnaire or Focus Group Discussions (FGD) as an alternative strategy (Semi-structured interviews

will be employed to collect data from primary health care providers, dieticians, community health workers, health care professionals, Director MNCH and medical educationists.

Expected outcomes:

With the revised outcome based curriculum of Nutrition and Health, we expect that with innovations like the use of research oriented capstone projects the graduates will be able to update their knowledge regarding dietary requirements of nutrients in health and disease (Figure 2). They will get an opportunity to critically appraise relevant diagnostic and prognostic tests and methods for appropriate diagnosis, treatment and prevention of disease. The communication and counseling skills learnt during the course of curriculum will enhance the element of compassionate care improving doctor patient relationships. Support from relevant departments during the projects will empower them to exhibit professionalism and refer them to nutrition specialists and dieticians whenever required.

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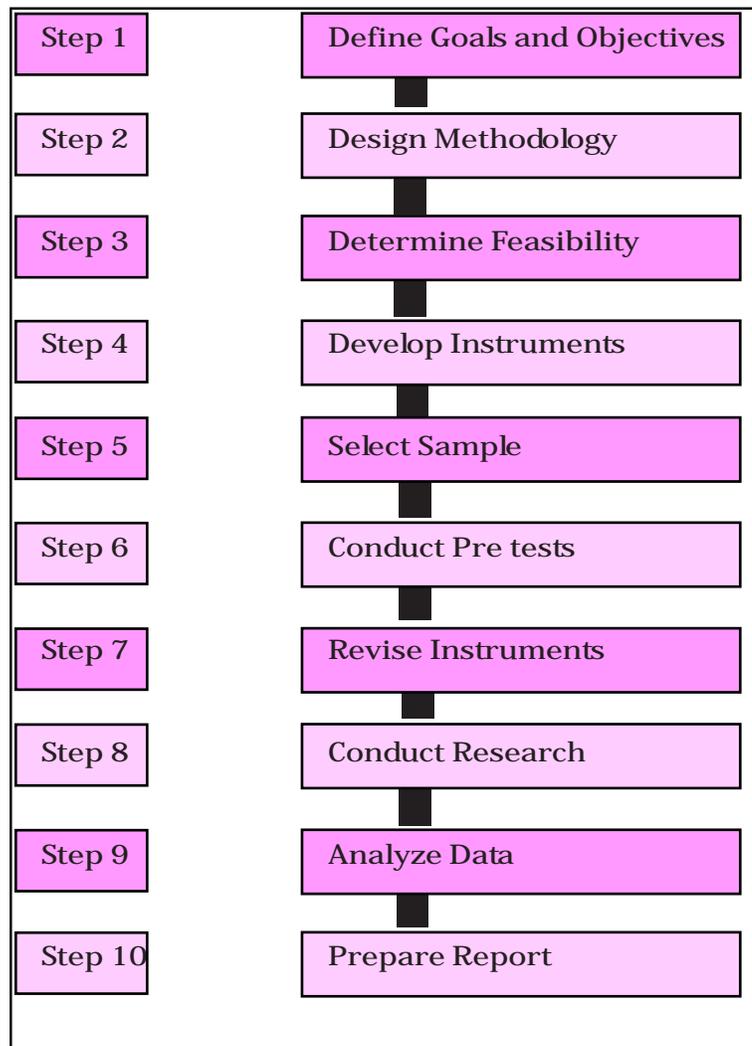


Fig 1: Tna Flow Sheet

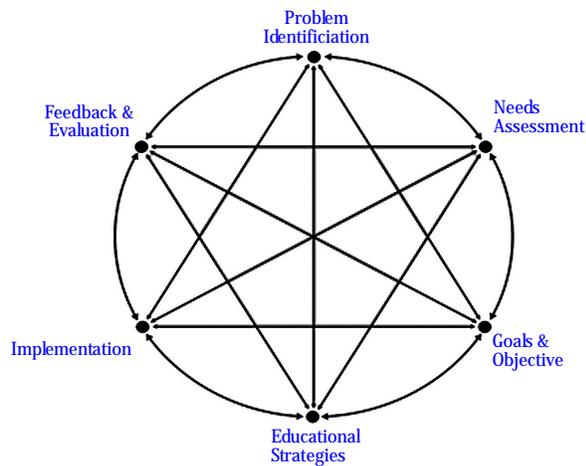


Figure 2: Steps to introduce nutrition in undergraduate medical curriculum