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**A** N urgency is felt in the medical circles as well as within the government that the present medical education in the country, specially the under graduate medical education to prepare the basic doctors, needs complete change in the outlook and overhauling of the present teaching curricula contents.

Towards this end the government has already constituted a high powered committee to prepare a report and suggest the ways and means for the reforms in this respect and formulate necessary recommendation of the government. There is no doubt, that our present medical education to prepare our future doctors is inadequate in many respects to fulfill our special needs under the changed circumstances and new strategy to provide medical services to the millions against the global commitment the slogan "Health for all by the year 2000 A.D."

Human nutrition is a medical discipline. Therefore nutrition teaching in medical education also needs complete reorientation and redirection to-day.

Analysis of the present nutrition teaching in under graduate medical education and the need for necessary change in its methodology and curriculum reforms is also obviously great no doubt.

#### WHY NUTRITION TEACHING IN MEDICAL EDUCATION?

Nutrition is one of the important determinants of health. Good nutrition is the foundation for good health. Malnutrition is the result of inter-play

of many complex factors like deficiency of food production, inadequate consumption, socio-cultural factors leading to inadequate availability of food and its consumption by its consumers, health factors leading to inefficient biological utilisation of available foods.

Malnutrition is a disease that leads to lower resistance to infection, functional impairment and ultimately leads to illness and death.

Malnutrition, in addition to itself being a disease, has many health consequences in the form of high morbidity and mortality specially of the vulnerable segment of the population i.e. the infants, growing children, pregnant and lactating women.

Within the multidisciplinary frame of causation of malnutrition and to find out its possible solution, health sector has a great responsibility to shape its course in progress, to determine the consequences of malnutrition on health and to contribute to the prevention and control of malnutrition. If high morbidity and mortality of the population specially of the vulnerable segment is the concern of the health sectors and to try to reduce these health consequences, and if malnutrition contributes directly and in many cases indirectly to these high morbidity and mortality, it is logical to include nutrition teaching in Medical Curriculum to orient our future doctors to equip them properly to fight with this malnutrition which assumes a major public health problem in

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the country and saps away the vitality of the nation as a whole.

Today a billion of human being of the world, majority of whom are from the developing world, show evidences of malnutrition due to inadequate intake of protein energy, iron, vit-A and iodine. As a result 12 million of them are permanently disabled and 11 million die from malnutrition every year.

Yet the majority of these deaths all permanent disabilities and large proportion of lesser degree malnutrition can be prevented and cured by the health sector through primary health care approach combined with nutrition intervention activities. Though the real answer to malnutrition lies in social development, the economic growth, increasing employment opportunity and family income and greater food availability, such permanent solution however requires a long time for the countries including Bangladesh where malnutrition assumes as a major health problem.

But in the meantime the need for direct nutrition intervention in combination with primary health care is obviously great, and this strategy were endorsed by most of

the countries of the world at Alma Ata Conference in 1978. The PHC approach for the solution of malnutrition provides tangible results in the short run and is the real basis on which can be built the long range goal of health for all by the year 2000 A.D. Our future doctors need the insight and the knowledge about the apparent strong relationship between the nutritional status and mortality risk specially during vulnerable periods in infancy and early childhood in order to formulate programme to combat malnutrition. Hence effective nutrition teaching in medical education is a must and a need of the hour.

#### NUTRITIONAL IMPACT ON MATERNAL AND CHILD HEALTH

More emphasis has now been given to problem oriented teaching whether it is in medical teaching or in another discipline, it is therefore desirable to analyse the impact of malnutrition in different population groups vulnerable to malnutrition and the main strategy to be followed to reduce this impact of malnutrition on health before deciding the appropriate topics of teaching.

be retarded in their physical and mental development. This is now an established fact that poor malnourished parents produce malnourished children who in turn will become poor and malnourished parents. This vicious spiral must be broken otherwise the well-being of the majority of the population will be at stake.

#### NUTRITIONAL STATUS AND MATERNAL HEALTH

In animal experiments it has been proved that the nutritional status has the influence on reproductive capacity. Intake of calories and specific nutrients is known to influence the size and quality of the foetus and lack of certain nutrients is known to have teratogenic effects on the offspring. In case of human beings there is some direct evidence that a woman's nutritional status can influence her reproductive capacity. There are numerous evidence that still birth and neonatal death rates and birth weights are associated with nutritional status and dietary intake along with a socio-economic gradient. The low birth weight is a variable known to influence perinatal and infant mortality rates and neonatal morbidity and long term physical and functional development. There is an association of this low birth weight with the body size of the mother. Small short mothers generally give birth to low birth weight babies.

Both immaturity and nutritional deficiency of mothers (unfavourable nutritional state of mother) are found underlying or associated cause of neonatal mortality.

A positive association

between dietary adequacy at the course and outcome pregnancy were reported many studies, specific may be the study of Beal and Wood Hill. maternal weight gain was found to be associated with better growth and performance in the infant's first year of life shown by weight, height gain and neurological development assessed by mental scores.

The protein intake of mothers during pregnancy has the influence in the birth length of the infants, mothers alpha amino acid levels over 4 mg/100 ml. had babies with a mean increase in length of 208 mm compared with 196 mm of those babies whose mothers blood level had less than 4 mg/100ml.

The period of weaning from the breast, is a critical stage which often results in malnutrition and disease if the child does not have a diet that is adequate in quantity and culturally, socially and economically acceptable.

So malnutrition in infants and young children cannot be separated from malnutrition and poor health of women (mothers). The mother and her infant form a biological unit. They share the problems of malnutrition and ill-health. The right of every child and every pregnant and lactating mother is to be adequately nourished as a means of attaining and maintaining physical and psychological health.

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It will not therefore be irrelevant to discuss the impact of malnutrition in maternal and child health and the benefit of integration of nutrition in primary health care, before deciding the appropriate teaching topics in nutrition in under-graduate medical education.

The first year of life is crucial in laying the foundation of good health and improving the quality of life, if we consider a bit deeply, it is not only the first year but the first year and 10 month in the mother's womb is really which crucial in the child's life for laying the foundation of good health.

Yet millions of children mostly in developing countries are not likely to live to see their first birth day. The Chinese celebrate their children's first birth days when they are born. This tradition is based on the far sighted realization that a very important period of growth and development has been occurring in the 40 week's growth in the mother's womb before birth. In modern biomedical terms many of the secrets and foundation of later health are hidden and to be found in the pre-natal period.

A (W.H.O) estimate in a

recent year states that 20 million children were born with low birth weight. More than 75% of them were born too small for their gestational age (SF.CI).

Such infants face a whole host of risks, they are already disadvantaged from birth; low birth weight contributes to peri-natal mortality as well as to immediate and long-term health problems. This becomes a vicious cycle when low birth weight girls themselves become mother of low birth weight babies.

It has been observed for a long time that in general babies at birth are much smaller in the developing countries than in the industrialised ones. This difference was once thought to be an ethnic characteristic, but we now have evidence that this is in fact a manifestation of malnutrition starting in the very critical period of intra-uterine life. About half of the babies born in any developing country weigh less than 2500 grams. Majority of these children are born from small chronically under-nourished mothers.

They start life with great handicap. Many of them will die during their first weeks of life, and those who survive will