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Assessment of Knowledge About Effects of Inadequate Dietary Pattern on Mother and Child Health

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ABSTRACT

Adolescence is a period of life of a girl during which she moves from childhood to adulthood and consequent motherhood. Dietary inadequacies in adolescent girls caused by inadequate dietary pattern are usually carried forward into motherhood. Maternal and child health (MCH) problems are, to a great extent, related to maternal nutritional inadequacies probably originating during adolescence. The present study was therefore designed to assess effects of inadequate dietary pattern on mother and child health. 40 pregnant women visiting urban family welfare centers in Akola were studied. 72.5% respondents had moderate (HB 07-09.9 gm%) and severe (04 to 06.9 gm%) IDA. Assessment of ignorance about effects of dietary inadequacy on MCH revealed that 87.5% respondents in case of iron, 82.5% in case of calcium-Vit. D, 92.5% in case of folic acid, 97.5% in case of proteins and 100% respondents in case of micronutrients; were ignorant about the effects of dietary deficiency on MCH. Inadequate dietary pattern has wide ranging adverse effects on MCH about which majority of pregnant women are ignorant. Adolescent girls if educated about the adverse effects on MCH, can avoid encountering them in their own near future life.

Keywords : Adolescent girls, Dietary inadequacy, Maternal and child health

INTRODUCTION:

Adolescence is the period in the life of a girl, during which she moves from childhood to adulthood. During adolescence, a girl's body in general and reproductive system in particular, undergoes structural and functional growth and development. Nature gradually prepares her for motherhood. Maternal health is closely linked to health of two individuals namely, mother and fetus (during pregnancy) & child (during lactation). Maternal and child health (MCH) in India, needs specific and widely implemented attention in order to control the prevalent high levels of maternal and perinatal morbidity and mortality rates. (IMCR, 2000) Maternal mortality in India is astronomically high at 307 per 100,000 live births. (BHATT, 1977) Iron deficiency anemia (IDA) is directly or indirectly responsible for 40 percent of maternal deaths in India. (KALAIVANI K., 2009)

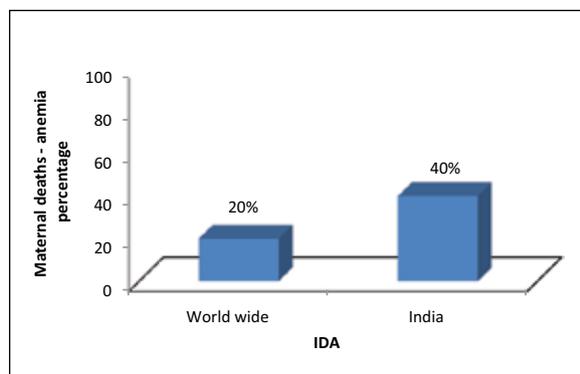


Fig. 1 : Maternal deaths due to anemia.

Motherhood in Indian context: Motherhood is unplanned in majority (90.00 %) of Indian women. Adolescent girls get married soon after attaining adulthood and become pregnant as early as possible after marriage. Consequently, adolescence is the appropriate period for a girl to properly develop herself

as a potential mother; in the interest of her own health and that of her would be child. A woman, if healthy before conception, will bloom into not only a healthy mother herself but also give birth to an intelligent and healthy baby. In the process, she not only enlightens two precious lives but also benefits her family and the society. But... "Vision is not enough; it must be combined with venture. It is not enough to stare up the steps; we must step up the stairs". If the vision is, 'proper maternal and child health', the venture has to be 'health and nutrition during adolescence'; because in India, there is not much time available for a girl for this purpose, once she steps out of adolescence.

Nutrition in adolescent girls has special significance because it is related not only to her general health but also to the growth and development of her reproductive system which is directly linked to her future motherhood. Nutritional deficiencies in adolescence girls, in India, are largely because of inadequate dietary pattern.

NATURE OF INADEQUATE DIETARY PATTERN IN ADOLESCENT GIRLS:

Adolescent girls are increasingly consuming either inadequate or inappropriate food. Their daily food intake is not properly distributed. Food fads and fallacies are increasing. During adolescence, childhood dietary habits continue to a varying degree, while adulthood dietary responsibilities are either not learnt or not taught. Adolescents usually do not have an easy and effective source of knowledge of nutrition. Busy schedules, changed attitude, peer pressure, advertisements, socio-economical conditions, figure consciousness, junk food consumption etc. contribute to creation of an inadequate nutritional state. Consequently, inadequacy is created, importantly involving nutrients like iron, calcium & vitamin D, folic acid, proteins and some micronutrients. These has a direct bearing on the adolescent girls' future motherhood as well as maternal and child health, because they carry these dietary deficiencies not only into their adulthood but even into their own motherhood.

EFFECTS OF DIETARY INADEQUACIES ON MCH:

Human body needs all nutrients. Some specific nutrients are closely associated with health, growth and development of mother and child. Deficiency of such nutrients, especially if carried forward chronically since adolescence, has detrimental effects on MCH. Some of the common effects are:

Iron Inadequacy: It causes iron deficiency anemia (IDA). Prevalence of IDA in Indian pregnant population is 88percent. (Sarin AR, 1995) It has consequences for both, the mother and the developing fetus. It has been found to be associated with maternal and perinatal morbidity and mortality. Mother is adversely affected in the form of increased weakness, poor work performance, breathlessness, pre term labour, pregnancy induced hypertension (PIH) and infections.(Yakoob MY, 2011) Baby is not born anemic at birth, however, it has no iron stores. Hence it develops anemia in early neonatal life. Fetus is also affected in the form of pre-term birth, growth retardation, undernourishment and increased perinatal mortality.

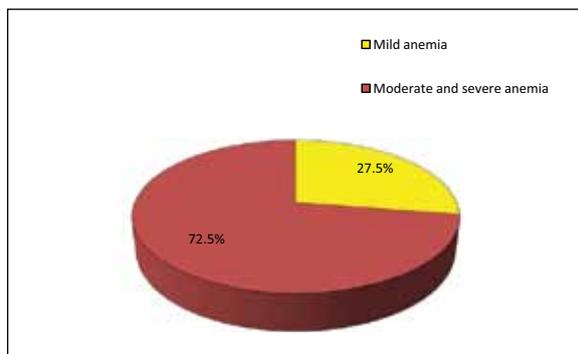


Fig. 2 : Distribution of respondents according to severity of anemia.

A study conducted by the researcher in 40 pregnant women with IDA in urban family welfare centers in Akola revealed that, 27.5 percent had mild anemia and 72.5 percent had moderate and severe anemia. It was found that 35 out of 40 respondents (87.5%) were ignorant about effects of iron inadequacy on MCH.

Assessment of causative factor among the mothers with moderate and severe IDA (72.5%) revealed that 75.86 percent had iron deficient dietary pattern while 24.14 percent had excessive menstrual blood loss and/or hookworm infestation.

Calcium and Vitamin D Inadequacy: It causes adverse effects on health of mother and child. Dietary calcium and vitamin D deficit would be compensated by removal of calcium from maternal bones which could lead to short and long term adverse effects on maternal bone health including osteoporosis and fracture. Secondly, possibility of pregnancy induced hypertension will be increased with consequent risk to maternal and child health. During lactation breast milk may have deficient calcium contents leading to rickets and/or osteoporotic fractures in neonates.(Kovacs CS. 2008). It was found that 33 out of 40 respondents (82.5%) were ignorant about effects of calcium and Vit. D inadequacy on MCH.

Folic Acid Inadequacy: It causes macrocytic anemia in mother. It is also associated with poor maternal uterine ad-

aptation to pregnancy, placental insufficiency and PIH. Fetus is affected in the form of increased possibility of defects in central nervous system involving brain and spinal cord development, other birth defects, growth retardation etc. (Jacob, 2000) The study on 40 pregnant woman visiting urban family welfare centers, in Akola, revealed that 37 (92.5 %) women had no knowledge about role of folic acid on MCH and only 7.5 percent of the women consumed folic acid from diet and nutraceutical supplementation in early pregnancy.

Proteins Inadequacy: Mother, during pregnancy and lactation and baby during fetal stage and childhood are adversely affected by dietary protein inadequacy. Mother has poor weight gain, weakness, edema, protein deficiency anemia, increased possibilities of gestational diabetes, higher incidence of premature delivery, suppressed immunity, poor lactation, higher incidence of infection and sepsis, increased possibility of postpartum hemorrhage and associated risk to life. The study revealed that 39 out of 40 (97.5%) respondents were ignorant about effects of protein inadequacy on MCH.

Adverse effects on fetus and child include intrauterine growth retardation, prematurity, higher perinatal morbidity and mortality, neonatal infections, kwashiorkor, failure to thrive etc. 66.67 percent of the pregnant women under the study had less than recommended dietary protein intake. The deficit was observed to be more (73.08%) in pure vegetarian than in ovovegetarians.

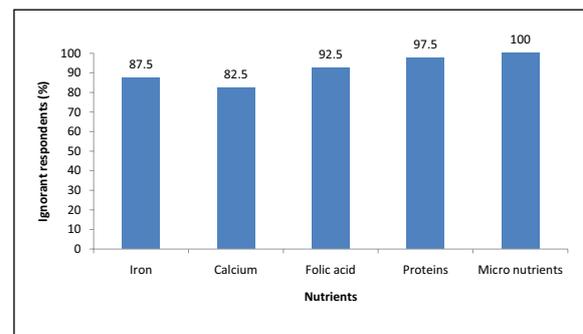


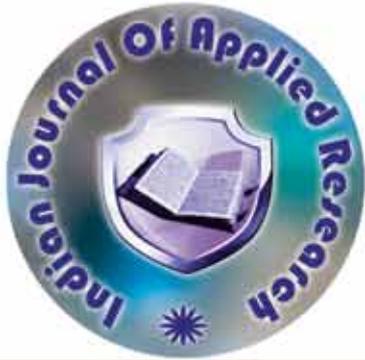
Fig. 3 : Ignorance about effects of nutrient inadequacy on MCH

Other Micronutrients' Inadequacies: They include docosahexaenoic acid (DHA), zinc and lycopene. Inadequacy of these is known to be associated with maternal gestational diabetes, pregnancy induced hypertension, intrauterine growth retardation, premature labour, brain defects in fetus and predisposing the infant to chronic illness in adulthood. (Meber, 2003) All 40 (100%) respondents in the study were ignorant about effects of micronutrient inadequacy on MCH.

CONCLUSIONS: Inadequate dietary pattern has wide ranging adverse effects on MCH, both short term and long term. Risk to life is also involved. Adolescent girls having inadequate dietary pattern are very likely to encounter the risks to maternal and child health (MCH) in their near future life. The adverse effects on MCH, caused by inadequate diet are preventable by appropriate nutritional and nutraceutical supplementations, especially if implemented from adolescence itself. Pregnant women have poor knowledge in this respect.

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