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Research Article

Agriculture Crops, Food Practices, Family Health Specially of Mothers and Children

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- Agriculture
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Abstract

Maternal health is influenced by sociocultural, biomedical factors including nutritional. Tackling obesity, undernutrition, micronutrient deficiencies is essential.

Objective: Objective was to know relationship between agriculture status, food practices and maternal, child health.

Methodology: Various studies, reviews were searched through available search engines and experiences were added.

Evidence: Evidence of effectiveness of targeted nutritional programmes on maternal child nutrition has been hindered by weaknesses in programme designs, implementation, and evaluations. Inclusive targeted nutritional programmes are more successful. Information on agriculture status, food practices in everyday life of rural communities, which affect health of mothers, children are lacking. Socioeconomic factors are most important but are slow, wait means more sufferings.

Possibilities: Knowledge of ground realities for fast results is essential, not narrowly targeted feeding programmes. Guidance, assistance in agriculture crops and food practices can do a lot. It is essential to act on ground realities.

INTRODUCTION

Background

Health, in addition to its biomedical determinants, is influenced by many sociocultural factors. The high maternal and neonatal mortality rates, noncommunicable diseases (NCDs), especially in women, have several underlying environmental, socio-cultural, economic, and family factors, which play a crucial role in the causal pathways and need to be addressed to achieve long term sustainable change. Agrawal [1] reported that maternal mortality is on rise in U.S. and every 10 minutes, one woman nearly dies during pregnancy or birth. More than 50,000 women every year experience a life-threatening complications around the time of birth, with estimated 40% of preventable maternal deaths, if quality care was available. Major contributors were believed to be more women entering pregnancy with chronic conditions, heightening risk of life-threatening complications. Leading cause of maternal deaths in U.S. was reported to be cardiovascular disease because chronic conditions like obesity, high blood pressure and diabetes were increasing. However other extreme is under nutrition, which continues to be a widespread problem in developing countries, despite significant improvement in food production and advancement in science during the last many years. Nutrition is essential component which depends on resources, agriculture crop and food practices of family members, specially mothers and babies.

Objectives

To get information about relationship between agriculture crop, food practices and family's health, specially health of mothers and children, noncommunicable diseases, malnutrition, maternal health, low birth weight, neonatal, child health.

Methodology

Simple review was done about available literature, studies as well as reviews and personal observations were added.

Evidence

Although firm conclusions have been hindered by dearth of weaknesses in programme designs, implementations and rigorous programme evaluations, they do reveal the limited evidence of nutritional outcomes so far. Evidence suggests that targeted agricultural programmes are more successful when they incorporate strong behaviour change, communication strategies

and a gender-equity focus [2]. Combinations of nutrition, interventions and development, can have additive or synergistic effects on development of family, but evidence of the effectiveness of targeted agricultural programmes on maternal and child nutrition, is limited [3]. The launch of the Scaling up Nutrition (SUN) movement in 2010 represented a major step towards improved stewardship of the global nutrition architecture as well as national and international momentum to address human nutrition, related food security and health needs [4]. However, convincing people to take simple steps for healthy behaviour for their own health, is not straightforward. Living productive life requires individuals, families, and communities to embrace behaviour, technologies, services that promote wellbeing, and good health. To make a positive difference in promoting family's health, prevention of low birth weight (LBW), maternal, perinatal morbidity and mortality, NCDs, it is essential to know availability of crops, food practices and lifestyle. Socioeconomic factors are the most important pathways, which are linked to health, specially, health of mothers and children, but are slow and to wait means allowing many mothers and babies suffer and die, so actions need to be taken for fast results with long term plans. Nutritional status and reproductive behaviour, appear to influence mothers' and children's health independent of maternal education. The study of pathways linking maternal education and child nutritional status has revealed 60% effect of maternal education on child nutrition status [5]. Leslie [6] reported that the human welfare losses associated with women's nutrition are wide-ranging and severe, including reduced quality of life for women, impaired ability to bear and nurture children, and diminished capacity for domestic and income generating work and future health of children. Despite increasing recognition of behavioural effects on health and increasing availability of products and services that address common health challenges, adoption of both, behaviour and solution is often slow and inequitable [7].

A focus on simply providing health information and hoping that it will work, is like looking at the tip of the iceberg. Solutions need to involve deep understanding, moving from proof of concept, experimentation, and evaluating promising programs. There is need to target gaps in knowledge, gaps in use or other bottlenecks which block knowledge and demand [8]. The post-2015 sustainable development agenda must address all forms of nutrition, related issues keeping them at the top of its goals.

There is a range of nutrition and health options available. Change in maternal nutrition, be it for tackling obesity and related issues, under nutrition and micronutrient deficiencies need change in habits, life style by understanding the need of food and micronutrient supplementation, food fortification and other issues. It is essential to know about crops available, food quality, habits, needed change in people, especially those with chronic medical disorders, overweight, underweight, anaemic and with other deficiencies.

In many parts of the world, especially in South Asia, an important nutrition problem is poverty with rampant malnutrition. There is gender bias against females, from womb to tomb. Also there is an association between child dietary diversity and nutritional status that is independent of socioeconomic factors. Dietary diversity may indeed reflect diet quality. Arimond [9] suggested that before dietary diversity can be recommended for widespread use as an indicator of diet quality, additional research is required to confirm and clarify relationship between various dietary diversity indicators and nutrient intake, adequacy, and density, for children with differing dietary patterns.

All women of reproductive age are at risk of iron deficiency. It is estimated that 30% of women globally are anaemic, with at least half of these cases arising from iron deficiency. Maternal under nutrition and iron-deficiency anaemia increase the risk of maternal death, accounting for at least 20% of maternal mortality [10] in addition to prematurely foetal growth restriction and low birth weight. Folic acid insufficiency before conception and during the first trimester is associated with a higher prevalence of neural tube defects [11]. This needs a change in food practices.

In a study, the mean consumption of almost all the food stuffs was below the recommended levels prescribed by Indian Council of Medical Research and the prevalence of 'mild' to 'moderate' underweight among preschool children according to Gomez classification was 8-15% [12]. For assessment of diet and nutritional status of tribal population living in the Integrated *Tribal* Development Agency (ITDA) areas in the States of Andra Pradesh, Kerala, Tamil Nadu, Karnataka, Gujarat, Orissa and West Bengal in India, a baseline survey was carried out during 1985-87. In order to study the time trends, first repeat survey was carried out during 1998-99 and second repeat survey was done in 2006-07. The consumption of almost all the foodstuffs was lower than that of the previous two surveys and is a matter of concern. The consumption of protective foods like green leafy, vegetables, fruits, milk were grossly inadequate, consequently vitamin & mineral intake was very low. The overall prevalence of Bitot spots, the objective sign of Vitamin 'A' deficiency was 0.8%. The prevalence of goiter among school age children was 4% [13]. During 2005-06, the consumption of all the foods, except for cereals and roots & tubers was found to be below the *recommended dietary intake* (RDI) in all the age/sex/physiological groups in all the [14]. The marginal improvement in nutritional status could be due to non-nutritional factors, such as improved accessibility to health care facilities, sanitation, protected water supply etc [15]. Micronutrient deficiency study, carried out by the Nutrition Monitoring Bureau (NNMB) showed a wide spread problem of micronutrient deficiencies prevalent among vulnerable segments of populations [14].

ICMR [16] reported a marginal decline in the intake of all the food stuffs except, pulses, green leafy vegetables and fats & oils over decades. Amole [17] reported that about 40% of males and 49% females had chronic energy deficiency (CED) (BMI <18.5) and the prevalence of overweight was 3.2% among women and 2.6% among men. The prevalence of underweight declined from 23% in 1998-99 to 20% in 2008-09. The prevalence of hypertension was 25% among adult men and 23% among adult women. The time trends revealed that there was gradual decline in the household intake of cereals & millets, while there was a marginal improvement in the intake of leafy and other vegetables [18]. The prevalence of among adults declined over a period of time and increase of overweight/obesity was observed. Intra-family distribution of foods and nutrients revealed that preschool children and adolescents get less than their physiological needs,

compared to adult males and females. Nutritional status among tribals was worse than their rural counterparts [14]. The study revealed that the adults were getting adequate amount of energy, while the children were not getting adequate amount of energy, in the same house and this was not due to lack of food (poverty) in the house but mainly due to ignorance of nutrition knowledge [19]. Ignorance may be leading to many issues including use of lots of chillies for which more salt is added. So obesity may be uncommon but hypertension not uncommon. There are issues which need to be sorted out about salt intake in everyday life in those with hypertensive and normotensive populations [20]. As such globally indigenous people face great social disadvantages and poor health compared with the general population [21,22]. Globally it is estimated that 35% of adult women are overweight. Women, who are overweight (BMI≥25 kg/m^2) or obese (BMI>30 kg/m^2) before pregnancy are at greater risk of developing hypertensive disorders during pregnancy such as pre-eclampsia or eclampsia [23]. Opie [24] reported that obese pregnant women had an increased risk of antenatal, intra- and post-partum complications. Study demonstrated that a behavioural nutrition intervention, individually tailored for obese pregnant women could improve diet quality. The effects of dietary improvement on gestational diabetes mellitus (GDM) incidence, and other maternal and neonatal outcomes revealed that behavioural nutrition intervention, individually tailored for obese pregnant women could improve diet quality [24]. On the other extreme are malnutrition / undernutrition. Communities who live in extreme poverty, in difficult to reach regions, use whatever is available. Tribal people use locally available crop. Mahua (Madhucalongifolia), which is used for making alcoholic drink, is eaten raw, roasted or cooked by families including children in some tribal communities. Effects have not been studied and research is needed. These people eat a lot of chillies and to be able to eat chillies, they eat a lot of salt and effects need to be studied as studies reveal relationship of salt intake with hypertension / cardio vascular disease [20]. There's no shortage of food in Uganda, yet the majority of its poorest households are reported to be food insecure, with poor health and disease exacerbated by malnutrition. Approximately 45% of children under the age of 5 suffer from severe malnutrition. Ugandan farmers, mostly women, were found to be eager to improve upon their existing methods of farming and welcome new, inventive ideas. Demonstrations included kitchen gardens or sack gardens, making of organic pesticides, maximize the use of farmland, anything practical and beneficial for farmers [25].

Possibilities

Health of family is important for family's development, community development and national development too, mothers and children need to be priorities. Healthy mothers will have healthy babies, future of any country. Evidence of the effectiveness of bio fortification continues to grow for micronutrients and crop combinations. Strengthening of nutrition goals with actions, which have rigorous effectiveness are needed. It is essential to sensitize the communities to help themselves by doing doable in their own area. They can provide information to the public system, so that required services are provided through the existing network in a better way. It may turn out to be doable for others around the globe too. The need of behavioural change in the rural communities towards food habits is also essential to make a positive difference in promoting family health, reducing maternal, perinatal, child morbidity and mortality, prevention of LBW and NCDs. They need to be based on evidence, families, specially women need to be given nutritional guidance prior to pregnancy. Advocacy needs to be adaptable, scalable and sustainable across a range with local contexts, regions and geographies. Ruel [3] reported that targeted agricultural programmes have an important role in support of livelihoods, food security, diet quality. They complement global efforts to stimulate agricultural productivity and thus increase producers income, while protecting consumers from high food prices.

Nutrition-sensitive interventions and programmes in agriculture, social safety nets, early child development, and education have enormous potential. Targeted agricultural programmes and social safety nets can have a large role in mitigation of potentially negative effects of global changes, in supporting livelihoods, food security, diet quality and health. The post-2015 sustainable development agenda must put all forms of malnutrition at the top of its goals [26]. In order to develop policies and to formulate programmes to control and prevent malnutrition specially in mothers and children, it is essential to assess what, where, how and whys of the nutrition problems existing in the country.

Neither narrowly targeted feeding programmes for pregnant and lactating women, nor reliance on the wait for long-term benefits of economic development programmes will help the nutritional status of women in such parts but action with knowledge of ground realities is the need of hour.

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