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BARRIERS IN UTILIZATION OF NUTRITIONAL INTERVENTIONS AMONG LACTATING WOMEN IN RURAL INDIA: A REVIEW

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ABSTRACT

Nutrition is crucial for maintaining maternal health during pregnancy and lactation. Mother should eat a diet rich in vegetables, fruits, and whole grains to fulfill the nutrients requirements, as well as should take a daily vitamin and mineral supplement to ensure best iron and folic acid intake. The needs of nutrition to lactating women are not fulfilled because of various reasons and to overcome this the government of India launched many schemes for nutritional interventions for lactating women. National Family Health Service surveys about maternal nutrition shows lactating women with low basic metabolic index and are anemic because of not utilizing available and recommended nutrition interventions. Various studies about implementations of interventions and its impact state many barriers in utilizing these interventions. The barriers are like accessibility and availability of food, feeding practice and knowledge, nutrition value and agricultural production, poor sanitation, cultural and religious influence and poor health services. The less utilization of nutrition intervention services by lactating mothers because of socio-cultural and health service related barriers requires specific interventions at administrative and community levels to improve the nutritional status of lactating mothers in the rural India.

Keywords: Barriers, Breast Feeding, Lactating Women, Nutrition Interventions, Rural India

INTRODUCTION

Breastfeeding is very effective way to ensure child health and survival. It is a normal physiological process and in this stage of life mother requires more nutrients through diet. During lactating phase providing a balanced diet with enough energy and nutrients is necessary to meet the growing needs of child and for producing the appropriate amount of breast milk. Taking balanced diet is critical for both the mother's health and the survival and development of her child. During lactation, mother faces very high energy expenditure to fulfill dietary requirements of both the mother and the breast feeding child [1, 2].

Hundreds to thousands of distinct bioactive chemicals can be found in human milk, all of which support in immunological development, organ development, and healthy microbial colonization, as well as protecting against infection and inflammation [3].

Breast milk is considered to be the most effective nutrient source for infant. It is safe, clean and contains natural antibiotics and also antibodies which help to protect against many common childhood illnesses like Gastritis, Diarrhea, Pneumonia, Diabetes, and Obesity. It also protects from non communicable diseases. Breast milk provides

all the energy and nutrients that the infant required for the first 6 months of life and partially up to two years, and it continues to fulfill partial needs up to second year of life. However, global survey reported that nearly 60% infants are not exclusively breastfed for the recommended six months, which is main barrier in providing perfect nutrition to children. The nutritional content of human milk is highly maintained, maternal diet (for lactating woman) care is critical for specific vitamins, fatty acids, and micronutrient supplement. Diet should contain Vitamins A, D, E, B-6, B-12, C, selenium, copper folate and iodine to minimize losses during pregnancy and lactation [4]. Breastfed children perform better on intelligence tests; they are less prone to disease like diabetes mellitus later in life and women who breastfeed also have a less chances of breast and ovarian cancers but, if mother is malnourished so she cannot provide healthy milk to baby so baby will also become malnourished [2]. There is inappropriate marketing of breast-milk substitutes continued and due to which the efforts to improve breastfeeding rates and duration is getting affected worldwide. The World Health Assembly (WHA) has set a goal to

increase the rate of exclusive breastfeeding globally to more than 50% up to 2025 [5].

LITERATURE SEARCH STRATEGY [5]

The terms “policy”, “program”, “scheme”, “intervention”, “initiative” have been in many government documents and research outputs but for more clarity we addressed it as “interventions” for all of these terms. National and state interventions from India relevant to Maternal Health and Nutrition were considered. The sources for accessing the interventions and barriers to utilize them included freely available online search engines (Google, PubMed, Google Scholar, etc), Department of Women and Child Development (DWCD) and Ministry of Health and Family Welfare (MoHFW). Subheadings and keywords were identified from key concepts and considering the focus and interest of the study. The following keywords and subheadings were combined with AND or OR word to complete the systematic literature survey work (((Nutrition intervention*[Title/Abstract]) AND (lactating women*[Title/Abstract]))) AND (India*[Title/Abstract]) Filters: Free full text, English, from 2015-2021. Articles were searched from all databases selected in the search strategy. The titles and abstracts were screened and duplicates and irrelevant articles were excluded according to inclusion

and exclusion criteria. Full texts of eligible articles were retrieved, reviewed and a systematic review was constructed.

NATIONAL FAMILY HEALTH SURVEY (NFHS-3 & 4) [6]

In India, nearly 35% women have low BMI and 55 % are anemic. States like Bihar, Chhattisgarh, Madhyapradesh and Odisha having most undernourished women. Women when undernourished it has an adverse effect on maternal nutritional status during pregnancy and lactation like low pre-pregnancy weight and low pregnancy weight gain. According to NFHS-4 23 % women have low BMI and 50 % are anemic, which that nutritional status of women and girls in the age group 15-49 years has improved.

NATIONAL FAMILY HEALTH SURVEY (NFHS-5) [7-11]

In India, according to NFHS-5 children are undernourished, which starts when the child is in the mother womb. Nutrition plays a very important role in physical and mental growth of child. Exclusive breastfeeding and adequacy of supplemental nutrients have improved, but still remain inadequate. Counselling about breastfeeding and timely introduction of supplemental feeding provided as nutritional interventions gave mixed results. Unfortunately, in many areas, an increase in women's obesity is posing a

serious threat to their health, which has issues for babies and infants.

NUTRITION INTERVENTION AMONG LACTATING WOMEN

Pregnancy is challenging periods in a woman's life and socio-demographic factors have a significant impact on her health now and in the future. The majority of pregnant women in India consume insufficient protein and calories throughout pregnancy, as seen by the percentage of women with a BMI of 18.5 percent and 66.67 percent who are anemic and with micronutrient deficiency respectively. The underlying reasons may be different but, In India, the majority of anemia patients in women are illiterate, and they are unaware of proper nutrition intake during pregnancy and lactation. Most of the women found to be anemic are between the ages of 20 and 35 at the time of their first pregnancy, and they are mostly working women [2].

NUTRITION INTERVENTION METHODS [13, 14]

- The improvement of the quantity and level of nutrients of everyday foods by improving access to food by means of a public distribution system.
- Access to additional foods in the phase of pregnancy and lactation under combined child development scheme and provide

knowledge about nutrition and health education.

- Prevention of anaemia and micronutrient deficiency by providing the Iron Folic Acid Supplement, iodine salt, support to stop the use of tobacco products while pregnant and maternal supplement of calcium and vitamin A.
- Counseling to women about basic nutrition and health services by providing premature pregnancy registration and antenatal quality control.
- Enable women to avoid pregnancies too early, too frequently and too closely together.
- Counselling about family planning, reproductive health information, encouragement and services by delaying initial pregnancies and repeat pregnancies.

IMPACT OF NUTRITION INTERVENTION ON LACTATING WOMEN [12]

The role of maternal nutrition and dietary intake during lactation is more significant because insufficient nutritional diet intake causes high rates of mother as well as child morbidity and mortality. Moreover, malnutrition complications among breast feeding children below 2 years of age, leads to irreversible damage to child for rest of life

such as poor cognitive development, less performance in studies, poor productivity rate, and problem of intergenerational cycles of malnutrition. Considering the high prevalence and severity of undernutrition among Indian mothers during lactation phase, government of India has been implementing many nutritional interventions schemes to improve maternal nutritional status, literacy level, and health education for usage of health services.

The government of India initiated the programs for maternal health, nutrition, and care.

Integrated Child Development Scheme (ICDS): The ICDS covers supplementary nutrition, immunization, health check-ups and referral services to children below six years of age as well as expecting and nursing mothers, pre-school education to children, health and nutrition education to women in the 15-45 age groups.

Indira Gandhi Matritva Sahyog Yojna (IGMSY): The IGMSY covers working mothers for wage-loss during child birth and child care and also ensures safe delivery; promote good nutrition and exclusive breast feeding to child for the first six months of life. It covers antenatal and postnatal care including proper immunization, breast

feeding practices, counseling, training and growth monitoring.

Janani Suraksha Yojana (JSY): The JSY is conditional cash transfer program for poor mothers for institutional delivery of their babies by utilizing the health care facility; as well as antenatal and postnatal care including at least three antenatal care visits, timely immunization, and postnatal checkup as per the requirement. It is a direct intervention for health care needs of the pregnant and lactating mothers.

Reproductive Child Health 2: The main objectives of the RCH-2 were reduction of maternal morbidity and mortality, infant morbidity and mortality, under morbidity and mortality and promotion of adolescent health and control of reproductive tract Infections and Sexually Transmitted Infections. It is a direct intervention because it provides folic acid supplementation for pregnant women and vitamin A supplementation for new borns which are definite steps towards improving nutritional status.

Mother and Child Protection Card (MCPC): The MCPC covers guidance on good caring practices during pregnancy, danger signs, home delivery, new born care and breastfeeding, details of immunization, child growth, child illness, feeding and

psychosocial care and development milestone.

Village Health Nutrition Day (VHND): The VHND covers health, nutrition and counseling services and access to maternal, newborn, child health at the village level.

Pradhan Mantri Maatri Vandana Yojana (PMMVY): The PMMVY covers maternity benefit program in which provides a conditional transfer of cash to pregnant ladies and breastfeeding mothers who give birth to their first child.

The main goal of all these programs is to promote healthy practices, utilization of institutional service during pregnancy, delivery and lactation. These also encourages women to follow nutritional and healthy practices, breastfeeding for first six months, provides cash benefits to pregnant & lactating mothers to improve their health and nutrition.

Poshan Abhiyan: Poshan abhiyan is an Indian flagship initiative aimed at improving the nutritional outcomes of children, pregnant women, and breastfeeding women. It is in this context that the Hon'ble Prime Minister launched the Poshan Abhiyan on April 8, 2018 to combat malnutrition in a mission mode; it is a critical step by the Indian government aligned with the Prime Minister's motto of "Sabka Sath Sabka

Vikas." This campaign has been taken out to save India from malnutrition and gather the necessary energies and resources to eradicate malnutrition in India.

Surakshit Matritva Yojna (SUMAN): The ministry of health and welfare started Surakshit Matritva Yojna (SUMAN) on 10th October 2019 with a commitment to give assurance. SUMAN's goal is to provide free, dignified, respectful, and high-quality healthcare to every woman and newborn who visits a public health facility, with zero tolerance for denial of services, in order to eliminate all preventable maternal and newborn deaths and morbidities and to ensure a positive birthing experience. This new programme is projected to result in zero preventable maternal and newborn deaths, as well as high-quality maternity care offered with dignity and respect.

BARRIERS TO UTILIZE NUTRITION INTERVENTION

The study about outcome and impact of interventions gives many themes which were identified as the major barriers to utilize nutrition interventions by lactating women. Inadequate accessibility & availability of nutritional food, problems of feeding practices and knowledge, cultural and religious influence on life-style, no correlation of nutrition and focus of

agricultural production, lacunas in health services and administration and poor access to WASH [4, 15].

Inadequate Accessibility and Availability of Food [16]

The biggest issue faced by the lactating woman is inadequate accessibility and availability of food due to less income. They are not able to buy diversified food because of low income, drought, limited market availability, shortage of nutritional products etc. In rural areas only limited food items available as per the season and crop pattern of that region i.e. specific vegetables, fruits and cereals are available in specific seasons only. The food items which are required for better health during pregnancy and lactation are not accessible even though government provides them money under schemes for nutritional interventions. The money or facilities provided are utilized for other requirements of family.

Feeding Practices and Knowledge [16]

Even when food is available and accessible and received knowledge about nutrition requirement, the feeding methods are found to be insufficient and mothers were adamant about not changing their eating habits. They have all of the ingredients for a healthy diet at home, such as eggs, milk, and a variety of other food sources but lack of awareness of

importance of the diversified food. It is also observed that due to illiteracy mothers and other family members are less aware about good feeding practices and consequences of malnutrition therefore they are not motivated to use nutritional interventions services.

Cultural and Religious Influence [16]

In India we see religious influences on nutrition like as a tradition wife can eat only after husband eats his food. There is no any understanding about more nutritional requirements of lactating women so that she can eat more nutritious food than husband and also before their husband eats. If the husband is not available at for lunch, then woman keeps fasting the rest of the day. Waste of food during ceremonies also lead to shortage of food rest of the year. In rural area there is heavy workload of household works for women as per traditions and during lactation also it is continued without considering its consequences. As an influence of religious fasting, lactating women are not allowed to consume animal source foods may be a barrier to nutritional interventions.

Focus on Agricultural Production [16]

Market oriented production of crops by farmers can affect the food consumption pattern. Farmers prioritized the production of products for selling rather than for

consumption so their families including lactating women may not get the nutritional food as per requirements.

Barrier Related to Health Service [16, 17]

There are many interventions about providing health services to lactating women but utilization of these services is affected by poor access to due to non-availability of health care facilities nearby vicinity. Due to involvement of constraints like time, money, transport facility, social isolation and awareness about its importance interventions services are not utilized. Another barrier in utilization of health care services as nutritional interventions is less knowledge, compromises in commitment and biased approach of health care providers. The quality of health care services is not meeting their level of expectations so these services are not utilized by community.

Poor Access to Water, Sanitation and Hygiene [16]

One of the most significant barriers in using nutrition interventions to support lactating women is a shortage of water or unavailability of safe and clean water. The lack of pure water was thought to make it difficult for lactating mother to maintain personal hygiene and cleanliness as well as difficult to cook safe and hygienic food with

that water, resulting in a high number of infections and undernourishment.

DETERMINANTS OF MATERNAL NUTRITION

The parameters which address the immediate determinants of nutrition of mothers and children like adequate food and nutrient intake, feeding practices, care giving, health and nutrition education, institutional delivery and cash benefits. Based on these inclusion criteria, some of the interventions which were targeted towards direct nutrition of women and children but had restricted coverage so the applied nutrition programme have not been analysed properly [18, 19].

Comparison of rural and urban barriers:

In many places of India, child mortality rates are very high. Breast-feeding methods are one of the reasons for the high child mortality rates. In metropolitan settings, only about a third of mother breastfeed within half an hour of giving birth, and only about a fifth in rural ones. The chance of child mortality rises when women delay or refuse or ignore to breastfeed their children. While there are recognized disparities in breastfeeding behaviors between cities and rural areas, few empirical research have looked into them. When we look at rural areas, we see that one of the reasons is a lack of education and early marriages; we also see women who do not

properly care for their children and who have nutrition problems during pregnancy. They don't have much food to take care of them during pregnancy. So there is also a reason why the mother did not get milk for her child: they did not get proper nutrition. And as we see in the urban areas, they are educated, and they have the proper facilities to grow their children and feed them properly. They take proper nutrition during pregnancy to have a healthy baby and they have proper advice from doctors, so they feed their babies properly. Suggestion should be that disparities in healthy breast-feeding practices between rural and urban areas are not intractable, and that rural and cultural beliefs systems about breast-feeding are likely to encourage good breastfeeding practices.

DISCUSSION

The report emphasizes the need for improved nutrition care and food intake process for lactating women and maternal nutritional education. In addition to providing nutrition and nutrition education to pregnant women, the antenatal trimester is the only time when we spend significant time with them. It is fact that there is an increasing demand for midwives and other health workers with better nutrition training in order to deliver better patient care and promote health. In the

paper we showed what is important for Lactating women, what important nutrition they should or should not take. The women should be healthy and properly nourished so she keep her baby healthy and strong mentally and physically. There are such schemes for nutritional interventions run by the government but studies suggest that it should be properly implemented by the government and more emphasis should be given for its implementation in rural India [20, 21]. It can be advised that people should prefer the gardening at home, which will improve local nutrition practices and everyone will get access to supply of fresh, cheap fruits and vegetables. Inadequate supply of water, dependence of irrigation on seasonal rainwater and lack of gardening seeds availability near the locality may be a barrier to introduce home gardening into the community level. Research reveals that there should be collaboration between the health and agricultural sectors. Here, agriculture sector mainly focuses on agricultural products but very limited attention given to nutrition-sensitive agriculture practices. However, the health sector also mainly focuses on nutrition-specific interventions but not crop pattern in that region. These facts suggests us the need for strong inter-

sectoral collaboration between agriculture and health sectors.

Health care providers facing the problem or difficulties in accessing each household and counseling mother and other family members per their plan because the working areas are vast, households are scattered, counselling requirements are different, less patient compliance and less flexibility available in government intervention policies.

SUGGESTION

Interventions to enhance the nutrition of pregnant and lactating mothers; early commencement of breastfeeding with exclusive breastfeeding for 6 months; promotion, protection, and support of continuing breastfeeding. We do this by providing knowledge and education and advice how to eat, what to eat, when to eat. Government should make policies for the better health especially in rural areas. Actions and results to modify food, nutrition, and physical activity surroundings and behaviors, such as expanding access to food, are the subject of specific projects (food security).

- Eat a wide range of healthy foods.
- Eat more fruits and vegetables.
- Eat fewer processed foods that are high in fat, salt, and sugar.
- Breastfeed infants exclusively for six months, if possible, and then introduce

complementary foods while continuing to breastfeed for at least one year and beyond.

- Every day, get active for at least 30 minutes for physical exercise.
- For added benefit and fitness, include some strenuous activity and resistance.
- Maintain a healthy weight for the rest of your life.
- Encourage and promote the creation of surroundings that encourage people to live healthy lifestyles.

CONCLUSION

Lactating women should eat a well-balanced diet to ensure that their child could get enough nutrients to grow and develop properly. Extra calories, protein, healthy fat (omega-3 fatty acid), a variety of vegetables and fruits, milk consumption were among the additional nutrients that were needed. Reduce the amount of refined sugar in your beverages and foods, as well as saturated fat and salt in diet. Government should plan and restructure the scheme and policies to improve the outcomes from nutritional interventions and various barriers will be ineffective. There should be continuous evaluation and improvement in the intervention schemes studying their intergenerational consequences. Such approaches have the potential to increase our

understanding of maternal dietary/nutritional influences on birth outcomes.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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