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Malnutrition and its Associated Risk Factors among Women of Reproductive Age in Rural Community of Lahore

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ABSTRACT

Introduction: *Malnutrition is thought to be one of the world's most genuine, yet minimum tended to medical issues and furthermore keeps on being noteworthy general medical problems all through the creating scene, especially in Southern Asia and Sub-Saharan African creating countries low dietary admission likewise the most imperative hazardous factor of lack of healthy sustenance, for example, essential insufficiency because of low levels in the eating routine and an auxiliary inadequacy because of any illness.* ***Methodology:*** *A quantitative descriptive cross-sectional study design was used to conduct the research. The collected data was analyzed using statistical package for social sciences version 23. Descriptive statistical and logistic regression was used to describe the variable.* ***Results:*** *Most of the respondents who eat fish and fish products in a week were 6% and respondent who eats fish and fish products in a month was 68.2% and only 25.8% respondents had not taken fish and fish products in their diet. Sources of income of the respondents were categorized. In which 13.2% of respondents source of income was farming, 2.6% respondents trade as a source of income, 43.7% of respondents had a monthly salary, and 40.4% of respondents had income on daily wages.* ***Conclusion:*** *Age, housing conditions, sources of drinking water, the habit of hand washing, consumption of fish and dairy products, consumption of fruits, getting fortified food and food insecurity were important factors to determine the nutritional status of women of reproductive age. These factors are associated with malnutrition.*

Keywords: Reproductive age women, Body mass index, Malnutrition

INTRODUCTION

Globally, almost 2 billion people are affected by different forms of malnutrition, which accounts for 11% of the global burden of disease. A total of 842 million people were estimated to be suffering from chronic malnutrition from 2011 to 2013. Maternal mortality holds on in most creating nations, with in excess of 500,000 passing for every year because of inconveniences amid pregnancy and labor. Around half of these passing have happened in Sub-Saharan Africa where a lady's lifetime danger of maternal demise was 1 of every 22, contrasted with 1 in 8000 in created countries [1].

Malnutrition is thought to be one of the world's most genuine, yet minimum tended to medical issues and furthermore keeps on being a noteworthy general medical problem all through the creating scene, especially in Southern Asia and Sub-Saharan African creating countries [1]. Malnutrition is defined as defective nutrition due to the insufficient or unhinged intake of nutrients or their impaired assimilation or utilization [2].

Women are the most important care providers for families and children. If they ignore their own health during providing care for their families which results in the development of malnutrition in many women. Many types of research showed that reproductive-age women are susceptible to undernutrition throughout their life. Malnutrition among women not only impacts their own health but also on their children. An incessantly undernourished woman is probably going to bring forth an undernourished child, causing the cycle of undernourishment to be repeated over generation [3].

Risk factors of malnutrition are local water (counting water important for cleanliness and sanitation practices), and drinking water is frequently a wellspring of illness due to its low quality (it can contain microscopic organisms, infections, parasites and also substance operators) and its shortage. Lacking amounts of water to empower at least cleanliness (e.g. washing hands), a circumstance as often as possible exasperated by the absence of can offices, which thusly prompts the detoxification of drinking water and water asset when all is said to be done [4].

Low dietary intake is also the most important risk factor of malnutrition such as primary deficiency due to low levels in the diet and a secondary deficiency due to any disease (interference with ingestion, absorption, transport, utilization or excretion of nutrients) [5].

The political and monetary circumstance the level of training and sanitation, the season and atmosphere conditions, sustenance creation, social and religious nourishment traditions, bosom encouraging propensities, pervasiveness of irresistible ailments, utilization of risky drinking water and not keeping up individual cleanliness the presence and viability of nourishment programs and the availability and nature of well-being administrations [6].

Various nutritional policies were formulated and aimed at reducing malnutrition at the world level, the magnitude of malnutrition (body mass index less than 18.5 kg/m^2) among women remained between 10% and 40% in most low and middle-income countries [7].

The Significance of the Study

This study finds out the association and risk factors of women in reproductive age in a rural area. Moreover, health education will be conducted and will develop awareness in the reproductive age group of women regarding malnutrition and its risk factors. This study will help stakeholder government or non-government organization to develop policies to minimize the malnutrition and its risk factors in women.

Purpose of the Study

To assess the malnutrition and its associated risk factors among women of reproductive age in a rural area of Lahore.

Literature Review

The review of the current literature supports the health promotion model and also supports the study variable which includes malnutrition and its associated risk factors among the women of reproductive age (15 to 50 years). Multiple studies were conducted to assess and evaluate the prevalence of malnutrition and its associated risk factors among women of reproductive age (15 to 50 years) [8].

Milton, et al., conducted a study on malnutrition. According to them, almost 2 billion individuals are influenced by different types of malnutrition which represents 11% of the worldwide burden of diseases. A total of 842 million individuals were evaluated to experience the ill effects from chronic malnutrition from 2011 to 2013. Maternal mortality endures in most developing countries, with more than 500,000 deaths every year because of complication during pregnancy and labor [9].

According to Government of Pakistan, low level of education in ladies, early marriages, higher rates of fertilization with deficiency of birth spacing, and poor access to human facilities workplaces are extremely serious elements of child and maternal starvation. Different components affect nutrition, food uncertainty harmful water, poor cleanliness and environmental hygiene [10].

Recent statistics of Pakistan nearly 36% of individuals out of 58 million populations used open or common toilets, in rural areas, 45% of the people still practice open elimination. Around 50% of the population has contact to supplied water, while different methods reveal that many families (90%) doesn't treat the drinking water, and just 8% of family units utilize a proper water treatment technique [10].

Among females, 14% of females of reproductive age are thin or undernourished (BMI under 18.5 kg/m^2), prevalence is high among the poorest, uneducated and rural-dwelling ladies. Micronutrient inadequacies are additionally predominant among ladies with half of the ladies anemic and a high rate of vitamin A, zinc and iron deficiency [10].

According to the Millennium Development Goal (MDG), number 5 which includes the lessening of maternal mortality by 75% between 1990 and 2015 is exceedingly identified with women nutritional status. Poor maternal nourishment is related to maternal poor health and poor diet intake which cause malnutrition and maternal deaths. The end result of 5 Millennium Development goals determines the maternal mortality rate and analyzes the arrangement of crisis obstetric administrations utilizing skilled birth specialists and successful referral systems. Although the arrangement of enhanced obstetric care is vital, it isn't sufficient to determine the issue unless the nutritional status of poor women is also well addressed [11].

Ferede, et al., conducted a study on the prevalence of malnutrition among women of reproductive age group which was higher (48.6%) than findings in 2011 report in the Ethiopian Demographic Health Survey (EDHS) which was 27% and a study conducted in Tena district in Ethiopia in 2013 in which the prevalence was around 26.7%. In this study, age was one of the determinant factors of maternal malnutrition. A larger proportion of women who were in a young age group had malnutrition compared to those in the middle age group. The study demonstrated that women who had no education were more likely to be underweight than those who at least attended primary school. Educational status of women was strongly associated with their nutritional status [12].

Theoretical Framework

Health promotion model: According to the Health Promotion Model (HPM) presented by Nola J Pender. It was designed to as "complementary counterpart to models of health protection." It describes health as a positive dynamic state, it is not merely an absence of illness [8]. According to this model health of the people should be improved by changing their behaviors towards health. In the present study risk factors regarding malnutrition will be identified and health education should be given to promote their health by preventing these risk factors. Promotion of health is directed at increasing the client's level of health. Health promotion behaviors should result in improving well-being; it enhances the functional ability and best quality in all the stages of development of life.

MATERIALS AND METHODS

Setting

The research was conducted in Hussain Abad (Lahore).

Research Design

A cross-sectional descriptive study was conducted in the community.

Population

Data were collected from mothers form the Hussain Abad region.

Sampling

Data was collected from a convenient selected sample of 151 women of Hussain Abad Lahore by using a predesigned questionnaire.

Research Instrument

The well-adapted questionnaire was used with a closed-ended question and it was conducted from a convenient sample. Given questionnaire to participants was well adopted. It was accurate for this study for gathering data to answer these research questions.

Data Gathering Procedure

A formal written letter of permission to conduct the research including pilot-testing was methods used to analyze data. Data entry was completed by the primary investigator.

Study Timeline

The informative data was collected from September 2017 to January 2018.

Ethical Consideration

Participants were informed about the purpose of this study.

RESULTS

Table 1 showed the ages of respondents in the age group of 15-25 years were 48.3%, in the age group of 26-35 years were 37.1% and in the age groups of >35 years were 14.6%. BMI is classified into 3 categories underweight, normal and overweight. Respondents with 43.7% fall into underweight, 45.7% of respondents had BMI normal and 10.6% respondents had BMI overweight. Respondents with 39.7% had primary education, 53.6% of respondents had middle education, and 6.6% of respondents had the education of matrics. Most of the participant belongs to a nuclear family

with 54.3%, and 45.7% had a joint family. Sources of income of the respondents were categorized in which 13.2% respondents source of income was farming, 2.6% respondents trade as a source of income, 43.7% respondents had a monthly salary, 40.4% respondents had income on daily wages.

Table 1 Sociodemographical characteristics of respondents

Variables	Statement	Frequency	Percentage
Age of participants (Years)	15-25	73	48.3%
	26-35	56	37.1%
	>35	22	14.6%
BMI of participant	Underweight	66	43.7%
	Normal	69	45.7%
	Overweight	16	10.6%
Qualification of participant	Primary	60	39.7%
	Middle	81	53.6%
	Matric	10	6.6%
Type of family of participant	Nuclear family	82	54.3%
	Joint family	69	45.7%
Source of income of participant	Farming	20	13.2%
	Trade	4	2.6%
	Monthly salary	66	43.7%
	Daily wages	61	40.4%

Table 2 showed that 73.5% responders drinks tap water, 21.9% drink boiled water and only 4.6% drink filtered water.

Table 2 Source of drinking water

Variables	Statement	Frequency	Percentage
What is the source of drinking water?	Tap water	111	73.5%
	Boil water	33	21.9%
	Filtered water	7	4.6%

Table 3 showed the dietary intake of the respondents, most of the respondents eat meat and meat products in a week (3.3%) and respondent who eats meat and meat products in a month was 81.5%, and only 15.2% respondents had not taken meat and meat products in their diet. Most of the respondents eat fish and fish products in a week (6.0%) and respondent who eat fish and fish products in a month was 68.2% and, only 25.8% respondents had not taken fish and fish products in their diet. Respondents who take milk and milk products were 53.0%, and 45.7% of respondents had taken milk and milk products in a month, and only 2% had not to intake milk and milk products. Respond to the question: do you eat beans? 30.5% respondents said they take beans in a week and 69.5% respondents said they take beans in a month. Most of the respondents eat fruits in a week (35.1%), and the respondent who eats vegetables in a month were 63.6% and only 1.3% of respondents had not taken fruits in their diet. Most of the respondents eat vegetables in a week (78.1%) and respondent who eats vegetables in a month was 21.9%. Most of the respondents eat oil and fat products in a week (58.9%) and respondent who eats oil and fat products in a month was 40.4% and only one respondent had not taken oil and fat products.

Table 3 Dietary intake of respondents

Variables	Statement	Frequency	Percentage
How often do you eat meat and meat products?	Weekly	5	33.0%
	Monthly	123	81.5%
	No intake	23	15.2%
How often do you eat fish and fish products?	Weekly	9	6.0%
	Monthly	103	68.2%
	No intake	39	25.8%
How often do you eat milk and milk products?	Weekly	80	53.0%
	Monthly	69	45.7%
	No intake	2	1.3%

How often do you eat beans?	Weekly	46	30.5%
	Monthly	105	69.5%
How often do you eat fruits?	Weekly	53	35.1%
	Monthly	96	63.6%
	No intake	2	1.3%
How often do you eat vegetables?	Weekly	118	78.1%
	No intake	33	21.9%
How often do you eat fat And fat products?	Weekly	89	58.9%
	Monthly	61	40.4%
	No intake	1	0.7%
Do you eat fortified food?	Yes	10	6.6%
	No	141	93.4%

DISCUSSION

In this study, one of the determinant factors of maternal malnutrition was age. A larger proportion of women who were in a young age group had malnutrition compared to those in the middle age group (26-35 years). This result is similar to a study conducted in Ethiopia in which malnutrition was found among the young age group. This finding was in line with the EDHS report in 2011, where adolescents (with an age group of 15-19 years) were more likely to be malnourished (Health survey, 2011).

In our study malnutrition was found among women with at least primary education as compared to women with matric education. This study finding is similar to a study conducted in Ethiopia in which women who had no education were more likely to be underweight than those who at least attended primary school. Educational status of women was significantly associated with their nutritional status. This finding is supported by various study findings in South East Asia and Sub-Saharan Africa, including Ethiopia and similar studies suggested that women with higher educational status had better health and nutritional status. This could be due to the fact that the lack of education among women of reproductive age may restrict them from making independent decisions for buying household commodities, being accepted by other household members and accessing household resources which are important to improve their nutritional status. Malnutrition is found among women who have a lack of food supply and their family members are more than 8, so they don't get adequate nutrition in terms of quantity and quality [12].

In this study, women who got their drinking water from unprotected sources, such as springs and wells, were more underweight than those who got water from the tap; in addition, the probability of being underweight among women who had no habit of hand washing after using the toilet was higher than that of their counterparts. These results of the finding were similar to a study conducted in South Asia. Even though the Ethiopian government has tried to increase the coverage of tap and protected water sources for the community, there still is a challenge in helping those groups of people who live dispersedly in remote areas. Lack of access to safe water predisposes people to parasitic infections such as amoeba, giardia and helminthic infestation, which lead to diarrhea and malnutrition [13].

Lack of access to nutrient-rich foods such as fish, meat, dairy products, and fruit was associated with underweight women. Similarly, a study done in the Tena district in Ethiopia showed that women who lacked access to meat were more malnourished than those who were getting it. Fish and dairy product consumption was frequently associated with weight gain as they were a major source of protein. But in our study, they don't get fish and dairy product so women were found under the underweight category [14].

Some of the households practiced farming using irrigation to cultivate vegetables and fruits. Consumption of fruits might help the study participants to fight malnutrition-related diseases; moreover, some fruits such as avocado could be wholesome to gain weight. These findings implicated the need for behavioral change communication on the importance of consuming locally available nutrient-rich foods for the target population, especially for women of reproductive age [15].

Limitation

- Novice researcher
- Limited resources

- Shortage of time

CONCLUSION

Age, housing conditions, sources of drinking water, the habit of hand washing, consumption of fish and dairy products, consumption of fruits, getting fortified food and food insecurity were important factors to determine the nutritional status of women of reproductive age. These factors are associated with malnutrition.

DECLARATIONS

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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