



Knowledge of Malnutrition Among Adolescent Girls in Patan: A Cross-Sectional Study

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Abstract:

Background

Malnutrition is a term for poor nutrition, whether that is excess consumption of nutrients or inadequate consumption (Saam, 2016). Adolescents signify around 20% of the global world's population and around 84% of them are found in developing countries. In developing countries like India finding out situation analysis and implementing public health programs, poor knowledge about nutrition is the major cause of nutritional problems. Moreover, intergenerational results are due to the uptake of inadequate practice.

Objectives

To assess the burden of malnutrition and to study knowledge of dietary patterns, nutritional deficiency and needs among adolescent girls.

Material and methods

This cross-sectional study was conducted in the Patan region. A total of 249 adolescent girls were included in this study. A predesigned, pretested, questionnaire was used to assess the objective of the study.

Result

According to NFHS V, 2019-20, the prevalence of malnutrition among children is 39.7 % in Gujarat. The present study found that 50% of respondents could identify the underweight. Major respondents have the least knowledge about nutritional deficiencies and needs. 19.6 % of respondents were not at all aware about cereals were rich sources of vitamins and minerals. 19.8 % of respondents were not at all aware about pulses were rich sources of carbohydrates and fibers. 17.0 % of respondents were not at all aware of BMI. 20.0 % of respondents were not at all aware of adolescent girls' calorie needs of 2000-2200 calories/day. 13.0 % of respondents were not all aware of adolescent girl protein need of 40-50 gm. /day. 24.1 % of respondents were not at all aware of adolescent girl calcium need of 1300-1350 mg/day. 23.9 % of respondents were not at all aware about adolescent girls need 15-28 mg/day. 17.4% of respondents were fully aware about green leafy vegetables and cereals were a rich source of iron food.

Conclusion

Adolescent girls represented intermediate knowledge of dietary patterns but not adequate nutritional deficiencies and needs. Initial uptake and awareness of nutritional needs are extremely low among adolescent girls. Along with knowledge about malnutrition and other influencing factors need to address distributed misunderstandings around nutritional needs.

Keywords: Knowledge, Malnutrition adolescent girls

1. Introduction

Malnutrition is an alarming public health issue that reacts in developing and developed countries. As in before years, the 2018 global nutrition report mentioned that the crisis of malnutrition remains severe.

Malnutrition in all its forms remains high across all regions of the world. Even though reductions in stunting of 149.2 million children in total and 22 % of children globally stunted, 45.5 million children fewer than five are wasted in total and 7.5% of children globally, and 20 million newborn babies are predicted to be of low birth weight, while 38.3 million children below five years of age are overweight. Regionally, South Asia is home to 38.9% of the world's stunted children, having the highest burden of the regions. As per the nutrition report, 153.8 million adult women underweight were affected. And 16.2 million girls were affected (**Global Nutrition Report & WHO, 2018**).

According to global target 2025 policy briefly covers the first target which is “To achieve 40% reduction in the number of children under 5 who are stunted,” then the third target which is “To achieve 30% reduction in low birth weight” and the last target which is “To reduce and maintain childhood wasting to less than 5%” (**Initiatives, 2020**). In SDG 2 **Zero hunger** included the role of nutrition is mostly. This purpose is to finish all forms of undernourishment. Among all deaths of children who are below the age of 5 years, 45% are due to malnutrition. As per the global nutritional strategy Decrease in the pace of underweight children under 5 years to 20.7% by 2022 and the Current rate is 35.7%. The decrease in the commonness of iron deficiency in kids who are between 6-59 months to 19.5% by 2022 and the current rate is 58.4%. The decrease in the commonness of iron deficiency in women and girls aged between 15-49 years to 17.7% by 2022. And the current rate is 53.1%. As a long-term goal, the reason for the national nutrition strategy is to logically reduce all types of undernutrition by 2030 (**POSHAN Abhiyaan | NITI Aayog, 2018**).

2. Materials and methods

A cross-sectional study was conducted among 200 adolescent girls in the age group of 10-19 years in North Gujarat, 2020-21. To find the knowledge of malnutrition and nutritional deficiencies with the prevalence of malnutrition. Data were collected from schools, colleges, and residential areas. Multistage sampling was followed to collect data. Those subjects who were willing to participate in the study were included in the study. A pretested and semi-structured questionnaire was used to obtain data related to knowledge of malnutrition and nutritional deficiencies. Statistical packages of social science (SPSS) were used to analyze data. The reliability test was assessed to find the internal consistency of data. Cronbach's alpha value was 0.706 for assurance of clearness, internal consistency and accuracy. A 5% level of significance was followed for analysis. Frequency tests, cross-tabulation, descriptive statistics and ANOVA tests were performed for analysis.

Table 1. Variables of the study

Knowledge	Cause of malnutrition, signs, and symptoms of malnutrition, nutritional deficiencies, nutritional need, awareness about nutrition
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Table 2 multiple responses upon knowledge scale on dietary patterns level of respondents n %

Knowledge scale on dietary pattern of respondents	Frequency (%)
A balanced diet includes all food groups	
Not at all aware	3(3.0%)
Somewhat aware	82(8.2%)
Fully aware	164(16.4%)
A balanced diet includes fruits and vegetables	
Not at all aware	54(5.4%)
Somewhat aware	185(18.5%)
Fully aware	10(1.0%)
A balanced diet includes pulses and cereals	
Not at all aware	66(6.6%)
Somewhat aware	174(17.4%)
Fully aware	9(0.9%)
Cereals are a rich source of vitamins and minerals	
Not at all aware	196(19.6%)
Somewhat aware	11(1.1%)
Fully aware	42(4.2%)
Cereals are a rich source of carbohydrates, fibers and proteins	
Not at all aware	93(9.3%)
Somewhat aware	8(0.8%)
Fully aware	148(14.8%)
Pulses are a rich source of carbohydrates and fibers	
Not at all aware	198(19.8%)
Somewhat aware	8(8.0%)
Fully aware	43(4.3%)
Pulses are a rich source of proteins, minerals, and vitamins.	
Not at all aware	91(9.1%)
Somewhat aware	11(1.1%)
Vegetables are a rich source of carbohydrates and proteins.	
Not at all aware	54(5.4%)
Somewhat aware	99(9.9%)
Fully aware	94(9.4%)
Vegetables are a rich source of minerals and vitamins.	
Not at all aware	56(5.6%)
Somewhat aware	99(9.9%)
Fully aware	94(9.4%)
Insufficient nutrition for the period of adolescence could considerably delay physical growth and sexual maturation.	
Not at all aware	59(5.9%)
Somewhat aware	79(7.9%)
Fully aware	111(11.1%)

Table 3 multiple responses upon knowledge scale on nutritional deficiencies and needs a level of respondents' n %

Knowledge scale on the nutritional deficiencies and needs of respondents	Frequency (%)
Do you aware of malnutrition?	
Not at all aware	78(7.8%)
Somewhat aware	29(2.9%)
Fully aware	142(14.2%)
Malnutrition is characterized by the imbalance between the intake of nutrients and the demand for energy	
Not at all aware	78(7.8%)
Somewhat aware	29(2.9%)
Fully aware	142(14.2%)
BMI (Body mass index) means body weight/height ²	
Not at all aware	170(17.0%)
Somewhat aware	30 (3.0%)
Fully aware	49(4.9%)
Adolescent girls calories need 2000-2200 calories/per day	
Not at all aware	200(20.0%)
Somewhat aware	7(0.7%)
Fully aware	42(4.2%)
Adolescent girl proteins need 40-50 gm/day	
Not at all aware	130(13.0%)
Somewhat aware	117(11.7%)
Fully aware	2(0.2%)
Adolescent girl calcium need 1300-1350 mg/day	
Not at all aware	241(24.1%)
Somewhat aware	7(0.7%)
Fully aware	2(0.2%)
Adolescent girl iron need 15-28 mg/day	
Not at all aware	239(23.9%)
Somewhat aware	8(0.8%)
Fully aware	2(0.2%)
Green leafy vegetables and cereals are rich sources of iron food.	
Not at all aware	67(6.7%)
Somewhat aware	8(0.8%)
Fully aware	174(17.4%)

3. Discussion

A present study knowledge scale of dietary patterns found that 8.2 % of respondents were somewhat aware of a balanced diet including all food groups. 18.5 % of respondents were somewhat aware of a balanced diet including fruits and vegetables. 17.4 % of respondents were somewhat aware of a balanced diet including pulses and cereals. 19.6 % of respondents were not at all aware about cereals were rich sources of vitamins and minerals. 14.8 % of respondents were fully aware about cereals were rich sources of carbohydrates, fibers and proteins. 19.8 % of respondents were not at all aware about pulses were rich sources of carbohydrates and fibers. 14.7 % of respondents were somewhat aware about pulses were rich sources of proteins, minerals and vitamins. 9.9 % of respondents were somewhat aware about vegetables were rich sources of carbohydrates and proteins. 9.9 % of respondents were somewhat aware about vegetables were rich sources of minerals and vitamins.

11.1% of respondents were fully aware about insufficient nutrition for the period of adolescence could considerably delay physical growth and sexual maturation statement.

Also, the Present study knowledge scales on nutritional deficiencies and needs found that 7.8% of respondents were not at all aware of malnutrition. 7.8 % of respondents were not all aware about malnutrition is characterized by the imbalance between intake of nutrients and demand for energy statement. 17.0 % of respondents were not at all aware of BMI. 20.0 % of respondents were not at all aware of adolescent girls' calorie needs of 2000-2200 calories/day. 13.0 % of respondents were not all aware of adolescent girl protein need of 40-50 gm. /day. 24.1 % of respondents were not at all aware of adolescent girl calcium need of 1300-1350 mg/day. 23.9 % of respondents were not at all aware about adolescent girls need 15-28 mg/day. 17.4% of respondents were fully aware about green leafy vegetables and cereals were a rich source of iron food.

So, the study factor found the least knowledge on dietary patterns and nutritional deficiencies and needs of adolescent girls. In the comparison of previous studies, the present study found a higher trend of knowledge, although to reach the global targets there is an absolute need to enhance the knowledge about dietary patterns, especially about enhancers and inhibitors.

The knowledge level of respondents was significantly correlated with their age and area of respondents and improved attitudes toward IFA tablets and worm pills. They also believed that nutrition should be important for the body but all the aspects of the practice were found very poor.

4. Conclusion

It is indeed a fact that the knowledge of malnutrition is higher among the Patan community. They don't aware of nutritious food and how it is feasible for them, which needs to be addressed. Because 78% of individuals are raised with their food and do not have access to premixed and fortified foods. As a result, it is critical to highlight meals that can aid to increase the bioavailability of micronutrients. The present research study has found a strong association between skipping meals, poor dietary intake of micronutrients, and least knowledge of the need for nutrition and awareness of nutrition these have been identified as the main causes of malnutrition in this research study. Adolescent girls need to be self-confident and positive regarding the consumption of multivitamins and folic acid supplements. These supplements can become significant, particularly during the time of puberty period.

5. Future Scope of the study

The present study was about situation analysis of knowledge of nutritional deficiencies and needs related to malnutrition. In the future research on biochemical studies could be conducted to thoroughly assess nutritional status.

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