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INTERVENTION ON IMPROVING KNOWLEDGE AND PRACTICES REGARDING IRON DEFICIENCY ANEMIA AND HEALTH OF ADOLESCENT GIRLS IN URBAN SLUMS, JAIPUR

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INTRODUCTION

Nutrition is taken as significant indicatorof the health and overall statusof the adolescents.Adequate nutrition is particularly critical for adolescents as it is primary determinant of the spurt of growth.**Iron deficiency anaemia is one of the most common form of malnutrition** in the world. Characterized by the low level of haemoglobin in the blood it can have detrimental effects on an individual 's health .Anaemia isone of particular concern of female youth since it can become an underlying cause for maternal and perinatal mortality and is associated with increased risk of premature delivery and low birth weight for children . Adolescence is future of our country and prevalence of anaemia make them stand in vicious cycle of malnutrition which make youth unproductive. NFHS 4 shows prevalence of anaemia at the age of 15-19 is 39.1% &14.9%at mild to moderate levels.Similarly nutritional status of young adults of 15-17 yrs still have BMI below normal i.e. 15.5% urban & 26.7& rural, respectively.

Knowledge about hygiene during menstrual cycle found to be 77.5%in urban and 48.2% in rural. These findings supports the wide range of poor health conditions of young adult today. Thus poor health conditions, prevalence of anaemia, is highest among this age group(11-18yr) and coincides with the onset of menstruation and accelerated growth.

Purpose of the study:

1) To assess the knowledge and practices related to health and nutrition among the respondents, with special focus to iron rich foods. (2).To assess the nutritional status and conduct the medical and health check up of the respondents.(3).To promote good nutrition with special focus on iron deficiency anemia among the respondents through NHE.

1. METHODOLOGY

The study was conducted in urban slums of Jaipur city. A total no. of 300 respondents were covered (12yrs.- 17 yrs.) respectively. Jaipur wall city area is divided into 10 zones. Two zones and four urban slums from each zone were selected on basis of purposive sampling technique. Respondents were selected randomly from working adolescent girls centres run by an NGO (FPAI) Family Planning Association of India in every slum area. Respondentswere involved in the activities like income generation, non formal education in the centre itself.Preparation of lakh jewellery was their family occupation in which they were involved.

Tools for data collection:

- Assessment of knowledge & practices through questioner based on health, nutrition and iron rich foods
- Assessment of Nutritional Status :
  (a) Weight for age (WAZ / HAZ ratio)
  (b) Height for age
  (c) BMI- WT/HT x Mt2
  (Assessment through table of standard deviation)
  - Diet Survey:

  (a)Food Frequency pattern (Mean score formula)
  (b)24 hours dietary recall(Standard Deviation)
- Biochemical assessment:
  (a)Hb estimation (Cynamethoglobin technique)
  (b)TIBC (Blood sample test in laboratories)
  (c)Stool test

Data collection& analysis:

The collected data was tabulated, classified and analysed .Aproper statistical treatment was given with percentage calculation, mean score, ranking, standard deviation.

Identification of areas of NHE:

Based on the knowledge &practices scores of respondents , results of nutritional assessment three priority areas of NHE were identified :

- Healthy foods
- Iron deficiency anemia,
- Puberty and health.

Preparation of NHE material: NHE material was prepared consisting of different activity sheets. The content analysis was done by subject matter specialist , communication and visual art expert. The teaching aids were pretested by the investigator with M.Sc Home Science students as a part of their community Nutrition practicals. Iron rich recipies were formulated by standardizing in the foods lab by the investigator. Three packages of nutrition health education were prepared .

Package -1 . Healthy foods,(consist of flip books, games, demonstration of healthy recipes and work books).

Package-2. Adolescent & nutritional anemia,(contains flip books, charts, demonstration and workbooks)

Package -3 Hygiene & sanitation(consist of flip book)

Implementation:

Core team: Acore team was prepared of in charges of the centres , supervisors and the field investigator. Time and place was decided for the health checkup and NHE sessions ensuring full participation of all respondents.

NHE sessions: Education was given for the period of nine days per center. Reinforcement of messages was done after twenty days of education and repeated again after twenty days .Steps of NHE were:

- ❖ Making the respondents understandhealth idea communicated.
- ❖ Asking the respondents to find out more about the health Idea.
- ❖ Discussing what has been found out.
- ❖ Taking action putting the knowledge/ message into practice.
- ❖ Discussing the results of the health idea.

Evaluation:

Respondents under study were subjected to post knowledge and practicestest (with the same questionnaire)to see any change in knowledge& practices in relation to nutrition and health. Diet survey was conducted again to see any increase in number and frequency of food items & increase in nutrient intakehaemoglobinexamination , TIBC count & stool test was conducted again from same laboratories to see any improvement in health status and haemoglobin levels.

RESULTS AND DISCUSSION:

With a view to assess the health and nutrition knowledge and dietary practices of the respondents, personal characteristics of the respondents were recorded which bring us in the light that 50% of the respondents were the bread earner ot the family i.e they were out of the school but they were in the category of literate ." Exposure to mass media is considered as one of the components of women's autonomy the other two components are educational status & decision making power" (NFHS-2) . In the present study 98% of the respondents were exposed to mass media but it was limited to watchingTV viewing selected serials, listening new songs at radio and reading only coloured pictures/ supplements of newspaper if ever available.

It was evident from the pre implementation phase that respondents were having very poor knowledge related to food and health and personal hygiene . Also there was a gap in between knowledge and practices of respondents especially in relation to consumption of safe water.The NHE packages were very well received by the respondents,as the messages directly addressed the adolescent girls. The respondents enjoyed the cooking demonstration & were happy to learn the recipes . The workbook was highly accepted by the respondents . They enjoyed the group activity of doing the exercises & colouring the pictures given in the workbook(it contain all the information given in the flip book & exercises like identifying, writing & colouring the foods.). Package -I on " Healthy foods" include flip book with content showing relationship between food & health, types & function of food, food game, my plate. While package -II provides education through charts on anemia, flip book providing information of regular consumption of iron rich foods & vit-c & demonstration of iron rich recipies. Similarly package on puberty contains flip book providing information about adolescence, their growth &development hygiene during menstrual cycle & importance of iron rich food during adolescence.

TABLE 1: Assessment of Knowledge related to Nutrition , Health& Hygiene n=300

S.no	Item	Pre%	Post%
1.	Relation in food & health	18.6%	87%
2.	Importance of Pulses in diet	31%	90%
3.	Importance of GLV in diet	40%	92%
4.	Role of iron in human body& iron rich foods	35%	89%
	SAFE WATER & PERSONAL & EVIRONMENTAL HYGIENE		
5.	Household methods of water	72%	95%

	purification		
6.	Personal Hygiene Practices	40%	78%
7.	Disposal of house garbage	83%	93%
8.	Proper use of toilets	82%	94%

TABLE-2: Assessment of Practices related to Health, Nutrition & Hygiene n=300

S.No	Item	Pre%	Post%
1.	Healthy cooking practices	36%	65%
2.	Household level of water purification	8%	20%
3.	Practices related to collection,storage& use of water	7%	12%
4.	Personal hygiene practices	42%	70%
5.	Disposal of household garbage	31%	45%
6.	Proper use of toilets	82%	96%

TABLE-3: Percent Distribution of Pre & Post Knowledge of The Respondents related to Puberty & Health n=300

S.No	Item	Pre %	Post%
1.	What are periods? Why do we have periods?	17%	78%
2.	Physical,Psycological& social changes	51%	87%
3.	Practices related to use of sanitary pads	18%	89%
4	Personal hygiene during monthly periods	28%	83%
5.	Importance of nutritious diet	34%	91%

There was increase in knowledge related to food & health, Personal hygiene and puberty &health .The respondents were quite knowledgeable about safe water &environmental hygiene, after education.

TABLE-4: Impact of NHE on Knowledge & Practices as related to t values n=300

S.NO	Category	Pre Scores	Post Scores	t-value
1.	10-12yrs	15.15	33.30	4.32*
2.	13-15yrs	10.02	34.67	10.62*
3.	16-18yrs	17.48	35.73	12.62*
4.	Overall	16.60	34.12	17.67*

*significant at 1% level of significance

It is evident from table 5 & table 6, that 38%of the respondents had >11.9g/dl of haemoglobin after intervention and there was not a single case of anaemia. Further there was average increase in 4-5 gms in those respondents who had haemoglobin levels <8.0 g/dl prior to intervention .Table 6 also indicate an average increase of 3-5 gms of haemoglobin depending upon the severity of anaemia. Lower the haemoglobin levels prior to intervention, more were the Hb levels after the intervention.

TABLE-5: Assessment of Haemoglobin Levels of Respondents n=300

Haemoglobin levels(g/dl)	Pre%	Post%
<7.0g/dl(severe)	5%	0%
7.0-11.9g/dl(Mode-Mild)	95%	12%
12 and above(Normal)	0%	38%

TABLE-6: Average Increase in Haemoglobin Levels (n=300)

Range of Hb level	Average increase(Post intervation)
6-8.0g/dl	4-5gm
8.1-9.0g/dl	3-4gm
9.1-11.0g/dl	2-3 gm

A substantial amount of evidence confirms that impact of intervention through Nutrition and Health Education not only bring improvements in knowledge of healthy foods , but also in dietary practices that enhance there health . The improved health aspects bring them in better growth & development.

Conclusion & Future prospective:

Increase in scores of knowledge and practices put the direct impact on Hb levels and TIBC count of respondents. It also improves the working efficiency of the girls as they play the role of productive person of the family. Intervention through NHE packages also bring improvement in food frequency pattern which directly reflects the selection of iron rich and healthy foods in diet. NHE on hygiene and sanitation was a big demand of the adolescent group as they have good number of related questions with it , which were solved by gynaecologist in a separate session. Demonstration of iron rich recipes was a boon for young girls and for there mothers. They not only learn the recipie but also joyfully adapt it which shows good impact on there health.

Adolescent is future of our country, they require keen and productive attention which will help to build our nation.

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