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Original Research Article

Knowledge, attitude, practice and determining factors regarding nutrition during pregnancy among females of rural Punjab

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ABSTRACT

Background: The health of a pregnant mother and her nutritional status can influence the health and survival of the growing foetus because of the biological link between them. This study was conducted to assess the knowledge, attitude, practice and determining factors regarding nutrition during pregnancy among females of rural Punjab.
Methods: 359 mothers of 2 months to 24 months old children were selected from Verka block of district Amritsar using stratified random sampling technique. Data was collected using a semi structured and pretested questionnaire. Analysis was done using frequency distribution, simple percentages and inferential statistics of chi-square was used to test hypothesis at 5% level of significance.
Results: Findings reveal that 81.1% of respondents stressed on adding extra diet during pregnancy out of which only 77.3% of mothers actually added or increased one or more food items. Place of residence, education and parity were significantly associated with knowledge regarding diet increase during pregnancy. Fear of caesarean section and difficult labour were the main reasons given for not adding extra diet during pregnancy.
Conclusions: The study however suggests that there is a need for educating the mothers regarding importance of diet during pregnancy.

Keywords: Knowledge, Determining factors, Nutrition, Pregnant females

INTRODUCTION

Pregnancy is one of the most nutritionally demanding times in a woman's life**.** Nutrition during preconception as well as throughout pregnancy has a major impact on the outcome of pregnancy. Women who eat well and avoid known risks tend to have fewer complications during pregnancy and labour and are more likely to deliver normal healthier babies.[1] For most women the extra energy needs are easily met by adding a small snack or two during the day. The focus should be on increasing the consumption of nutrient dense foods such as whole grains, meat, fish, eggs, poultry, dairy products, nuts, fruits and green leafy vegetables etc. Studies have shown that a majority of pregnant women in India consume food that is deficient in protein, caloric content, and other vital nutrients.[2,3] According to NFHS-III (2005-06) 33% of women aged 15-49 yrs of age are malnourished (having BMI less than normal).[4]

A women cannot provide essential nutrients for her child if she herself is deficient. Lack of crucial nutrients during pregnancy is associated with pre-eclampsia and hypertension, both of which can lead to increased perinatal mortality. In addition, foetal under nutrition has been found to be associated with increased risks of mental and neuro-behavioural impairment, as well as some congenital anomalies (e.g. neural tube defects). Under nutrition is responsible for low birth weight which is an important factor for high infant and maternal

mortality rate.[5] Undernourished children have lower resistance to infection and are more likely to die from common childhood ailments as diarrheal diseases and respiratory infections.[6] Those who survive may be locked into a vicious cycle of recurring sickness and faltering growth, often with irreversible damage to their cognitive and social development. Malnutrition prevents individuals and even the whole country from achieving full potential.[7]

The causes of malnutrition are multidimensional and multi-factorial with poverty, food inadequacy and maternal illiteracy being the main culprit of the menace in developing countries.[8] Nag found three main reasons for low nutritional status of pregnant women in India to be poverty, discrimination against females in terms of household food distribution, and insufficient antenatal care.[9]

Even though, maternal nutrition during pregnancy is crucial in reducing maternal mortality and infant mortality which are the target area in achieving millennium development goal, no study has been conducted to assess the knowledge of mothers on nutrition and associated factors during pregnancy in the study area. As a result, there is lack of comprehensive information regarding nutritional knowledge and factors associated with it in the study area. Therefore the purpose of this study was to assess the knowledge, attitude and practice regarding nutrition during pregnancy and analyse the determining factors among mothers of upto 2 year old children of rural Punjab.

METHODS

A cross sectional study was carried out in Verka block of district Amritsar from January 2011 to December 2011. Three villages i.e. Mudhal (with subsidiary health centre), Sanghana (with sub centre) and Dhaulkalan (with no public health centre) were selected by stratified random sampling. All the houses of chosen area were visited, numbered and inquired about 2 months to 2 years old children. Houses having children of required age range were marked. Help of ASHA worker and Anganwadi worker was sought. Total children of required age group were 359, out of which 171 belonged to Mudhal, 78 belonged to Sanghana and 110 were in Dhaulkalan. Mothers of 2 months to 24 months old children were personally interviewed by the author. Purpose of study was explained, confidentiality was assured and informed consent was taken. Information obtained was recorded by the author on a semi structured, pretested questionnaire in their local language that is the language in which the respondent could understand the best. Modified Kuppuswamy socioeconomic status scale 2010 was used to assess the socioeconomic status of the family which takes into consideration education, occupation and monthly income. Approval of college ethical committee was sought and granted at the time of submission of the plan of the study. All the information so collected was compiled, analysed statistically with the help of Epi info version 3.5.3. Chi-square test was used to evaluate different variables and valid conclusions were drawn.

RESULTS

The present study to assess the Knowledge, attitude, practice and determining factors regarding nutrition during pregnancy was conducted on mothers of 2 month to 2 year old children in Verka block of district Amritsar. Out of total sample of 359 mothers, majority were in the age group of 18-29 years, out of which almost half 178 (49.6%) mothers were in the age group of 18-24 years followed by 142 (39.6%) in the 25-29 years of age group. Table 1 illustrates distribution of mothers according to their sociodemographic profile. 171 (47.6%) mothers were from Mudhal, 78 (21.7%) from Sanghana and 110 (30.7%) belonged to Dhaulkalan. Majority 352 (98.1%) were Sikhs. Nearly two third 230 (64.1%) belonged to schedule caste and 99 (27.6%) were of general category. Almost two third respondents 216 (60.2%) belonged to upper lower socioeconomic status. Almost three fourth 264 (73.5%) belonged to joint family. Around one third 114 (31%) mothers were illiterate, only 50 (13.9%) were educated above high school level. Table reveals 163 (45.4%) mothers were with parity 1, 131 (36.5%) with parity 2 and 65 (18.1%) with parity ≥3.

Table 1: Socio-demographic characteristics of respondents (n=359).

Characteristics		Frequency	%
Place of residence	Mudhal	171	47.6
	Sanghana	78	21.7
	Dhaulkalan	110	30.7
Religion	Sikh	352	98.1
	Hindu	7	1.9
Caste	General	99	27.6
	OBC	30	8.3
	SC	230	64.1
Type of family	Joint	264	73.5
	Nuclear	95	26.5
Socioeconomic status of family	Upper middle	87	24.2
	Lower middle	48	13.4
	Upper lower	216	60.2
	Lower	8	2.2
Education of respondent	Above matric	50	13.9
	Below matric	195	54.5
	Illiterate	114	31.8
Parity	Parity 1	163	45.4
	Parity 2	131	36.5
	Parity ≥3	65	18.1

Table 2 reveals that more than three fourth mothers 291 (81.1%) believed in increasing diet, 19 (5.3%) stressed on routine diet and rest 49 (13.6%) had no idea about it. Only 60.9% women from Dhaulkalan (village with no

health care facility) stressed on adding extra diet during pregnancy whereas this figure approached to 89.5% and 91% from Mudhal and Sanghana respectively. Out of 19 who stressed on routine diet majority 12 (63.2%) belonged to Dhaulkalan. Out of 49 who had no idea, majority 31 (63.3%) belonged to Dhaulkalan (village with no health facility). The difference was statistically significant ($p<0.05$). This could be attributed to the presence of subcentre and subsidiary health centre at Sanghana and Mudhal respectively. Table illustrates that out of 291 mothers, 50 (100.0%) with intermediate or above, 72 (94.7%) with high education and 48 (85.7%) with middle education could tell that extra diet is required during pregnancy as compared to 51 (81.0%) with primary education and 70 (61.4%) illiterate. The difference was statistically significant ($p<0.05$). Table shows that 141 (86.5%) and 107 (81.7%) respondents with parity 1 and parity 2 respectively stressed on adding extra diet, whereas only 43 (66.2%) respondents with parity $\geq$3 had knowledge about requirement of extra diet during pregnancy.

Main reasons given for non requirement of extra diet during pregnancy were heavy baby leading to difficult labour in 8 (42.1%), followed by more chances of caesarean in 6 (31.6%), 4 (21.1%) said one should eat according to appetite and only 1 (5.3%) said that stomach may get upset.

Out of total 291 mothers who advocated increase in diet during pregnancy, majority 225 (77.3%) had specially added or increased one or more food items, 44 (15.1%) could not add due to financial constrains and rest 22 (7.6%) could not add due to nausea /lack of appetite.

Table 2: Factors determining knowledge about requirement of extra diet during pregnancy.

Factors		Required n=291	Not required n=19	Don't know n=49	Total n=359	Chi Square	P value
		N (%)	N (%)	N (%)			
Place of residence	Mudhal	153 (89.5)	04 (2.3)	14 (8.2)	171	42.02	<0.05
	Sanghana	71 (91.0)	03 (3.8)	04 (5.1)	78		
	Dhaulkalan	67 (60.9)	12 (10.9)	31 (28.2)	110		
Education status	Illiterate	70 (61.4)	12 (10.5)	32 (28.1)	114	46.89	<0.05
	Primary	51 (81.0)	03 (4.8)	09 (14.3)	63		
	Middle	48 (85.7)	04 (7.1)	04 (7.1)	56		
	High	72 (94.7)	00 (0.0)	04 (5.3)	76		
	Intermediate and high	50 (100.0)	00 (0.0)	00 (0.0)	50		
Parity	Parity 1	141 (86.5)	08 (4.9)	14 (8.6)	163	14.89	<0.05
	Parity 2	107 (81.7)	04 (3.1)	20 (15.3)	131		
	Parity >3	43 (66.2)	07 (10.7)	15 (23.1)	65		

Table 3: Distribution of mothers according to reasons given for non requirement of extra diet during pregnancy.

Reason for non requirement of extra diet	Number	Percentage (%)
Heavy baby leading to difficult labour	8	42.1
More chances of caesarean	6	31.6
Eat according to appetite	4	21.1
Any other	1	5.3
Total	19	100.0

Table 4; Distribution of mothers according to addition of extra diet during pregnancy.

Whether extra diet added / increased	Number	Percentage (%)
Added	225	77.3
Could not add due to financial constrains	44	15.1
Could not add due to nausea/lack of appetite	22	7.6
Total	291	100.0

DISCUSSION

Study reveals that almost half of the 178 (49.6%) mothers were in the age group of 18-24 years followed by 142 (39.6%) in the 25-29 years of age group. Almost three fourth 264 (73.5%) belonged to joint family. Majority 352 (98.1%) were Sikhs. According to Census 2011 in Punjab 57.7% were Sikhs, 38.5% were Hindus, 1.9% were Muslims and 1.3% were Christians and in Amritsar 68.9% were Sikhs, 27.7% were Hindus, 0.5% were

Muslims and 2.2% were Christians and in rural Amritsar 91.2% were Sikhs and 5.01% were Hindus.[10] In our study proportion of Sikhs was more as study was conducted in rural area where majority of Sikhs reside. Nearly two third 230 (64.1%) belonged to schedule caste and almost two third 216 (60.2%) were of upper lower socioeconomic status. According to Census 2011, in Punjab 31.9% and in Verka block 46.7% population belonged to scheduled caste.[11] In our study area proportion of schedule caste is higher as study was conducted in Verka block where proportion of population belonging to schedule caste is more as compared to Punjab (46.7% versus 31.9%).

Around one third 114 (31%) mothers were illiterate, only 50 (13.9%) were educated above high school level. According to census 2011, female literacy rate in India is 65.46% and in Punjab is 71.34%, as was found in our study.[12]

Study reveals that more than three fourth mothers 291 (81.1%) believed in increasing diet, 19 (5.3%) stressed on routine diet and rest 49 (13.6%) had no idea about it. Findings are similar to reported by Uzma Eram (2016) in a study conducted in rural Aligarh, where 85% mothers said that extra nutrition is necessary during pregnancy.[13] Knowledge was better in Mudhal and Sanghana as compared to Dhaulkalan where only 60.9% of mothers believed in adding extra diet and 28.2% had no idea about it and difference was found to be statistically significant ($p<0.05$). The difference could be due to proximity to health centre and better supervision. Shahid et al in his study at Rawalpindi reported that 63% pregnant women believed in increasing food, 30% stressed on routine diet, 7% did not know whether to increase or not.[14] Table also shows statistical significant association of knowledge with education and parity of respondent ($p<0.05$)

Main reasons given for non requirement of extra diet during pregnancy were heavy baby leading to difficult labour in 8 (42.1%), followed by more chances of caesarean in 6 (31.6%). Similar reasons were found by Ojofeitimi et al in his study at Nigeria in more than two third mothers.[15] Study depicts that out of total mothers who advocated increase in diet during pregnancy, majority 225 (77.3%) had specially added or increased one or more food items, 44 (15.1%) could not add due to financial constrains and rest 22 (7.6%) could not add due to nausea /lack of appetite. Study conducted by Zoberi in his study at Karachi mentioned that women with low socioeconomic status could not afford food they desired.[16]

CONCLUSION

Work shows clear cut association of knowledge with education status of mother and proximity to health centre. Awareness generation is required regarding importance of nutrition during pregnancy by health workers. Nutrition education and counselling alone may not be sufficient; there is a need for nutrition support and supplementation where food insecurity limits the capacity of women to act upon advice. Also there is need for proper antenatal care so that the problem of nausea and lack of appetite can be tackled in time.

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REFERENCES

1. Nchang Mugiya A, Tanya A, Njotang P, Ndombo P. Knowledge and Attitudes of Pregnant Mothers towards Maternal Dietary Practices During Pregnancy at the Etougbe Bapist Hospital Yaounde. Health Sci Dis. 2016;18(2):24-9.
2. Impact of standardized NEPack on behaviour change among Pregnant and Lactating Women. Chapter 2 Review of Literature-Shodhganga. Available at: shodhganga.inflibnet.ac.in/bitstream/10603/72525/10/10_chapter%202.pdf. Accessed on 14 July 2017.
3. National Institute of Nutrition. Dietry Guidelines for Indians-A Manual. Hyderabad, India: NIN; 2011:22 Available at: http://www.ninindia.org/DietaryGuidelinesforNINwebsite.pdf. Accessed 8 June 2015.
4. Bhat PN, Arnold F, Gupta K, Kishore S, Parasuraman S, Arokiasamy P, et al. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: International Institute for Population Sciences (IIPS) and Macro International; 2007.
5. Bamji MS. Early nutrition and health- Indian perspective. Current science 2003;85(8):1137-42.
6. World Health Organisation. Essential Nutrition Actions-Improving Maternal, Newborn, Infant and Young Child Health and Nutrition. Geneva: WHO Publication; 2013: 2-3.
7. Daba G, Beyene F, Fekadu H, Garoma W. Assessment of Knowledge of Pegnant Mothers on Maternal Nutrition and Associated Factors in Guto Gida Woreda, East Wollega Zone, Ethopia. J Nutr Food Sci. 2013;3(6):235:1-7.
8. Kever RT, Martins SD, Lola N, Dathini H, Habu H, Fatima AA, et al. Knowledge and attitude of pregnant women towards dietry practices in Yerwa Clinic, Maidguri Metropolitan Council; Borno State. J Res Nursing Midwifery. 2015;4(1):12-9.

9. Sharma S. Maternal Morality in Tamil Nadu, India Honors in the Major Program–Honors Theses. Paper 37. Division of undergraduate studies at DigiNole Commons, Florida: Florida State University; 2011. Available at: http://diginole.lib.fsu.edu/uhm/37. Accessed on 6 March 2012.
10. Office of the Registrar General & Census Commissioner, India. Population by Religious community. Ministry of Home Affair, Govt. of India. Census 2011-CensusofIndia. Available at: www.censusindia.gov.in/2011census/C-01.html. Accessed on 23 April 2017.
11. Directorate of Census operations, Punjab. District census handbook Amritsar. Census of India 2011. Available at: http://www.censusindia.gov.in/2011 census/dchb/0315_PART_B_DCHB%20_AMRITS AR.pdf. Accessed on 23 April 2018.
12. Census 2011. India: 2011. Chapter 6, State of Literacy. Available from :censusindia.gov.in/2011-prov results/data_files/.../Final_PPT_2011_chapter 6.pdf. Accessed on 23 April 2018.
13. Eram U, Anees A, Tamanna Z. Knowledge regarding Antenatal care Services in mothers (15-49 years) in Rural Areas of Aligarh. Int J Sci Study. 2016;4(9):67-70.
14. Shahid A, Ahmed M, Rashid F, Khan MW, Rehman MU. Pregnancy and Food, Women beliefs and practices regarding food during pregnancy—A Hospital based study. Professional Med J. 2011;18(2):189- 94.
15. Ojofetitimi EO, Elegbe I, Babafemi J. Diet restriction by pregnant women in Nigeria. Int J Gynaecol Obstet. 1982;20(2):99-103.
16. Zobairi SE, Freitas ML, Wasti SA. Diet and Nutrition: a knowledge, attitude and practice study of pregnant women in Karachi. Aust NZJ Obstet Gynaecol. 1998;38(2):188-93.

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