Effects of Nutrition Education on Pregnancy Nutrition Knowledge and Practice among Pregnant Women in Baghdad City

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Abstract

Objective: To define the effectiveness of nutrition education pregnant women during pregnancy.

Method: A cross-sectional a study behave in medical city hospital. The sample was selected by (non probability convenient sampling) and sample size was (150).

Results: The result detected that the middle age of the subjects was 27.40 ± 6.78 years and the 52.7% were housewife, A Prevalent source of information for pregnant women about nutrition during conception 48%. After nutrition education involvement the ratio of pregnant women with learning on adequate nutrition during pregnancy increased from (39.78 to 74.33), while the pregnancy nutrition practice of the pregnant women increased from (50.17 to 76.89).

Conclusions: A nourishment education intervention will have a plus effect on nutritional knowledge and practice of pregnant women.

Keywords: *Nutrition, Education, Knowledge, Practice, Pregnancy, Baghdad.*

Introduction

A healthy and stable diet is important in the presence and during pregnancy in particular. It must supply a diet for the mother and the power of nutrients appropriate to meet the usual requirements of the mother, as well as the necessity of the growing fetus and enable mother to maintain itself essential to the health of the fetus and infant nutrients, as well as the practice of breastfeeding in the future. The main behest is to pursue a healthy, balanced diet[(1)].

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Although most women are aware of the importance of healthy eating during pregnancy, but women may have a lack of knowledge of the specific dietary commendation may or may not enjoy the needful skills to improve dietary habits[(2)]. One of the main causes of the problems of nutrition, lack of nutritional knowledge, leads to poor practice, causing serious damage, such as malnutrition and various non-communicable diseases[(3)].

Education is an important factor in health promotion. Determination of training needs is essential to achieve this goal[**(4)**]. Knowledge is not demeanor, but it can be a mark factor of dietary behavior[**(5)**]. Various Reports indicate that in most countries advanced, cannot receive adequate amounts of nutrients that depend on the recommended daily allowance by "(RDA)" by mothers[**(6)**].

The goals of nutrition education for pregnant women are relatively clear aiming at appropriate maternal weight gain, nutritional adequacy of the maternal

diet and affirmative infant outcomes, such as pleasant birthweight[7].

Method:

The study design was conducted cross-sectional study design (comfortable taking samples) for pregnant women starting from (September 1, 2018 to March 1, 2019).

Setting of the Study: The study is conducted at medical city hospital.

The study sample: A convenient sample, purposeful sample of 150 female. The fact was collected by direct interview using special questionnaire to acquired socio-demographic information. (Age, education, occupation……..ect.

Statistical Analysis Method

Descriptive statistics: The following statistical data analysis approaches were used in order to analyze and assess the results of the study:

a. Tables (Frequencies, Percentages).

b. Mean of Score (M.S.), Standard Deviation, Relative sufficiency (RS).

c. "Chi-Square test"

d. "Binomial test"

Results and Findings

Table (1): Distribution of Parents (SDCv.) with comparisons significant

SDCv.	Groups	No.	Percent	C.S. P-value
Age Groups Per yrs.	< 20	25	16.7	χ^2= 8.333 P=0.080 (NS)
	20 _	39	26	
	25 _	26	17.3	
	30 _	38	25.3	
	35 _ 40	22	14.7	
	Mean ± SD	27.40 ± 6.78		
Education	Illiterate	3	2	χ^2= 151.520 P=0.000 (HS)
	Read & write	6	4	
	Primary	20	13.3	
	Intermediate	15	10	
	Secondary	28	18.7	
	Collage	78	52	
Occupation	Housewife	79	52.7	χ^2= 28.120 P=0.000 (HS)
	Workers	44	29.3	
	Students	27	18	

Table(1) shows that distribution of pregnant women has no significant different at P>0.05 concerning age groups, with mean and standard deviation 27.40 and 6.78yrs respectively. Most of studied pregnant women has a high educated levels, such as graduates college and secondary school graduation, since they are accounted 106(70.7%) and had a highly significant different at "P<0.01". Finally, most of studied pregnant women has no occupation, such as "Housewife and Students" and they are accounted 106(70.7%).

Table(2): Distribution of reproductive variables and Information concerning pregnancy with comparisons significant

Reproductive variables	Groups	No.	%	C.S. P-value
Gravidity	1_2	92	61.3	$\chi^2 = 140.933$ P = 0.000 (HS)
	3_4	49	32.7	
	5_6	6	4	
	7_8	3	2	
Parity	1	96	64	$\chi^2 = 150.960$ P = 0.000 (HS)
	2	45	30	
	3	6	4	
	4	3	2	
Number of ANC visits	Less than 4 visits	39	26	P = 0.000 HS
	4 visits and more	111	74	
Receiving Information	Yes	139	92.7	P = 0.000 HS
	No	11	7.3	
Sources Information Mainly	Health staff	72	48	$\chi^2 = 73.800$ P = 0.000 (HS)
	Other P.W.	18	12	
	Friends	22	14.7	
	Family and relative	19	12.7	
	Media	19	12.7	

Table (2) shows the Most of studied pregnant women has (1- 2) numbers of gravities, since they are accounted 92(61.3%) and had a highly significant different at "P<0.01". Most of studied pregnant women has (1) parity, since they are accounted 96(64.0%) and had a highly significant different at "P<0.01". Most of studied pregnant women has (4) visits to the ANC, since they are accounted 111(74.0%) and had a highly significant different at"P<0.01". Most of studied pregnant women has receiving information, since they are accounted 139(92.7%) and had a highly significant different at P<0.01 compared with the leftover.

Table (3):Descriptive Statistics of Knowledge items concerning pregnancy women with comparisons significant

Knowledge Items	No.	Pre			Post			C.S.
		MS	SD	Ev.	MS	SD	Ev.	
How frequency and what amount a pregnant should eat	150	0.35	0.48	M	0.90	0.30	H	0.000 HS
Knowledge on effect of maternal under nutrition on fetal weight	150	0.42	0.50	M	0.54	0.50	M	0.038 S
Knowledge on eating variety food	150	0.80	0.40	M	0.95	0.21	H	0.000 HS
Knowledge on duration of iron supplementation in pregnancy	150	0.44	0.50	M	0.56	0.50	M	0.041 S
Knowledge on need of foliate supplement early during pregnancy	150	0.35	0.48	M	0.74	0.44	H	0.000 HS

Knowledge Items	No.	Pre			Post			C.S.
		MS	SD	Ev.	MS	SD	Ev.	
Knowledge about potentially harmful foods during pregnancy	150	0.28	0.45	L	0.72	0.45	H	0.000 HS
Knowledge on using iodized salt during pregnancy	150	0.19	0.40	L	0.79	0.41	H	0.000 HS
Knowledge on food source for iron	150	0.66	0.48	M	0.93	0.26	H	0.000 HS
Knowledge on energy requirement during pregnancy	150	0.37	0.49	M	0.55	0.50	M	0.001 HS
Knowledge on benefit of foliate during pregnancy	150	0.29	0.46	L	0.74	0.44	H	0.000 HS
Knowledge on fetal complication of maternal under nutrition	150	0.23	0.42	L	0.75	0.44	H	0.000 HS
Knowledge on maternal complications of under nutrition	150	0.34	0.48	M	0.65	0.48	M	0.000 HS

Table(3) shows of testing significant with reference of studied items, as well as scoring scales evaluated concerning effectiveness of applying educational program were reported significant differences in at least at "P<0.05" toward of applying program through raising knowledge grades of studied respondents at the post period and that could be enable to confirms importance and successfulness of applying the proposed program.

Table (4): Descriptive Statistics of Practices items concerning pregnancy women with comparisons significant

Practices Items	No.	Pre			Post			C.S.
		MS	SD	Ev.	MS	SD	Ev.	
Addition of at least one additional meal from non-pregnancy diet	150	0.75	0.43	H	0.91	0.29	H	0.000 HS
Eating grain breads, cereals, or others high- complex carbohydrates	150	0.77	0.42	H	0.86	0.35	H	0.111 NS
Eating green vegetables	150	0.50	0.50	M	0.82	0.39	H	0.000 HS
Taking iron supplement tablets in the past week	150	0.52	0.50	M	0.69	0.47	H	0.002 HS
Eating meat, fish,nuts,or legumes per day	150	0.49	0.50	M	0.53	0.50	M	0.545 NS
Eating fruit per day	150	0.33	0.47	L	0.75	0.44	H	0.000 HS
Nonalcohol use and smoking in the current pregnancy	150	0.46	0.50	M	0.90	0.30	H	0.000 HS
Eating 2 to 3 servings of dairy (milk, yogurt, eggs and cheese) perday	150	0.46	0.50	M	0.55	0.50	M	0.177 NS
Specify 3 types of food you normally eat for breakfast	150	0.47	0.50	M	0.78	0.42	H	0.000 HS

Practices Items	No.	Pre			Post			C.S.
		MS	SD	Ev.	MS	SD	Ev.	
Specify 3 types of food you normally eat for dinner	150	0.35	0.48	M	0.89	0.31	H	0.000 HS
Specify 3 types of food you normally eat for lunch	150	0.35	0.48	M	0.72	0.45	H	0.000 HS
How often do you exercise for at least twenty minutes each time	150	0.56	0.50	M	0.84	0.37	H	0.000 HS

Table (4) shows a summary statistics of nutrition practice's items along studied (Pre and Post) periods with comparisons significant. Results of testing significant with reference of studied items, as well as scoring scales evaluated concerning effectiveness of applying educational program were reported significant differences at P<0.01 toward of applying program through raising practices grades of studied respondents at the post period, except the items: (Eating grain breads, cereals, or others high- complex carbohydrates and Eating meat, fish, nuts,or legumes per day), since nosignificant differences were accounted at "P>0.05" and accordance with preceding results.

Table (5): Descriptive Statistics of Knowledge and Practices main domains concerning (Pre-Post) education on pregnancy women

Main Domains	No.	Pre			Post			C.S.
		GMS	PSD	Ev.	GMS	PSD	Ev.	
Knowledge	150	39.78	16.27	M	74.33	17.45	H	0.000 HS
Practices	150	50.17	12.04	M	76.89	12.59	H	0.000 HS

Table (5) shows a summary statistics of nutrition knowledge and practice's concerning main domains along studied (Pre and post) periods. Results of testing significant with reference of studied domains reported highly significant differences at "P<0.0"1 toward of applying program through raising knowledge and practices grades of studied respondents at the post period and accordance with preceding results it could be enable to confirms importance and success fulness of applying the proposed program.

Table (6): Relationships between (Women's Knowledge) and (SDCv. and Some Reproductive) variables

Dependent Variable: Knowledge post						
SDCv. and Reproductive variables	Type III Sum of Squares	df	Mean Square	F	Sig.	C.S.
Corrected Model	11925.8	21	567.90	2.18	0.004	HS
Intercept	44018.0	1	44018	168.57	0.000	HS
Age Groups	1286.1	4	321.53	1.23	0.301	NS
Education	3069.0	5	613.79	2.35	0.044	S
Occupation	1970.8	2	985.42	3.77	0.026	S
Gravidity	1030.6	1	1030.6	3.95	0.049	S
Number of ANC visits	1221.3	1	1221.3	4.68	0.032	S

Dependent Variable: Knowledge post						
SDCv. and Reproductive variables	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**C.S.**
Receiving Information	866.8	1	866.81	3.32	0.071	NS
Sources Information	3272.8	4	818.20	3.13	0.017	S
Error	33425.0	128	261.13			
Total	**874169.0**	**150**				
Corrected Total	**45350.8**	**149**				
R Squared = .263 (Adjusted R Squared = .142)						

Tables(6) shows significant differences at "P<0.05" were reported for studied (SDCv.) of the studied subjects and reproductive variables, except age groups, since no significant different was reported at "P>0.05" and according to preceding outcomes it could be conclude that studied of educational program registered relationships with studied subjects in light of their positive personal characteristics, such as SDCv. and reproductive variables.

Discussion

Nutrition health affect maternal, before and during pregnancy, the health situation for itself and the developing fetus. Pregnancy is anserious condition for improving nutritional knowledge. In current study, most pregnant women belonging to the age group 20-25 years and the findings of the current study is an agreement with the results contained in Nigeria**(8),** this may be because the extreme ages of reproductive years are well known about nutrition during pregnancy. And almost about (52.7%) of them were housewife the finding of the attend study isapproval with findings reported in Ethiopia**(9)**, found a highest rate were obtained by women of unemployed.

The results of this study also showed that the proportions of mothers with appropriate feeding mother during pregnancy knowledge was 39.78%. As a result of this study, it was agreed to study in America **(10)**which was more than half of the women in the study and the basic knowledge necessary with regard for the benefit of pregnancy nutrition.

But this result is less than the study conducted in Malaysia(11) and Swaziland (12), reported that 67% of mothers have adequate knowledge about maternal nutrition. This can be explained through the social, economic and cultural differences of the participants in the study. In this study, most pregnant women understand that mothers who suffer from a lack of nutrition will lead to complications of the fetus The finding of the current study is agreement with findings reported in Ethiopia(13) and in India(14). It reported that the proportion of pregnant women have to know that inadequate nutrition during pregnancy cancause complications of mothers such as abortion or premature birth This may be dueto the difference in the beliefs of the causal disease in areas affected by the difference in the role of knowledge of cultural and spiritual influences.

After the implementation of nutrition education in this study, the proportion of pregnant women with good knowledge of nutrition during pregnancy from 39.78% to 74.33% and good practice increases 50.17% to 76.89% this outcome agreement with the study conducted in Ethiopia**(9)** in America**(10)** & in Iran**(15),** the results can indicate this to the effectiveness of nutrition education to improve the nutrition information for pregnant women.

Can be higher change in nutritional knowledge among pregnant women in this study due to the interval between the evaluation before and after the evaluation and the fact that there was one only after the evaluation of education. Was seen to know pregnant women about nutrition during pregnancy is closely important between the educational status and sources of information and the number of pregnancies and agree this result with the study conducted in Malaysia**(14)** and Swaziland**(12)** and in Ethiopia**(16)**, has shown that women with knowledge of the nutritional better in much higher educational level and sources of information.

Number of ANC visits was associated with knowledge of pregnant women in this study this result disagreement with the study done in Kenya **(17)**, reported that nutrition knowledge level of those attending ANC was not significantly various from those not attending ANC.

Conclusions

Nutrition education during prenatal care to grant birth attention to improve the knowing and practice of women during pregnancy. These results showed also that the level of education, occupation of mothers, do not. of pregnancy, receiving information had prenatal health center to a great relationship with knowledge.

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both MOH and MOHSER in Iraq.

Conflict of Interest: Non

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