

Quality of life in relationship with Nutritional Attitude and Practices during Pregnancy

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Abstract—Health and nutritional related problems during pregnancy impact not only on women's quality of life, but consequently on her newborn's well being after delivery, her family members and community as well. The aim of this study was to investigate the contribution of quality of life indices and nutritional knowledge, attitude and practices among normal pregnant women during second and third trimester of gestation. A cross-sectional study was conducted among pregnant women who attended Obstetrics and Gynaecology clinic during their antenatal care visits. Demographic questions and the short form-36 questionnaire of quality of life (SF-36) were utilized. The findings of this study showed significantly higher vitality for pregnant women with healthy choice of breakfast, consumption of bean and vegetables every day, doing exercise every day or 2-3 times/week and first priority when buying foods on nutrient content. Sub domain of general health was significantly higher in subjects with higher nutritional knowledge and those who consumed bean and products every day. However, healthy choice of dinner had negative relationship with general health. Consumption of fast foods never or 2-3 times / month was significantly related with higher level of physical and social functioning. Sub domain of role physical was shown to have negative relationship with healthy choices of breakfast, lunch and type of drink. Social functioning had significant relationship with, healthy choice of breakfast and positive attitude about changing dietary patten. Consumption of chicken/ duck every day had significant relationship with role emotion. Sub domain of mental health was in positive and significant relationship with eating breakfast every day and positive attitude of changing dietary pattern. The findings of this study indicate that aspects of health related quality of life during normal pregnancy are predicted by some healthy attitude and practice factors on food and nutrition.

Keywords: Quality of Life, Pregnancy, Nutritional Practices, Health

1. Introduction

Pregnancy is considered to be a delightful experience for the expectant mother [1]. However, feeling of well being and Quality of life (QoL) outcomes, as significant determinate of health, were shown to decline in some dimensions during pregnancy [2]. Studies demonstrated that emotional, physical functioning, vitality and social functioning as dimensions of life quality were in constant in different phases of pregnancy [3]. Alteration of maternal QoL during gestation was found to contribute to diversity of demographic and biological factors. Maternal hormonal levels [4], gestational age [5], demographic factors [6], sleep [7], nausea and vomiting [8] were shown to have contribution to antenatal life quality. Moreover, evidences manifested that adequate intake of nutrition is a key component for individual's health and well-being, particularly during pregnancy [9]. Health and nutritional problems during pregnancy impact not only on women's quality of life, but consequently on her newborn well being after delivery, her family members and community as well [10]. It is well documented that inadequate maternal nutrition results in increased risks of

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short term consequences such as; Intra Uterine Growth Restriction, low birth weight, preterm birth, prenatal and infant mortality and morbidity. Moreover, excessive intake of nutrients during pregnancy can lead to some pregnancy complications (such as, preeclampsia and gestational diabetes, macrosomia, distocia and higher prevalence of cesarean section [11]. On the other hand, as the long run outcomes, inadequate intake of nutrients were found to have pathophysiologic or metabolic depict that will appear as disorders of child growth and development as well as adult chronic disease after a long period of quiescence [12]. Given that mother's metabolic responses against spacious extend of nutritional circumstances enables her to become accustomed to variation of nutrients and conduct a pregnancy to end [13], but her feeling of well being and health might be impressed by imbalanced nutritional intake due to inappropriate dietary habits.

Though, there are considerable number of studies on HRQoL, there exist restricted information regarding possible association between nutritional behaviors and QoL experienced by mothers during antenatal period. This study seeks to find out the contribution of quality of life indices to nutritional knowledge, attitude and practices among normal pregnant women.

2. Material and Method

Calculation of sample size used the margin error of 5% and the confidence level of 95%. Fifty percent response distribution was considered for an estimation total of 357 respondents. A sample of 401 pregnant women participated; therefore the sample size requirement was fulfilled. This cross-sectional study used a descriptive design to take relationship of quality of life with nutritional knowledge, attitude and practice during pregnancy in a sample of normal Malay pregnant women in their second and third trimester. Sampling was done from a pool of pregnant women according to numbers registered on that day. Data collection was carried out at the Obstetrics and Gynecology Antenatal Clinic (O&G clinic) in Hospital Universiti Sains Malaysia at the time of routine antenatal check-up. Pregnant women were eligible for the study if they had gestational age between 20th and 34th weeks, low risk pregnancy or pregnancy free from complications, of Malay ethnicity, single fetus, and ages between 18 and 44 years old. Exclusion criteria included a diagnoses of high risk pregnancy at the time of enrollment (such as: history of diabetes mellitus, a thyroid condition hyper/hypothyroidism, cervical incompetence, any gastric disorders, chronic hypertension, pre-eclampsia, placenta previa, bronchial asthma), advice from primary care members not to contribute in the study, and inability to communicate with research staff. Before involving in the study, the research purpose was explained to the subjects. Only pregnant women who gave their written consent participated in the study.

2.1. Instruments

Questionnaires containing demographic items (11 items), Knowledge, attitude and practice on food and nutrition (KAP) and Short Form-36 Health Survey (SF-36) were utilized. Knowledge part of KAP questionnaire was conducted by giving one mark to each correct answer whereas no mark for an incorrect or no response. Then total sum up was obtained for knowledge score. In attitude and practice part of KAP questionnaire, one point was considered for the favorable answer and zero for the unfavorable one. The SF-36 survey measures eight sub domains of health quality: Physical functioning, Role physical, Bodily pain, General health, Vitality, Social functioning, Role emotional and Mental health. A total score of each domain of health in the SF-36 was altered to a score of 0–100, showing the percentage of the potential score, with a score of 100 indicating optimal health.

2.2. Statistical Analysis

Data entry and analysis were done using SPSS version 18.0. Frequency of categorical variables and mean (Standard deviation) for continuous variables were obtained through descriptive analysis. A multiple linear regression model was used to analyze the possible related factors on health quality dimensions. From the results of simple linear regression, independent variables that had the p value <0.25 were included in the multiple linear regression. Stepwise Multiple Linear Regression Analysis was done when multiple variables were considered simultaneously.

3. Results

Table 1 shows the mean and standard deviation of some demographic and gestational characteristics of pregnant women. Participants ranged in age from 18 to 42 (M = 29.68, SD = 5.02). The majority of women were married (n = 397, 99%). For most, the current pregnancy was either their first (n = 113, 28.2.7%), second child (n = 82, 20.4%) or third (n= 86, 21.4%). Monthly family income value in Ringgit Malaysia

(RM) was grouped into four categories: less than or equal to RM 1000 (20%); RM 1001-3000 (43.9%); RM 3001-5000 (23.2%); and more than RM 5000 (12.5%). Final model of multiple linear regressions is shown in Table 2. This study revealed that Vitality of pregnant women was significantly higher with healthy choice of breakfast ($P = .049$; 95% CI:), consumption of bean ($P = .011$; 95% CI: 1.718, 13.450) and vegetables ($P = .029$; 95% CI: .374, 6.901) every day, doing exercise every day or 2-3 times/week ($P = .043$; 95% CI: .110, 6.372) and first priority when buying foods on nutrient content ($P = .004$; 1.406, 7.555). Sub domain of general health was significantly associated with nutritional knowledge ($p = .008$; 95% CI: .155, 1.023), consumption of bean and products every day ($P = .026$; 95% CI: .852, 13.512). However, healthy choice of dinner had negative relationship with general health ($P = .029$; 95% CI: -7.534, -.410). Consumption of fast foods never or 2-3 times / month was significantly related with higher level of physical ($P = .007$; 95% CI: 1.490, 9.475) and social ($P = .034$; 95% CI: .316, 7.792) functioning. Sub domain of role physical was shown to have negative relationship with healthy choices of breakfast ($P = .045$; 95% CI: -14.634, -.177), lunch ($P = .014$; 95% CI: -21.194, -2.399) and type of drink ($P = .033$; 95% CI: -17.574, -.752). Social functioning had significant relationship with, eating breakfast everyday ($P = .017$; 95% CI: 1.116, 11.138), positive attitude about changing dietary pattern ($P = .012$; 95% CI: 4.101, 33.575). Consumption of chicken/ duck every day had significant relationship ($P = .002$; 95% CI: 4.920, 22.016) with role emotion. Sub domain of mental health was in positive and significant relationship with eating breakfast every day ($P = .032$; 95% CI: .367, 7.863) and positive attitude of changing dietary pattern ($P = .001$; 95% CI: 8.625, 30.791).

4. Discussion

Adequate nutritional intake is one of the most important factors affecting on one's health and well-being, especially during pregnancy [9]. The current study was set out with the aim of assessing the nutritional behaviors factors associated with quality of life during the second and third trimesters of pregnancy. The finding of this study revealed existence of association between some nutritional habits and dimensions of health quality. In this study it was shown that consumption of breakfast every day is significant predictor of higher scores of mental health and social functioning domains. This finding can be explained by the fact that consumption of breakfast increases the availability of glucose to the brain, and this enhances cognitive performance, especially memory, alertness, feelings of well-being health and controlling the stress [14]. There was a significant negative linear relationship between Role Physical (Problems with work or other daily activities as a result of physical health) and healthy choice of breakfast, lunch and drinks. This finding can be explained by this fact that majority of the energy provided by consumed food and drink is used to retaining on basic body functions such as: keeping heart beating, blood circulating, the lung and other major organs like brain and constantly working [15]. The current finding support previous results [16, 17, 18] which showed that nutrition and healthy eating are important factors contributing to better health and work performance. Vitality (feeling of fatigue or energy) of pregnant women in this study was significantly related to healthy breakfast, daily consumption of bean and doing exercise every day or 2-3 times/week. This result may be explained by the fact that exercise increases the level of phenylethylamine (PEA), which is a chemical component of the endorphin-induced "runner's high" that promotes energy, mood, and attention [19]. The present finding confirmed the finding of a study by Jane Ciofi et.al which revealed improvement of vigor and reduction in fatigue in the women gone through optimized physical activity around 20 weeks of gestation [20]. Although the maternal fetal benefits of physical activity are well documented [21], there are evidences indicating different perception among pregnant women about antenatal physical activity based on their educational level, race/ethnicity and making regular activity [22]. In this study eating fast food 2-3 times/ month or less was shown to be associated with higher scores of physical and social function of health quality. This current finding suggests that pregnant women with healthier dietary pattern may experience greater level of health in their daily and social activities. Usage of vitamins/minerals supplementation, in this study, was shown to be in association with better condition of feeling bodily pain. However, this result has not been previously described in other studies. The results of this study reveal another aspect of nutritional behaviour in its importance with respect to positive effects on dimensions of health quality.

5. Conclusion

This study further highlights the importance of healthy diet and lifestyle behaviours in respect with indices of life quality over the time of gestation. These findings could help women in childbearing age to pay more attention to their food intake patterns. Therefore, encouragement toward appropriate diet and healthy lifestyle among pregnant women is highly recommended in order to optimize the HRQoL. The same study

needs to be conducted in other parts of the country and other population to see if there are any similarities regarding the factors of nutritional practices that will influence on health quality.

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Table 1- Descriptive Statistics of demographic and gestational characteristics of pregnant women

Variables	n	mean	±Std
Age	400	29.68	±5.02
Gestational age	400	26.6	±4.4
Gravid	399	3	±2.04
Parity	399	1.60	±1.6
Abortion	399	0.4	±0.9
Hemoglobin	379	11.7	±1.0
Weight	376	60.4	±12.2
Height	379	155.3	±5.8
Household size	399	4	±2

Table 2- Predictor factors of Knowledge, attitude and practice on food and nutrition on quality of life during second and third trimester

	Variable	Adjusted ^b	(95%CI)	t statistics	P-value
PF	Frequency of eating fast food(eg. hotdog, burger, pizza, fried chicken, etc)	5.483	1.490,9.475	2.700	.007
	2 nd choice of lunch	-11.797	-21.194, -2.399	-2.468	.014
RP	1 st choice of breakfast	-7.406	-14.634,-.177	-2.014	.045
	types of usual drinks	-9.163	-17.574,-.752	-2.142	.033
	3rd choice of breakfast	5.067	1.518,8.616	2.807	.005
BP	Frequency of taking vitamin/mineral supplements	5.762	.078,11.447	1.993	.047
	Least important priorities when buying food	9.556	.840,18.271	2.156	.032
	1st choice of dinner	-3.972	-7.534,-.410	-2.192	.029
GH	frequency of eating beans and Products(dhal, green/red bean)	7.182	.852,13.512	2.231	.026
	Knowledge on food and nutrition	.589	.155,1.023	2.669	.008
	3rd choice of breakfast	2.814	.016,5.612	1.977	.049
V	frequency of eating beans and Products(dhal, green/red bean)	7.584	1.718,13.450	2.542	.011
	frequency of eating vegetables	3.638	.374,6.901	2.192	.029
	Frequency of doing exercise or sport	3.241	.110,6.372	2.035	.043
	1 st priority when buying food	4.481	1.406,7.555	2.865	.004
SF	Frequency of eating fast food(eg. hotdog, burger, pizza, fried chicken, etc)	4.054	.316,7.792	2.132	.034
	Attitude about changing dietary pattern	18.838	4.101,33.575	2.513	.012
	Frequency of eating breakfast	6.127	1.116,11.138	2.404	.017
RE	Frequency of eating chicken / duck	13.468	4.920,22.016	3.098	.002
	Attitude about changing dietary pattern	19.708	8.625,30.791	3.496	.001
MH	Frequency of eating breakfast	4.115	.367,7.863	2.158	.032

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