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Original Article

The awareness of Obesity in pregnancy in married women at King Abdulaziz University, Jeddah

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ABSTRACT

Background: when pregnant women gain weight during pregnancy thought that gaining weight is just part of their cycle to carry for nine (9) months, but not knowing that upon gaining weight could cause problems or complications. They don't even recognize that they are already obese or overweight rather for its just an ordinary routine that they should gain weight because they are carrying their child inside their womb. The research tends to focus on the awareness of obesity in pregnancy and its complications on both mother & baby .Method: 158 married women who visited outpatients clinic in King Abdulaziz University Hospital (KAUH) joined this study which aiming the awareness of obesity in pregnancy , the survey consisted of 3 main area sociodemographic data, medical characteristic , and awareness of obesity. Results: The mean score of age of the 158 participators was (29.3±7.2). 87 (55.1%) from them have University degree. 147 (93%) were pregnant , 134 (85.9) had regular perinatal visit. BMI mean score was (26.5±6.3), 134 (85.9%) said that they know what do to extent the suitable weight for their pregnancy however only 13(10.7%) were found that they followed the GWG guidelines . Regarding the knowledge of the obesity complication on the baby & mother, 90 (57.7%) said there is complication on the baby, and 128 (82.1%) on mother. Conclusion: More studies need to conduct to help in preparing & development of the suitable strategies to increase the awareness of obesity dangerous during pregnancy among women.

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1. Introduction

Overweight and obesity are common problems with an increasing worldwide incidence [1]. Recent Australian data showed that 50% of pregnant women were overweight or obese and in the United States 36% of women were obese [2,3], similarly results was found in the study conduct in Saudi Arabia 31.5% of Saudi females of childbearing age are overweight and 21.1% are obese [4].

Maternal obesity and excess gestational weight gain (GWG) are associated with increased perinatal risk . Few studies focused on assessing the relationship between a woman's actual and perceived Body Mass Index (BMI) in pregnancy, and the effect this has on greater gestational weight gain (GWG) and also limited published data demonstrating the level of pregnant women's knowledge regarding these problems, including consequences and management strategies. One of these studies was done in US in 2013 & showed that nearly half (47.8%) of the study population were overweight or obese. 74% of obese women underestimated their BMI category. 64% of obese women and 40% of overweight women overestimated their recommended GWG. Women's knowledge of the specific risks associated with excess GWG or maternal obesity was poor. Women also reported many incorrect beliefs about safe weight management in pregnancy, and It has been demonstrated that overweight and obese pregnant women are less likely than women of normal weight to correctly assess their own BMI [5], and that overweight women who underestimate their BMI are more likely to gain excess weight in pregnancy [6].

The effect of Maternal obesity and excessive gestational weight gain (GWG) have well recognized associations with pre-eclampsia, gestational diabetes mellitus (GDM), instrumental or operative delivery (increase cesarean section) , failed induction, fetal macrosomia, neonatal hypoglycemia, resuscitation at birth , perinatal mortality and infant and childhood obesity [7-8]. In addition, maternal obesity is the single most common modifiable factor in stillbirth within the developed world [9]. On the other hand , The effect of maternal underweight on obstetric performance is less clear. Some researchers have well recognized associations with an increased incidence of preterm delivery, low birth weight, and perinatal loss in these women [4].

In Saudi Arabia few studies were conduct on the prevalence of obesity in the community , these studies demonstrated the increasing of obesity among childbearing women . [10].

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This study aimed to assess the level of knowledge among married women regarding: (i) their own weight and body mass index (BMI) category, (ii) awareness of guidelines for GWG, (iii) concordance of women's own expectations with guidelines, (iv) knowledge of complications associated with excess GWG, and (v) knowledge of safe weight management strategies in pregnancy.

Method

A cross sectional study was conduct from October 2014 to July 2015 in King Abdulaziz University hospital (KAUH) ,158 women were joined the study depending on the following inclusion criteria:, 1- came to outpatient clinics in KAUH , 2- had children or planned to be pregnant.

The research ethics committee in the faculty of medicine , King Abdul-Aziz University approved on conducting of the study.

Questionnaire

An interview was run with the participants using a structured questionnaire by the interns . The interviews lasted approximately 5 -10 min .

The questionnaire covers : 1- sociodemographic data (maternal age ,educational level), & medical characteristics (gravidity, parity , BMI). 2- knowledge questions about (the best amount of weight to gain in pregnancy, complication of obesity on mother and baby, actions to reach the excessive weight in pregnancy period).

Statistical analysis

The data collected was analyzed using SPSS version 20 statistical software. Data were expressed either as mean and standard deviations (minimum and maximum) or as number (percentage). Paired t test was used to compare the mean scores of BMI before & during pregnancy , and Chi – square test was used to find the relation between sociodemographic data & the following four variables (awareness of obesity in pregnancy , knowledge of its complication , following the guidelines for GWG , knowledge of safe weight management strategies) . P –value of <0.05 was considered significant.

Result

158 women participated in the study, with age mean score (29.3±7.2) and range from (17-87). 87 (55.1%) from them have University degree , 64 (40.5%) finished high school . (table 1)

TABLE(9) New Recommendations for Total and Rate of Weight Gain During Pregnancy, by Pre pregnancy BMI.

Prepregnancy BMI	BMI+ (kg/m2) (WHO)	Total Weight Gain Range (lbs)	Rates of Weight Gain* 2nd and 3rd Trimester (Mean Range in lbs/wk)
Underweight	<18.5	28-40 12.7-18.1 kg	1 (1-1.3) 0.5-0.8
Normal weight	18.5-24.9	25-35 11.3-15.9 kg	1 (0.8-1) 0.4-0.5
Overweight	25.0-29.9	15-25 6.8-11.3	0.6 (0.5-0.7) 0.3-0.4
Obese (includes all classes)	≥30.0	11-20 4.9-9.7	0.5 (0.4-0.6) 0.25-0.3

Figure (1) : Comparison between awareness of complication due to education level

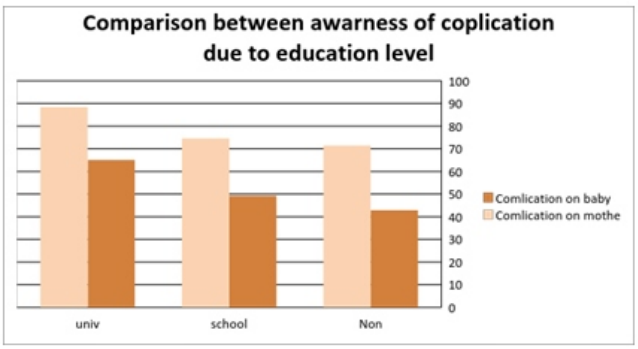


Figure (2) : Comparison between awareness of complication due to prenatal visit

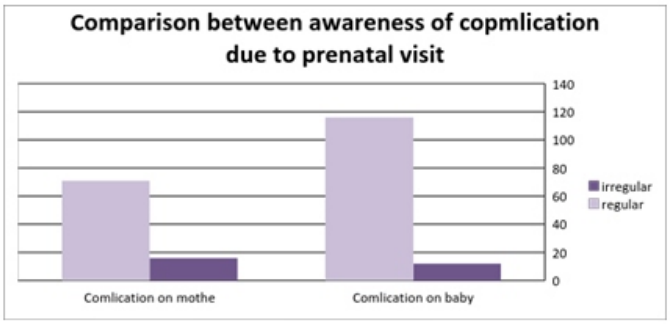


Figure (3) : Gravidity *appropriate weight gaining

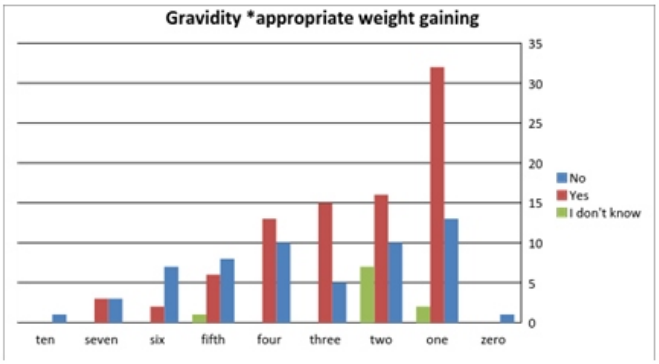
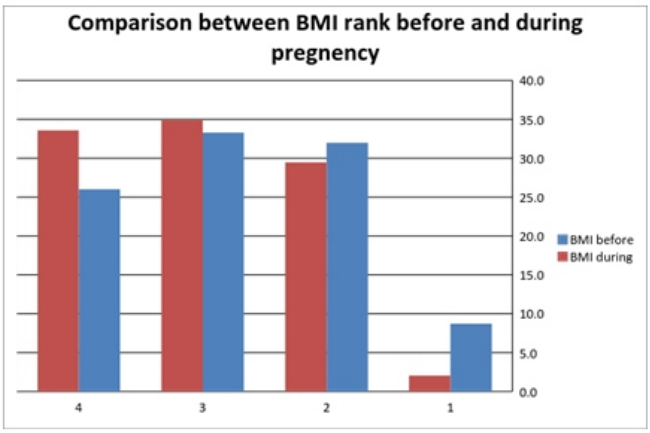


Figure (4): Comparison between BMI rank before and during pregnancy



Regarding the medical characteristic of the participation , 147 (93%) were pregnant , 134 (85.9) had regular perinatal visit , & the mean score of gravidity , parity were (2.9±1.9), (1.7±1.5) respectively . (table 2)

Regarding the participators' weight data , the weight before pregnant mean score was (62.2±14.3) & the new weight during pregnancy mean score was (67.4±20.3) . BMI mean score before pregnancy was (26.5±6.3) & BMI mean score during pregnancy was (28.1±5.7). According to GWG guidelines , 13 (8.7%) were underweight before & 3(2.1%) during , 48 (32%) were normal weight before & 43 (29.5%) during , 50 (33.3%) were overweight before & 51 (34.9%)during , lastly 39 (26 %) were obese before & 49 (33.6%) during (table 3)

Concerning the level of awareness about the obesity during pregnancy and its complication , 87 (56.1%) think that the weight they gain during pregnancy is appropriate to their gestational week & 58 (37.4%) think not , 35 (29.2%) think they are more than normal , 21 (17.5%) less than normal & 64 (53.3%) within the normal . For the questions about the best amount of weight to gain in pregnancy , the mean score was (10±5.2) . On the other hand 134 (85.9%) said that they know what do to extent the suitable weight for their pregnancy, 92 (59%) said that they will ask their obstetrician, & 42 (26.9%) said that they will make their own strategy , Although the results showed that only 13(10.7%) from the participators followed the GWG guidelines

Regarding the knowledge of the obesity complication on the baby 90 (57.7%) said that there is complication , 109 (71.2%) couldn't identify any complication , 41 (26.8%) identify 1-3 complications & 3 (2 %) recognized more than 3.

Likewise about the knowledge of the obesity complication on the mother 128 (82.1%) said that there is complication , 69 (44.2%) couldn't specify any complication ,80 (51.3%) recognized 1-3 complications & 7 (4.5%) specified more than 3 . (table 4)

On the other hand , the result showed significant difference between educational level , prenatal visit & the awareness of obesity' complications on the mother & baby (P = 0.04, P=0.04), (P < 0.000 , P = 0.03) respectively , while it showed no significant difference between the awareness of obesity & its complication with the age . (tables 5 & 6) , (figures 1 &2)

Also there was significant difference between the prenatal visit & the gravidity, with the appropriate weight gaining (P = 0.03 , P= 0.01) respectively . (tables 6 & 7), (figure 3).

Paired t test was run to compare the means scores of BMI before & during pregnancy , & the difference was significant (p < 0.000) . (table 8) , (figure 4).

Discussion

Obesity has become one of the most prevalent nutritional problems in the world , and a most of the women in the childbearing age are either overweight or obese which increase the potential risk of having several complications during pregnancy for the mother and child.

The frequency of obesity (body mass index, BMI > 30) has doubled over the past two decades in the United States , About 57% of non-pregnant women 20–39 years of age are overweight and 29% are obese [11] , this results also was found in the study conduct in Fenland which showed that the frequency of obesity (BMI _ 30 kg/m2) rose from 7.5% to 11.0%. and the same increasing trend in the prevalence of maternal obesity has been reported in other European countries.[12]

The new Institute of Medicine Guidelines for weight gain during pregnancy recommend a mean weight gain of 0.8–1 Ib/week for normal weight mothers, 0.5–0.7 Ibs/week for overweight mothers and 0.4–0.6 Ibs /week for obese gravidas (all classes), (table 9). [11]

The results of the study showed that BMI mean score before pregnancy was (26.5±6.3) & the BMI mean score during pregnancy was (28.1±5.7), and according to GWG guidelines , 13 (8.7%) were underweight before & 3(2.1%) during , 48 (32%) were normal weight before & 43 (29.5%) during , 50 (33.3%) were overweight before & 51 (34.9%)during , lastly 39 (26 %) were obese before & 49 (33.6%) during ,with significant difference (p< 0.000) towards obese & overweight during pregnancy , which indicate a real problem of obesity among women before & during pregnancy , and this will be followed by a problem after delivery in the trying of loss this extra weight and go back to the normal weight , a similar results was showed also in the study conduct among Danish women [8].

There was significant difference between the level of education & the awareness of obesity complication on mother & baby ((P = 0.04, P=0.04) respectively , the participants with university degree were more awareness of obesity's complication than the participants with lower educational level . Also this was found in the between the prenatal visit & the awareness of obesity complication on mother & baby (P = 0.000 , P = 0.03) respectively , the participants who have regular visit were more awareness of obesity's complication than the participants with irregular visit also a significant difference.

This study showed that the awareness of the obesity dangerous in pregnancy still more in the theoretical part than the practical part , most of the women said that they know the risk of obesity in pregnancy on mother & baby , and 134 (85.9%) said that they know how to manage their weight , but only 13(10.7%) followed the GWG guideline , this may be due to several factors (depending on wrong resources for information , difficulty in recalling the information from previous pregnancy, inadequate advice) this put more responsibility on the Obstetricians & Gynecologists & all health care providers in providing sufficient educational knowledge & strict advice to obese women want to be pregnant to follow up the guideline , and lose weight through Healthy diet & exercise before becoming pregnant.

Limitations

This study depend only on women visiting KAUH outpatients clinics ,thus excluding other women in the community , and reduce the sample size .

Conclusion

A greater understanding of the expectations and levels of knowledge of pregnant women regarding the factor influence the awareness will allow us to design better programs to educate and assist women in achieving appropriate GWG. There is need for more researches & studies to develop the appropriate intervention plans & strategies to reduce the incidence of being underweight and overweight among pregnant women in Jeddah , Sauid Arabia , factors such as economic status , education , culture should be taken in conceder when the public health plans were developing to increase the awareness of obesity dangerous during pregnancy among the community in general &particularly among married women.

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