IMPACT OF MATERNAL BODY MASS INDEX ON OBSTETRIC OUTCOME IN WOMEN ATTENDING LABOR IN AL-BASRA HOSPITALS

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ABSTRACT

Background: Maternal obesity is significant risk for both mother and fetus, it is considering an obstetrical risk factor leading to high frequency of completions during prenatal period and increases the risk of several adverse outcomes of pregnancy. Therefore, there is a substantial need for the development of preventive actions. Body mass index is the most commonly used method to estimate the degree of obesity.

Objectives: To determine of abnormal body mass index in pregnant women are attending labor. To detect the effect of body mass index on Women's health, Neonatal health. To find out relationship between the body mass index and Demographic variables. Reproductive variables and nutritional status.

Methodology: A descriptive analytic study was conducted from 28 th February to 25th May 2013 at- Basra General hospital and Basra Hospital for Maternity and Children on (400) pregnant women who attending in the labor room. These clients were in labor pain, singleton pregnancy, and all pregnant women underwent a trail of vaginal delivery. A non–probability (Purposive sample) was use to select the participants of study sample a questionnaire was used a tool to collected data content validity was determined through reviewing it by (14) experts in different fields. Descriptive and inferential statistics were used to analyze the data.

Results: The result of study revealed that most of the study sample aged (21-30) years with mean age and standard division (26.39 ± 7.65). The highest percentage (40%) of study sample were overweight pregnant women group (25-29.9) body mass index, with Primary level education, housewives, and low socioeconomic status. (53.5%) of them were had (2-4) pregnancies and (42.5%) of them were delivered (2-4) deliveries. Women with high body mass index for study sample had a higher incidence of several complications during pregnancy such as anemia, hypertension, diabetic mellitus and urinary tract infection. There were many complications of pregnant women of high body mass index pregnant women for study sample present abortion, stillbirth, preterm delivery, big baby and low Apgar score. There was statistical significant association between body mass index and induction labor as well as caesarean section.

Conclusion: Most of study sample were overweight there were a statistical significant relationships between body mass index of pregnant women and some complications during pregnancy such as anemia and hypertension, type of deliveries, type of vaginal delivery, causes of cesarean section and outcomes of pregnancy such as weight of baby and Apgar score at five min of neonate life.

Recommendations: combating obesity in women within the activities of primary health care centers services through enhancing of physical activities and increasing the awareness of pregnant women about healthy nutrition habits.

KEYWORDS: Body Mass Index, Maternal Obesity, Nutrition during Pregnancy

INTRODUCTION

BMI: Is determine by weight in (Kg) divided by height (in meter squared). (1).

IT is designed for men and women between the ages of (18-65) years. A healthy BMI score is between (18.5 -26). A score below 18.5 indicate that may underweight, a value above (26) indicate that she may be overweight. (2).

There is an important relationship between body mass index and some fetomaternal complications and pregnancy outcomes. (3)

Certain types of deliveries are certainly affected by maternal BMI. In the facts those high cesarean birth rates are associated with maternal obesity (3)

Pregnancy outcomes and infant health is an important issue. When taking the existing contradictions about the impact of maternal body mass index (BMI) on these outcomes into consideration. (4).

International research has highlighted the fact that maternal obesity has implications for both the mother and her infant. There are increased risks to the mother throughout the pregnancy, including gestational diabetes, hypertensive disorders and thromboembolic complications, and to the infant including macrosomia, shoulder dystocia, late fetal death, congenital abnormalities), and also in addition to increased complications during labor and the need for more frequent induced and operative deliveries. (5)

Aim of Study: The present has the following aims:

- To determine the of categories' BMI in pregnant women attending for Mode of labor.

- To detect the impact of BMI on:

  o **Pregnant Women's Health**

  o **Neonatal Health**

  To identify the types of relationship between abnormal BMI among the study samples according:

- **Demographic Variable:** Age, level of education, occupation and socioeconomic status and residency

- **Reproductive Variable:** Number of pregnancy, parity number of abortion, gestational age And nutritional statues.

- Pregnancy complication during this pregnancy

- Fetal outcomes. weight. age, Apgar score

Important or Significance of Study

Pregnancy may not ideal time to focus attention weight, but it may be a reasonable time to clarify women 'questions about healthy lifestyle, including appropriate diet and physical activity during the different stages of pregnancy. Barriers to lifestyle change Changes in eating and weight during pregnancy hunger, nausea, change in range of foods consumed, cravings belief that eating more benefits the fetus (6). So the nurse must provide care to pregnancy women and take important point of body mass index during mother visit to health center and teaching mother and family

for important nutritional state during pregnancy and antenatal period works in collaboration with physicians and other health care providers to provide the best plan of care for each pregnant woman as well as teaching and psychosocial support for them and for their and Encouraging obese women to attending Antenatal vista to control overweight management to improve life style Attitudes to weight change, Midwives felt women lacked understanding and cooking and eat skills to help these Women understood association between health/weight and eating.

- **Setting of the Study**

  The study was held in delivery room at two hospitals in Basra (AL-Basra General hospital and Basra hospital for Maternity and Children). From 28th February to 52th may 2013. Cases were selected from the labor ward.

- **Sample of the Study**

  - The study sample was composed of (400) pregnant women attending the labor ward (delivery ward) for normal vaginal delivery.

  - The women were observed during the labor until delivery, some cases under went caesarean section by the decision that was taken by the senior obstetrician on duty.

- **Instrument Construction**

  - Normal pregnancy with no pathological condition.

  - Prime gravid and multi gravid

  - Any gestational age.

- **Excluded Criteria**

  Women excluded from the study who were suffering from:

  - Cardiac disease and respiratory diseases.

  - Fetal with congenital malformation

  - Ante partum hemorrhage

- **Instrument Construction**

  An interview questioner was designed and used to collect the relevant data:

  Part One: Demographic Characteristics.

  Part Two: Reproductive History.

  Part Three: Pregnancy complication.

  Four: Nutritional status of Mather during pregnancy.

  Part Five: Neonatal variables.

Instrument Construction

A: The questionnaire was designed and constructed after reviewing related literatures, obstetrical background and previous studies. The questionnaire form consisted of 5 parts which included the following Appendix (E).

B-Tools

Body mass index was measured with a calibrated mechanical seca scales seca Ltd, (Brimingham, UK)with the patient wearing the lightest possible clothes. The measurement were used to calculate Quetelet s index or the body mass index (BMI) using the formula weight (in gk) /(height in meters).According WHO, BMI values are classified into four categories. Table 1

- **Validity of the Instrument**

Content validity of the assessment tool was determined through correlation between body mass index and anther variable by means of the stander deviation, p. value and significant.

- **Statistical Analysis**

Data are analyzed in four groups according to the BMI category of underweight, overweight, obese and normal weight using SPSS, version19 (SPSS) and Epi-Info (WHO).

The effect of BMI is analyzed by comparing the frequencies of various outcomes in the aforementioned groups. The variables were compared using c2 test and Fisher's exact test. The Mantel- Haenszel c2 test is also applied to test for trends across BMI categories. The results from the logistic regression are expressed as relative risk (RR) and the corresponding 95% confidence interval and P. $P < 0.05$ was considered statistical significant.

RESULTS

Most of overweight and obese pregnant women were high age group and multiparous with less level education. There past obstetric history (regarding previous abortion, preterm delivery and stillbirth) was not different from normal pregnant women, but they had history of previous caesarean section.

Maternal completion such as pregnancy included. (Anemia39.%.), Hypertension 10.8%, Diabetes Mellitus 5% and Urinary tract infection(26.8%).

Regarding fetal and neonatal outcomes, the study found still birth (13.8%,) abortion 27.75%, and neonatal admission to neonatal intensive care unit 15.6% were more in obese pregnant women as compare to normal one.

Caesarean section was the mode of delivery for (86) cases total, included (69 cases) of obese pregnant women, while only (16 cases) of normal pregnant women. Therefore, maternal high body mass index associated with negative outcomes for both women and fetuses.

Table 1: Distribution of the Body Mass Index According to Study Samples

BMI (Kg/m^2)	WHO Class
<18.5	Underweight
18.5 – 24.9	Normal Range
25.0 – 29.9	Overweight
≥30.0	Obese

Table 2: Distribution of the Study Sample According to the Body Mass Index

	Variables	
BMI Groups	F	%
≤ 18.5	7	2%
18.5-24.9	104	26%
25- 29.9	163	41%
1- >30	126	31%
Total	400	100.0
Mean SD:	3.02+.804	

Table 3: Distribution of the Study Sample According to the Age Characteristics: According with BMI

Demographic Variables	BMI								χ^2	df	Pv	SC
Age /Years	Under Weight		Normal		Overweight		Obese					
	No	%	No	%	No	%	No	%				
≤20	3	3	44	8	35	35.7	16	16.3	34.846	9	0.0	HS
21-30	2	1	45	23.76	73	38.32	70	36.8				
31-40	2	2	13	13	49	49	35	35				
≥41	0		2	15.3	6	46.3	5	38.4				

MEAN +SD =26.39±7.651

Regarding the association between BMI and age mother groups: the highest percentage (49%) whit group overweight pregnant women with in age group (31-40), while the lowest percentage (0%) of them had underweight with age group≥ 40.
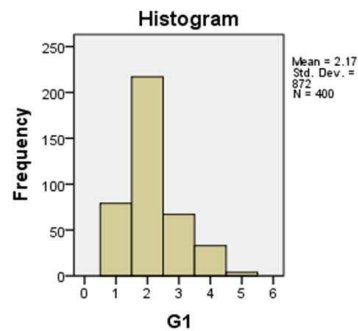

Figure 1: Histogram Distribution of the Study Sample According to Gravidity
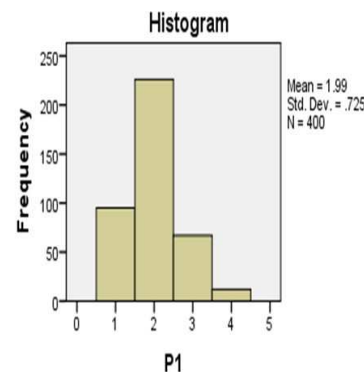

Figure 2: Show that the Parity of Study Sample

Regarding the association between BMI and Gravidity: the highest percentage (40.5%) whit group obese pregnant women with in (Great multigravida (had≥7 pregnancies), while the lowest percentage (1.5%) of them had underweight with (Grand multigravida (5-6gravida)).

Regarding the association between BMI and Parity groups: the highest percentage (40.5%) whit group overweight pregnant women from Multigravida (had 2-4 deliveries), while the lowest percentage (0%) of them had underweight from (Grand multigravida (5-6 deliveries)).

Table 4: Distribution of the Study Sample According to Mode of Deliveries. According with BMI

			BMI							
Mode of Labor	**f**	**%**	**>18.5 N=7**	**18.5-24.9 .N=104**	**25-29.9 N=163**	**<30 N=126**	**()**	**df**	**P≤0.05**	**sig**
NVD	314	78.5 %	6	88	130	90	317.169	275	.041	S
CS	86	21.5 %	1	16	33	36				
MEAN +SD =4.24+.947			7	104	163	126	**Grand Mean = 2.12**			

Table 4 Flowing of Mode Deliver

Regarding the association between BMI and normal vaginal delivery: the highest percentage s (44.4%) they whit group overweight pregnant women, while the lowest percentage (1.9%) of them group underweight.

Regarding the association between BMI and caesarean section: the highest percentage (41.8%) they whit group obese pregnant women, while the lowest percentage (1.1%) of them group underweight

Table 5 Association of Body Mass Index with Outcome of Labor for Study Sample
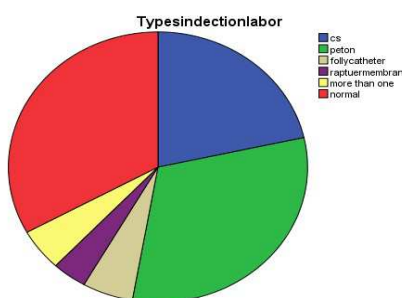

Figure 3: Pie Chart of the Levels for Frequency Different of Types Mod Deliveries

Table shows that there is no significant relationship between types of vaginal deliveries (spontaneous, induction labor).

Table 5: Shows the Findings about the Incidence of Pregnancy Complications with BMI Group

Complication		**BMI**				**Total**	χ^2	**df**	**S.**	**P 0.05**
		< 18.5	**18.5-24.9**	**25-29.9**	**>30**					
		N =7	**N=104**	**N=163**	**N=126**					
• Anemia	YES	4	44	63	45	156	2.027	3	NS	0.567
	NO	3	60	100	81	244				
• Hypertension	YES	0	8	13	22	43	0.078	3	S	..028
	NO	7	96	150	104	357				
• Diabetes Mellitus	YES	1	2	9	8	20	3.92	3	NS	0.27
	NO	6	102	154	118	380				
• Urinary infection	Yes	3	24	41	39	107	2.991	3	NS	0.393
	No	4	80	122	87	293				

Table 5 Shows the Findings about the Incidence of Pregnancy Complications Among the Study Sample In Bmi) As Follows:

Shows that there is statistically significance between (BMI and (Anemia and Hypertension) of study sample, while that there are not statistically significance between (BMI and Diabetes Mellitus and Urinary tract Infection). Regarding the association between BMI and Anemia: the highest percentage (28.8%) they have Anemia whit group obese pregnant women, while the lowest percentage (1.2%) of them group underweight they did not have Anemia. Regarding the association between BMI and Hypertension: the highest percentage (51.2%) they have hypertension whit group obese pregnant women, while the lowest percentage (1.9%) of them group underweight they did not have hypertension. Regarding the association between BMI and Diabetes Mellitus: the highest percentage (45.2%) they have Diabetes Mellitus whit group overweight pregnant women, while the lowest percentage (1.5%) of them group underweight they did not have Diabetes Mellitus. Regarding the association between BMI and Urinary tract Infection: the highest percentage (36.4%) they have Urinary tract Infection whit group obese pregnant women, while the lowest percentage (1.3%) of them group underweight they did not have Urinary tract infection.

Table 6: Distribution of the Study Sample (Outcomes Deliveries) According BMI

	<18.5 N=7		18.5-24.9 N=104		25-29.9 N-163		<30 N=123		χ^2	Df	P≤ 0.05	Sig
Weight baby	No	%	No	%	No	%	No	%				
1000-2500 g	1	3.7	11	40.7	8	29.6	7	25.9	28.044	9	.001	HS
2600-3000g	4	2.3	51	30.1	74	43.7	40	23.6				
3100-3900g	2	1.4	37	26.4	56	40	45	32.1				
≥4000g	0	0	5	7.8	25	39	34	53.1				
Apgar score at 5 min of neonate life												
0-3	0	0	1	11.1	5	55.5	3	33.3	67.612	24	.000	HS
4-6	2	3.7	12	22.6	22	41.5	17	32				
7-10	5	1.4	91	26.9	136	40.2	106	31.3				

Table 6 Shows That There Is Statistically Significance between BMI and (weight Baby and Apgar Score at 5 Min of Neonate Life)

Regarding the association between BMI and (1000-2500 g)weight baby the higher percentage (40.7%) whit group normal weight pregnant women, while the low percentage (3.7%) with underweight '

Regarding the association between BMI and (2600-3000g) weight baby the higher percentage(43.7%)whit group overweight, while the low percentage (2.3%) with underweight.

Regarding the association between BMI and (3100-3900) weight baby the higher percentage (40%) whit group overweight, while the low percentage (1.4%) with underweight.

Regarding the association between BMI and (≥4000g) weight baby the higher percentage (41.1%) whit group overweight, while the low percentage (0%) with underweight.

Regarding the association between BMI and Apgar score at 5 min of neonate life score (0-3) the higher percentage(55.5%)whit group overweight, while the low percentage (o%) with underweight

Regarding the association between BMI and Apgar score at 5 min of neonate life score (4-6) the higher percentage(41.5%)whit group overweight, while the low percentage (3.7%) with underweight

Regarding the association between BMI and Apgar score at 5 min of neonate life score (7-10) the higher percentage(41.1%)whit group overweight, while the low percentage (1.1%) with underweight

Nursing Role

Nurses caring for women of reproductive age in Community and inpatient settings should use ever possible opportunity for teaching about pre- and inter conception health and the impact that optimizing one's own health can have on pregnancy and birth outcomes. This is also a time to encourage or provide Referrals for nutritional counseling to help women achieve appropriate weight/BMI goals. The positive Impact that exercise can also have on diabetes and Hypertension should be emphasized. Even short Amounts of activity and walking can help with these Comorbid conditions. Nurses in public health and Community settings typically have multiple opportunities to interact with women of childbearing age during this important time in their lives. Nurses never know when that one contact they made with a client during their day may have the potential to make a difference in their pregnancy and birth outcomes.

CONCLUSIONS

Most of study sample were overweight there were a statistical significant relationships between body mass index of pregnant women and some complications during pregnancy such as anemia and hypertension, type of deliveries, type of vaginal delivery, causes of cesarean section and outcomes of pregnancy such as weight of baby and Apgar score at five min of neonate life.

RECOMMENDATIONS

Combating obesity in women within the activities of primary health care centers services through enhancing of physical activities and increasing the awareness of pregnant women about healthy nutrition habits.

Based on the finding of this study:

- The percentage of overweight and obese women in AL-Basra two Hospitals during the period 28 th February to 30th march 2013.were (41%, 31%)

- Regarding for distribution study sample according body mass index. In this study found (underweight 2%.normal weight 26%, overweight 41%, and obese 31 %).

- The study found that the highest percentage of study sample was at age (21-30) years, most of them were housewife82.75%, primary level education34.35% and low socioeconomic status53.75%, Governorates residence45%, with high parity and gravidity, (81.75%) of them Antenatal visit during pregnancy80% and Related family58%.

- Higher maternal pregnancy weight associated statistical significant with these reproductive risk factors, over 35years of age, grand multipara, stillbirth, prior abortion, prior operation on uterus(CS), long inter-pregnancy interval more than two years.

- There are statistical significant association between overweigh and Obesity in pregnancy associated with these selected complications during current pregnancy, Anemia, and hypertension and no significant with UTI and GDM.

- Obesity in pregnancy increases these outcomes occurrence, C.S delivery and induction of labor macrosomia and breech presentation although it protects against preterm delivery, LBW and SGA, and low Apgar score

- Regarding for nutritional statue, one independent variable were significant predictors for number (16) related for Drink fluid (8 cups or 2.5) liter of water daily.

RECOMMENDATIONS

In view of the above conclusion the following would be recommended:

- Nationwide study for Iraqi obese women must be carried out to evaluate the effects of obesity on pregnancy and to prevent its complications and outcomes.

- Explain to pregnant women the recommended weight during pregnancy, (7-11.5kg) for overweight and obese women and (11.5-16 kg) for normal weight women.

- Combating obesity in women within the activities of primary health care centers services through enhancing of physical activities and increasing the awareness of pregnant women about healthy nutrition habits.

- Consider high –dose folic acid (5 mg /day) during pregnancy.

- We advise to have educational program for midwives to take care body mass index as pregnant, which induct risk for prolong maternal distress

  Fetal distress and low potential for cesarean section

REFERENCES

1. Institute of medicine. Nutrition during pregnancy. Part I. weight gain. Washington, DC: National Academy press.1990.

2. Alexander GR, Himes JH. Kanfman RB, et al. united states national reference for fetal growth. Obstetric and Gynecology 1996

3. Meher-un-nisa, Muhammad Aslam, Salah Rosdy Ahmed, Maamon Rajab, and Lina Kattea, Impact of Obesity on Fetomaternal Outcome in Pregnant Saudi Females Department of Obstetrics & Gynecology, Qassim University, College of Medicine, Buraida, Saudi Arabia, Email: drmehersajawal@gmail.com (.2009.

4. Shiva Alizadeh. Relationship of pre-pregnancy maternal body mass index and neonatal outcomes. Journal; Koomesh ISSN; 16087046 year; 2012

5. Heslehurst, N. et al. (2007) 'Obesity in pregnancy: a study of the impact of maternal obesity on NHS maternity services', BJOG an International Journal of Obstetrics and Gynaecology.

6. Meenakshi T. Sahu, Anjoo Agarwal, Vinita Das and Amita Pandey Impact of maternal body mass index on obstetric outcome Department of Obstetrics and Gynecology, King George's Medical University, Lucknow, Indi

7. Mokdad AH, Serdula MK, Dietz WH, Bowman BA, Marks JS, Koplan JP. The spread of the obesity epidemic in the United States, 1991-1998. JAMA 1999; 282: 1519-22.

8. Jensen, D. M, Damm, P, Sorensen, B, Molsted-Pedersen, L, Westergaard, J. G, Ovesen, P, et al. (2003). Pregnancy outcome and prepregnancy body mass index in 2459 glucosetolerant Danish

9. WHO, 2004. World Health Organization. Stopping the Invisible Epidemic of maternal Death: 29 Sept. 2004

10. SOGC clinical practice guideline.2010 NO239, February. Obesity in pregnancy.

11. Taweel NG… etal 2007(Al- Taweel NG. Abdulla M M amd Abdul Ameer AJ. Prevalence of and factors associated with overweight and obesity among a group of Iraqi women. Eastern Mediterranean Health Journal.2007

12. Asseel TARIK (OBESITY IN PREGNANCY1998. Submitted to the department of obstetric and Gynenology, college Medicine, University of Basra.

13. Seligman LC, Duncan BB, Branchtein L, Laio DS, Mengue SS, Schmidt MI:Obesity and gestational. Weight gain: Cesarean delivery and labor complications. Rev Saude Publica 2006,

14. Nehal 2012(Mahmud S D) the of Increased Maternal Body Mass Index on Primary Post-partum hemorrhage athesis of diploma in gynecology and obstetric 2012

15. Arar.M, Shaymaa 2011 the impact of body mass index on pregnancy outcomes, aaissertation submitted to the department of obstetric and Gynenology, college Medicine, University of Basra

16. Abdel-Hady El-Gilanya and Sabry Hammadb(Body mass index and obstetric outcomes in Saudi Arabia:) a 15-Aslam Aliya. Complections of Raised BMI in Pregnancy.Professor Med Sep 2010 rospective cohort study 2010.

17. Hala Ibrahim Zaiton*1, and Eman elsayed mohammed elsabagh2 Medical Surgical Nursing Dept.*1, 2Obstetrics and Gynecology Nursing Dept, Faculty of Nursing, Zagazig University, Zagazig, Egypt Journal of American Science, Risk Factors of Obesity on Maternal and Perinatal Outcomes among Pregnant Women 2011

18. Tosson M M. Hussain TK. The Impact of Maternal Obstetric on Pregnancy outcome at Assiut University Hospital (2005

19. Perlow JH. obesity in obstetric. Foley MR, Strong TH. Garite TJ.(eds)obstetric intensive care manual. Third edition 2011

20. WIESŁAW MACIEJ KANADYS. 2007, Maternal underweight and pregnancy outcome: prospective cohort studywww.great dad. Com / labor and birth choosing- where- to- deliver- html, 2010

21. Sohinee Bhattacharya1*, Doris M Campbell2, William A Liston3 and Siladitya Bhattacharya2 Health(Effect of Body Mass Index on pregnancy outcomes in nulliparous women delivering singleton babies 2007)

22. Hussain, Dr. Ragad Nasir. Influence of body mass index on the incidence of preterm labor. Athesis submitted to the college of medicine university of Basra for the degree of diploma in gynecology and obstetrics.2008.

23. Meaghan A Leddy, *, † Michael L Power, PhD, * and Jay Schulkin, PhD Department of Research, The American College of Obstetricians and Gynecologists, Washington, DC Department of Psychology, American University, Washington, DC This article has been cited by other articles in PMC. The Impact of Maternal Obesity on

Maternal and Fetal Health 2009.

24. Bhattacharya S, Campbell DM, Listion WA, Bhattacharya S: Effect of body Mass index On Pregnancy outcomes in Nulliparous women delivering singleton babies. BMC public Health 2007,

25. Lina Kattea. Impact of Obesity on Fetomaternal Outcome in Pregnant Saudi Females Department of Obstetrics & Gynecology, Qassim University, College of Medicine, Buraida, Saudi Arabia Email: drmehersajawal@gmail.com.2009 July;

26. Burke G, Robinson K, Refsum H, Stuart B, Drumm J, Graham I. Intrauterine growth retardation, perinatal death, and maternal homocysteine levels. N Engl J Med. 1992

27. Cnattingius R, cnattingus S, Notzon FC. Obstacles to reducing cesarean rates in alow- cesarean setting: the effect of maternal age, height, and weight obstetric Gynecol. 1998; 42: 501-6.

28. Aslam Aliya. Complections of Raised BMI in Pregnancy. Professor Med Sep 2010 17(3):498-504. Military Hospital, Rawalpindi

29. Heslehurst, N, Moore, H, Rankin, J, Ellis, L. J, Wilkinson, J. R, Summerbell, C. D, 2011. How can maternity services be developed to effective ladders maternal obesity? A qualitative study. Midwifery, e170–e177. (included

30. Khazaezadeh, N, Pheasant, H, Bewley, S, Mohiddin, A, Oteng-Ntim, E, 2011. Using service- users' views to design a maternal obesity intervention. British Journal of Midwifery.

31. Baker, J, 2011. Developing a care pathway for obese women in pregnancy and beyond. British Journal of Midwifery.

APPENDICES

المســـــتخلص

البصـــــرة مستشفّات فَ والوالــــدة الحمـل محصـــلة علـى الجسـم بنُّة تاثُّر

المشـــاكل نسـبة زُيادة الـى تـؤدي فانهـا لـذلك والجنُن االم حُاة تهـدد التَّ الخطـورة عوامل من الحامـل االم لـدى البدانــة تعتــــبر : الخلفّة فـــترة خالل الصحّة

فـان. منها للحـد المتطـورة الوقائّة الجـراءات من العدُّد الـى نحتـــاج لـذلك الحمـل لنتـــاج انحرافـــات عدة الـى ممـاتؤدي الوالـدة الحمل الجســـم كتلـــة مقُّاس دلُّل

. الســمنة مقدار لتقدُّر شُوعا االكــــثر الطرُّقة تعتـــــبر

صـحة علـى وتأثُّرة ,الوالــدة غرفـة الـى الحاضــرة الحامـل بـالمرآة وعالقتـــه طبُعَ الغُر الجسـم كتلـــة مؤشـر علـى التعـــرف: االهداف وأجاد .والجنُن االم

. الحامـل لالـم التغذوّة والحالــة , والوالــدة الحمـل وتارّخ الدُّمغرافُّة والصـــــفات طبُعَ الغُر الجسـم كتلـــة مؤشـر بِّن ةالعــالق

مستشـــــفى(البصـــــرة مستشفُّات فَ و 8102 / مارس / 82 حـتى شـباط / 82 تارّخ من اجرّت تحلّلة وصفّة دراسـة : البحـث منهجّة / العـام البصـــرة

وكن الوالــدة صــالة الـى حضـرن﴾ اللواتَ حامل امراءة 011 علـى و) واالطفـــال للوالــــدة البصـــــرة مستشـــــفى و والتولُد النسائّة ردهة

المخـاض الـم لّدُهن

.الطبُّعَة الوالـدة لفرصـــــة خضـعنٌ غّرمتعددوجمّعهن مفـرد حمل وذوات

خـالـل من المحتـــوى صـدق تحدُّد تـم. البُانات لجمـع كـأداة اسـتخدمت الســـــتبانة , الدراسـة عُّنة افـراد الختُّار احتمالُة غّر غرضُّة عُّنة

قبـل من مراجعتهـا

. البُّانات لتحلّل واالستداللَّ الوصفَّ االحصـــاء اسـتخدام تحدُّد وتـم , االختصاصـــــات مختلـــف من خبُّر 00

: االســـــــتنتاجات

بعـض وضـهرت الحوامـل للنســـــاء الجسـم كتلـــة مؤشـر بُّن احصائُّة داللـة ذات معنوِّة عالقـة وهنالـك زائـدات كانـت الدراسـة عُّنة اغلب

خـالـل المضـــاعفات

الطفـــل وزن مثـل الحمـل ونتـــاج القصُّرُة العملَّة واسـباب الطبُّعَة الوالـدة ونـوع , الـدم ضـغط وارتفـــاع الـدم فقـر مثـل الحمـل فـــترة

حسـب اســـــتجابته ودرجة

. الولُّد وعمر ابكـار جدول

من الحوامـل النســـــاء وعً وزُّادة البدنُّة النشـــــاطات علـى التشجُّع خـالـل من االولَّة ىالصحُّ المـراكز نشـاطات خـالـل السـمنه محاربـة : التوصُّات

خـالـل

الغذائُّة العـادات تحسُّن