Women's Knowledge, Attitudes and Behavior about Maternal Risk Factors in Pregnancy

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ABSTRACT

Background: A high risk pregnancy sounds scary; it refers to anything that puts the mother or fetus at increased risk for poor health during pregnancy or childbirth. **The aim of this study** was to assess the levels of knowledge, attitudes and behaviors of women about the main maternal risk factors in pregnancy. **Materials and Methods:** A cross-sectional design was conducted. **Setting**: from four hospitals in Damietta governorate during the period of the study. **Subjects:** 220 pregnant women randomly selected **Tool:** An interview questioner and likert scale were used for data collection. **Results:** About two third of studied sample (60.5%) were aged from25 to less than 35years old. Near half of them 45%was secondary school. About half of studied sample their housing near pollution 44.1%. One third of studied sample 30.5% had regular antenatal visit. More than half 58.6% of studied sample had knowledge about high risk pregnancy. Half of them 50.0% had sought hospitalization to promote their pregnancy from high risk. There is highly statistically significant relation between pregnancy out come and total attitude level significant found in between current pregnancy test and total knowledge level. **Conclusion** The results indicate that pregnant women lack knowledge regarding the main maternal risk factors. **Recommendation**: Our results suggest an urgent need for the design of interventions to improve women's levels of knowledge and to promote appropriate behavior in relation to the major risk factors in pregnancy.

Key Words : Attitudes, knowledge, risk, maternal

INTRODUCTION

The preconception period is considered an important time for women's health and an opportunity to develop a healthy lifestyle that can be useful both for the health of the mother and the newborn baby[1,2] Although it has been well documented that there is a need to implement interventions to promote appropriate behaviors in women of reproductive age before the conception and that maternal risk factors should be identified and modified also before conception [3],

The Healthy People 2020 strategy still indicated that pregnancy is a good time to identify existing maternal risk factors. It also states that increased knowledge among women about maternal risk factors may result in immediate benefits by reducing adverse events in pregnancy and birth and long-term benefits for the health of mothers and children. Indeed, it is well established that maternal behaviors and several conditions are associated with adverse pregnancy outcomes. In particular, lifestyle factors such as tobacco and alcohol use in pregnancy increase the risk of low birth weight, preterm delivery and perinatal mortality[4-7]

Moreover, maternal weight problems, obesity, gestational diabetes and failure to take Folic acid supplementation was associated with an increased risk of pre-eclampsia, neurological, cardiac and or facial defects, high birth weight and stillbirth. [8]

Several studies have assessed the knowledge and behaviors of reproductive aged women and pregnant women with regard to some individual risk factors in pregnancy such as smoking alcohol consumption [9,10], oral health [11] and obesity [12,13] However, very few studies have examined several risk factors simultaneously [14]. Therefore, the present survey, conducted with a representative sample of pregnant women, had primary aim to assess the level of knowledge, attitudes and behaviors of women about the main maternal risk factors in pregnancy.

Aim: The aim was to assess level of knowledge, attitudes and behaviors of women about the main maternal risk factors in pregnancy.

SUBJECTS AND METHODS:

Study Design: A descriptive design was used in the conduction of this study.

Setting: This study was carried out at four hospitals in Damietta governorate namely:

AL-Azhar University outpatient clinic,

 EL-Takhsosy outpatient clinic,

General hospital outpatient clinic

And Medical Center Farascore city.

Sample: Simple random sample was used in the study.

Subjects:

<u>Sample size</u>:

Total woman in these pervious mention hospitals were 2000, the sample size was determined by take 10% from high risk mothers was 200 mothers and take 10% was excluded for the purpose of pilot study so the total sample consist of 220 woman in the study . The researcher was randomly assigned 116 woman's from AL-azhar hospital these Hospital served many cites and countries so it was the largest sample size, Damietta general hospital was 59 women; Farascore al- markazy was 26woman and 19woman from al Takhsosy hospital

Inclusion Criteria:-

-Third trimester of pregnancy.

-Single intra uterine fetus.

-Medically diagnosis high risk pregnancy.

-Have 1 or 2 or more than one risk factors like (Diabetes, hypertension, thyroid disorders, renal impairment……etc.)

Tools of Data Collection:

   Following tools were used to collect the necessary data to achieve the aim of the study, they were:

   1-   An interview questionnaire schedule:

      The questionnaire was included four parts which developed and constructed by the researcher after reviewing the literature and expertise' opinions. The sheet was designed in Arabic form to avoid misunderstanding. It was includes:

Part I: Patients' socio demographic characteristics: Items related to socio - demographic characteristics of the women age, educational level, job, .etc. It consists of 7 questions covering the previous items.

Second part: Included Obstetrics history as "pre-eclampsia, eclampsia, gestational diabetes, hypertension, repeated abortion, repeated preterm birth, prolonged or difficult labor, operational delivery and history of multiple pregnancy or malpresentations".

Third part: Evaluated mother's knowledge and attitude regarding high risk pregnancies, concept, and effect on fetus and mother health.

Forth part : Assessed mothers self-reported practices to promote their pregnancies

2-likert scale:

To evaluated high risk mother attitude regarding self-reported practices to promote their pregnancies including nine statement which were evaluate as agree, disagree and uncertain.

Scoring system:

Knowledge mothers were scheduled as the following each question was assessed the correct answer take one score incorrect answer was given 1 scored. For each area of knowledge, the scores of the items were two grades were given when the response was right and one was given when the response was wrong. While the total correct answer was 60 % or more of total score was satisfactory and incorrect answer is less than 60 % was unsatisfactory.

Operational Design:

The operational design was include preparatory phase, content validity, reliability, pilot study and field work and limitation of the study.

A-Preparatory phase:

It includes reviewing of literature, different studies and theoretical knowledge of various aspects of the problems using books, articles, internet, periodicals and magazines.

B-Content validity

It was ascertained by a jury consisted of five experts in the field of obstetric nursing to make sure that the study tools looks though it measured what supposed to measure.

C-Reliability

Cronbach alpha coefficient was calculated to assess the reliability of the developed tool through their internal consistency.

Pilot Study

A pilot study was carried out after the development of the study and before embarking on the actual study (data collection). It was conducted during 2015 in order to test applicability & feasibility of the tools of data collection, and to estimate the time required for filling the required forms. It was carried out on 10% of the study subjects (20 the high risk mothers,) from to evaluate the content of tools to determine whether or not the items were understood by women and they was excluded from the entire sample of research work. The results of pilot were as follows:

They indicated to some items needed to be modified; rephrasing, omission, can be measured through others: whether these items stay as they were or by adding some words or elements.

Needed modification were done based on pilot results and further researcher refining of each tool, each items in the same part, parts to each other and tools to each other were done Finally, making assurance that each tool as a whole achieved the aim of the study.

Field Work:

The data collections were started from August 2015 and extended to February 2016. The researcher visited the previously mentioned study setting three days per week. This period consumed for data collection was governed by the availability time for both the researcher and the study respondents. Before conducting the study, mothers under study were assured that the data collected for the questionnaire remained confidential and that no personal identification was needed by any means. They also were informed that they could refuse to participate in the study, to withdraw from it at any time.

Administrative Design

For conduction of the study, a written permission was taken from the dean of the faculty of nursing Port Said University and an official letter were sent to the selected area of the study. The director of hospital was contacted and informed in order to obtain permission to include the patients on the present research.

Ethical consideration

1-Explain the aim of the study to the director of the hospital to take his permission to do this study.

2-Explain the aim of the study to each participant to ensure their consent to be involved in the study.

3-A brief explanation of the study was given assured to the children that the information obtained was confidential and used only the purpose of the study and will maintain their privacy.

Statistical Design

Statistical analysis:

Data were coded and transferred into specially designed formats for data entry then data were analyzed and computed. The collected data in pretest and posttest were organized, categorized, tabulated in tables using numbers and percentage, mean percentage and standard deviation. Chi-square (x^2) test was used to test the associations among the under studied qualitative variables, the statistical package for social sciences (SPSS version 16.0) was used for statistical analysis. Statistical significance was considered at p-value < 0.05.

Limitation of the study

The emergency situations in obstetric clinic sometimes lead to postponing the time of interviewing mothers because they were too fatigue.

RESULTS:

Table (1): shows distribution of the studied sample according to their socio-demographic characteristics. This table illustrates that less than two third of the studied sample (60.5%) aged between 25-35 years old. More than one quarter of them (27.3%) were more than 35 years. In relation to educational level, only (27.2 %) were at preparatory school or basic level, more than two fifths (45%) of them were secondary school and 11.4% of them were university or higher educational level. As such as all of them (100%) were married. 84.1% from urban area. More than three-quarters of the studied women were housewife 78.7%. Family members were 1-4 in 88.6% of them only 7.7% of them. 44.1% of the studied women near pollution in their housing.

Table 2: Distribution of the studied women according to their present history, Anemia ,Kidney disease ,Heart diseases, diabetes ,epilepsy , Systemic lupus erythematous ,hypertension ,thyroid disorders: asthma, (21.8% 55.0%,12.7 %,11.7%,% ,7.3 % ,6.8 % ,3.2 %,5.5 % ,24.1%, 13.6%

Table 3: Distribution of studied women regarding their current reproductive history. 1,gravida 2-3,and gravida 4 and more (25%,63.2% and10.9% respectively) Regarding parity, Para one women were 37.8% ,Para two were 39.5% while Para four or more was found in 22.7% only of the studied sample Number of living children were37.5% of them had one 23.7% had 2 only 3.9%had three or more In vitro Fertilization in 17.7% of the women position of the fetus was abnormal in 30% of them 34%of studied women had twins in the current pregnancy. About 17.3% had negative RH and 6%of them did not take anti D after the first birth or abortion Antenatal visit only one third 30% had regular antenatal visits tetanus vaccine half 50% of them she did not take all of the doses.

Figure 1 displays total knowledge of studied mothers. It points to satisfactory level of knowledge in 62.7% of the sample, while it was unsatisfactory in 37.3% of them.

Figure 2: show the distribution of the study subjects according to their attitude regarding their pregnancy. It shows that less than half of them 39.5%had positive attitude regarding their pregnancy .As negative attitude was reported by more than half   60.5% of them.

Table 4: describes relation between studied mother attitude and their socio-demographic data. It points to statistically significant positive total attitude level and age, education, income and housing condition   (p<0.000). On the other hand no significant difference between attitude level and occupation, or type of hospital, (p<.410).

Table 5: Correlation between total attitude levels, total knowledge there were positive correlation nurses' total knowledge mean scores and their total attitude mean scores with $p \leq 0.01$.

Table 1: Frequent distribution of studied mothers regarding their Socio-demographic data (n=220)

Socio-demographic data	No	%
Age (years)		
▪ **Less 25**	27	12.3
▪ **25-35**	133	60.5
▪ **More than 35**	60	27.3
Mean ± SD 27.8 ± 4.8		
Educational level		
▪ **Illiterate**	36	16.4
▪ **Preparatory school/basic**	60	27.2
▪ **Secondary school**	99	45
▪ **University**	25	11.4
Occupation		
▪ **House wife**	173	78.6
▪ **Working**	47	21.4
Marital status:		
▪ **Married**	220	100.0
Family members		
▪ **1-4**	195	88.6
▪ **5-8**	25	11.4
Area of resident		
▪ **Urban**	185	84.1
▪ **Rural**	35	15.9
Housing condition		
▪ **There sanitation and electricity**	119	54.1
▪ **There is no sanitation**	4	1.8
▪ **Near pollution**	97	44.1

Table 2: Distribution of the studied sample according to their Present medical history.

Present history	frequency	Percentage%
Anemia	121	55.0
Kidney disease	28	12.7
Heart disease	26	0.9
Diabetes	15	6.8
Epilepsy	7	3.2
Systemic lupus erythematous	12	5.5
Hypertension	53	24.1
Thyroid disorders	30	13.6
Angina	23	10.5
Others: Asthma	16	7.3
Total	220	100%

©Numbers are not mutually exclusive

Table 3: Distribution of studied sample regarding to their current reproductive history.

Obstetrical history	Frequency (220)	Percentage%
gravidity		
Gravida 1	57	25.9
Gravida 2-3	139	63.2
Gravida 4 and more	24	10.9
parity		
Para1	83	37.8
Para2-3	87	39.5
Para 4and more	50	22.7
Number of living children:		34.9
None	53	37.5
1	57	23.7
2	36	3.9
3 or more	6	
Occurrence of Pregnancy (fertilization):		82.3
Normal	181	17.7
In vitro Fertilization	39	
Fetal deposition:		

|		
Normal	153	69.5
Abnormal	67	30.5
RH :		
Positive	169	76.8
Negative	38	17.3
Negative and she did not take anti D after the first birth or abortion	13	5.9
Antenatal visit:		
- 4 Visits or more (regular antenatal visits)	67	30.5
- The first visit after 20 weeks **but less than 4 visit**	114	51.8
- less than 4 visits	39	17.7
Tetanus vaccine:		
Take tetanus dose according table.	112	50.9
did not take all of the doses	83	37.7
did not take any of the last doses	25	11.4
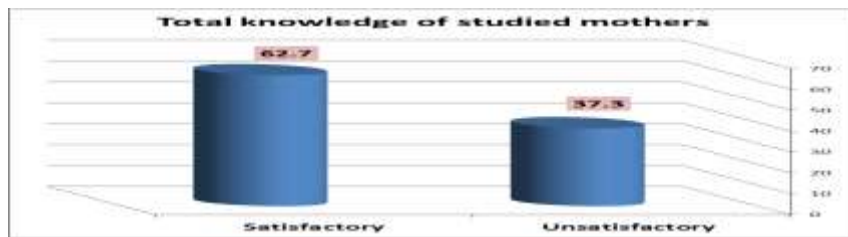
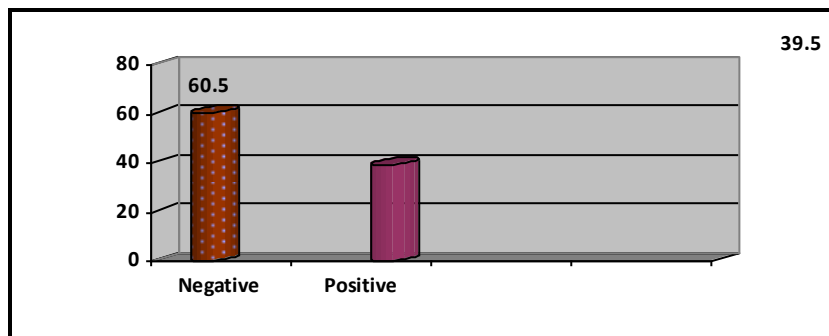**Figure1: Total Knowledge of the studied subjects**

Figure2: Total attitude of the studied subjects

Table 4:   Relation between studied mother attitude and their socio-demographic data.

Items	Total attitude level				Total		X^2	p-value
	Negative		Positive					
	No	%	No	%	No	%		
1-Age:							9.470	0.009*
• 20-15								
• Less than 25	16	13.1	11	11.2	27	12.3		
• More than 35	69	56.6	64	65.3	133	60.5		
	37	30.3	23	23.5	60	27.3		
2-Educational level:							26.415	0.000*
• Secondary education or inclusive	33	27.0	27	27.6	60	27.3		
• Elementary or preparatory	71	58.2	53	54.1	124	56.4		
• Illiteracy	18	14.8	18	18.4	36	16.4		
3-Occupation :							.466	.495
• House wife								
• Working	98	80.3	75	76.5	173	78.6		
	24	19.7	23	23.5	47	21.4		
4-Income:								
• Monthly household income of 150 or more per month per individual	107	87.7	78	79.6	185	84.1	4.251	.019*
• Less than 100 per month per individual	15	12.3	18	18.4	33	15.0		
• Less than 50 per month per individual	0	0.0	2	2.0	2	0.9		
5-Housing condition :							8.301	.040*
• There sanitation and	671	54.9.8	523	53.063.1	1194	54.11.8		

electricity • There is no sanitation • Near pollution	56	45.9	41	41.8	97	44.1		
6-Hospital type: • Al-azhar • Damietta general hospital • Farascore central hospital • AL-Takhsosy hospital	62 31 17 12	50.8 25.4 13.9 9.8	54 28 9 7	55.1 28.6 9.2 7.1	116 59 26 19	52.7 26.8 11.8 8.6	1.886	.596
Total	122	100.0	98	100.0	220	100.0		

* significance at p≤ .05

Table 5: Correlation between total attitude levels &total knowledge levels

	Total Knowledge Score		Total attitude Score	
	r	P value	r	P value
Total Knowledge Score	-	-	.198	.003**
Attitude Score	.198	.003**	-	-

**Correlation is significant at the 0.01 level.

DISCUSSION:

To the best of our knowledge, the present study is one of the few investigations designed to collect detailed data on the knowledge, attitudes and behaviors of pregnant women regarding several maternal risk factors simultaneously. In this study,

the majority of women had lack knowledge of the main risk factors in pregnancy. These findings can be compared with those found in other studies. In a study on 499 reproductive aged women, most of them knew that risk factors potentially affecting a pregnancy [15]. In a cross-sectional survey of 305 reproductive-aged women at an urban public hospital. Most knew that risk factor could cause birth defects and the majority agreed that some risk factor should be avoided during pregnancy [16].

 In a survey conducted in Pakistan regarding the knowledge of reproductive-aged women about risk factor, vast majority of the sample knew that hypertension, and anemia respectively, could adversely affect the health of the fetus [17]. In a study about risk factors among pregnant women in the Dominican Republic most of the sample believed that women who preeclampsia could harm their unborn baby's health but conversely only 2% believed that exposure to risk   factor especially toxemia could cause illness in children [18]. Finally, in two studies conducted in Australia near all of pregnant women knew that obesity would be associated with pregnancy complications [13, 14].

In the current study some of the respondents correctly knew all the main maternal risk factors (hypertension, anemia,). Two third of the studied sample correctly knew all the main maternal risk factors in pregnancy. So we suggest that continued efforts are urgently needed to educate all women. In a multivariate analysis, age, educational level, nationality and concern about causing harm to the fetus or newborn baby were identified as being significantly associated with knowledge of the main risk factors in pregnancy amongst women. Lack of knowledge amongst women with lower education has already been described in another study conducted in Brazil which assessed knowledge of appropriate physical exercise during pregnancy [19]

 As approved the conditions of the high risk that puts mother and baby at a higher risk for problems such as diabetes, cancer, high blood pressure, heart valve problems, , younger than seventeen or older than thirty five, multiple pregnancy ,genetic problem, such as Down syndrome. Having an infection, such as HIV or hepatitis C , taking certain medicines, such as lithium, phenytoin (such as Dilantin), valproic acid (Depakene), or carbamazepine (such as Tegretol) [20]

The presence of the above mentioned conditions in the current study sample showed that presence of one or more of the following high risk such as age in some women were younger than seventeen or older than thirty five. Women present history had one or two risk factors as surgical operation, anemia ‹kidney disease ‹heart diseases, diabetes, epilepsy, asthma. It denotes also to previous delivery less than two years was post term labor precipitated labor, prolonged labor & preterm labor. Regarding outcome of overweight (more than 3.5kg) baby underweight, born with congenital anomalies, mentally retarded regarding intrauterine fetal death, still birth. As regard previous purperium history, post-partum hemorrhage and puerperal sepsis occurred. Majority of them had previous twins.

The present analysis of obstetrical history showed that more than three-fifths of women studied women been pregnant two or three times. Meanwhile, some cases of them had a short interval (<2 years) between the current pregnancy and the previous delivery which mean the probability to adverse prenatal out come This is corresponding with the finding of Smedberg 2014[21]who emphasized that the optimal inter-pregnancy interval for preventing adverse prenatal outcome is two years or more. These finding means presence of adverse prenatal outcome.

Regarding knowledge of women about signs of pre eclampsia Indeed, the results indicate that the majority of women knew signs of pre eclampsia that swelling in hands and face, sleep a lot was known by majority of them extreme thirst was mentioned by one third of them while one quarter of them drink fluids frequently is the sign of high risk were maternal risk factors during pregnancy, one fifth of pregnant women mentioned mild headache and lower limb edema are considered abnormal signs during pregnancy. These findings can be compared with those found in other studies in Italy In a study on reproductive aged women, most of them knew that the risk factors of pre eclampsia.[22]

Woman attitude regarding high risk pregnancy in our finding showed that they had negative attitude only one quarter of the sample agreed that high risk could result in harm to the fetus or newborn baby. This result was higher than that found in three studies conducted previously in Italy where the of the risk factors women during pregnancy.[23]

Our study showed mothers regarding behavior to keep their pregnancies. Majority of mothers agree about go to the hospital just in case of warning signs during pregnancy also to take vitamins during pregnancy, majority of mothers their opinion eating foods rich in protein, majority of mothers opinion about hygiene important to women during pregnancy and mothers opinion about regular intake of medicines during pregnancy iron and calcium during pregnancy. It was reported   by majority of them about visits according to antenatal care schedule.

The results of our study showed that relation between total knowledge level and attitude. It points to statistically significant adequate total practice level and positive total attitude level. On the other hand, as much as majority of the study group did acquire satisfactory total knowledge level and positive total attitude level also relation between studied mother attitude and their socio-demographic data. It pointed to statistically significant positive total attitude level with income and, housing condition. On the other hand no significant difference between the positive total attitude level of women and occupation, educational level, age and type of hospital.

This result is consistent with that of two studies conducted in the UK and Iceland which both found a significant association between high risk during pregnancy and low levels of education [24] In addition, an unvaried analysis in another study in Canada found that lower levels of education were significantly associated with high risk during pregnancy [25] Although it is important and more effective to implement measures to promote appropriate behaviors in women before pregnancy.

The present study finding that there was statistically significant relation between positive total attitude level and age, education, income and housing condition these was agreed with [26]

Another relation was illustrated that there was statistically significant relation found in between current high risk problems (vaginal bleeding, gestational diabetes) and total knowledge these agreed with [25] finally a significant relation was observed total practice level and socio-demographic data such as educational level, age, type of hospital, crowding index these with agreed with. [27]

CONCLUSION:

the results of this study indicate that pregnant women lack of knowledge regarding the main maternal risk factors and, therefore, some continue to have one or more risk factor during pregnancy.

RECOMMENDATION:

-Our results suggest an urgent need to design interventions to improve education levels and appropriate behaviors in relation to the major risk factors in pregnant women.

-Reapplication of the present study on a large sample from different hospitals, as well as from different study sitting in Egypt to construct our national statistics about knowledge by high risk pregnant woman to promote their pregnancies.

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التقرير الذاتي لممارسات السيدات الحوامل ذوات الحمل الخطر للحفاظ على حملهن

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*أستاذ تمريض النسا والتوليد ـ كلية التمريض ـجامعة عين شمس ، * * أ. م. د. سهام شحاتة ابراهيم ـ أستاذ مساعد تمريض الأمومة والنسا والتوليد ـ كلية التمريض ـ جامعة بورسعيد ، * * * بكالوريوس تمريض- جامعة القاهرة (2009)*

الخــلاصــة

يشير الحمل عالي الخطورة إلى أي حاله تضع الأم أو الجنين في خطر متزايد لسوء الحالة الصحية أثناء الحمل أو الولادة. كما ان الحمل يزيد من الإجهاد البدني والعاطفي على السيدات وقد يتزايد نتيجة وجود مشاكل صحية موجودة بالفعل قبل أن تصبح السيدة حامل . **الهدف من هذه الدراسة**: هدفت الدراسة إلى تقيم التقرير الذاتي للسيدات الحوامل ذوات الحمل الخطر للحفاظ على حملهن تصميم البحث: تم استخدام تصميم وصفي لتحقيق الهدف من هذه الرسالة. مكان البحث : أجريت هذه الدراسة في أربعة مستشفيات في محافظة دمياط العيادة الخارجية لمستشفي جامعة الزهر و العيادة الخارجية بمستشفى التخصصى و العيادات الخارجية بمستشفى دمياط العام والمركز الطبي في مدينة فارسكور. **عينة البحث** : بلغ إجمالي تردد السيدات ذوات الحمل الخطر في هذه المستشفيات في العام السابق للدراسة   2000 حاله وتم تحديد حجم العينة ب 10٪ من الأمهات عالية الخطورة وكانوا 200حالة من مكان الدراسة سالف الذكر. **نتائج البحث:** أكثر من ثلثي عينة الدراسة (60.5٪) كانت أعمارهن من 25 إلى 35 سنة و معظمهن حاصلات على الشهادة الثانوية. حوالي نصف العينة يسكنون قرب مصادر التلوث 44.1٪. وكان نصفهم 50.0٪ يسعون إلى الذهاب للمستشفى للحفاظ على الحمل من المخاطر كما ان أكثر من نصفهن 52.2٪ لا يوجد شخص للذهاب إلى المستشفى معهن عند الشعور بمشاكل اثناء الحمل. حول 90.0٪ من عينة البحث يتبعون جدول الزيارة إلي مراكز رعاية الأسرة والذهاب إلى المستشفى في حالة وجود علامات تسمم الحمل كما أظهرت الدراسة ان هناك علاقة ذات دلالة إحصائية عالية بين الحمل والمستوى

الإجمالي التي عثر عليه بين اختبار الحمل الحالي والمستوى الكلي المعرفة.و لايوجد علاقة ذات دلاله إحصائية بين مستوى مجموع الممارسات وجميع البيانات الاجتماعية والديموغرافية للعينة. الخلاصة ان المرأة الحامل لديها المعرفة فيما يتعلق بالعوامل التي تزيد من الخطر اثنا الحمل. **التوصيات**: إعادة تطبيق الدراسة على عينة كبيرة من مستشفيات مختلفة، وكذلك في أنحاء مختلفة في مصر لبناء الإحصاءات الوطنية لدينا عن التقرير الذاتي للسيدات الحوامل ذوات الحمل الخطر للحفاظ على حملهن.

الكلمات المرشدة : الاتـجـاهـات ، الـمـعـرفـة ، الـمـخـاطـر ، الأمـومـة .