

Pregnant women in Sohag City's Knowledge and Practice of Health Behaviors

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Abstract

Background: The health and progress of any society largely depends on the health of its women. Pregnancy changes women's lifestyle and they should at least begin to lead a healthy lifestyle and perform health promoting behaviors during this critical period of reproductive age in order to avoid problems that could harm themselves or their families. **Aim:** To assess the pregnant women's knowledge and practice about health behaviors during pregnancy at Sohag city. **Research design:** A descriptive cross-sectional research design was used in the study. **Sample:** using systematic random sample technique, 354 pregnant women. **Setting:** from three selected maternal and child health centers at Sohag city. **Tools:** two tools were used: **Tool I:** Include three parts: **part one:** Socio demographic characteristics, **Part two:** Obstetric history of pregnant women and **Part three:** Pregnant women's Knowledge about the health behaviors during pregnancy. **Tool II:** Health practice questionnaire used to assess Pregnant women's reported practice regarding health behaviors during pregnancy. **Results:** There was positive correlation between knowledge and practice scores with ($r= 0.307$ and $p=0.000^*$) and there was statistically significant difference between reported practice with occupation education & social class ($p<0.05$). **Conclusion:** The studied pregnant women had poor level of knowledge and fair score of reported practice about the health behaviors during pregnancy. **Recommendation:** Health education program is needed to increase knowledge of pregnant women about healthy behaviors during pregnancy.

Key words; Health Behaviors, Knowledge, Practice, Pregnant Women.

Introduction

Any society's progress and health heavily rely on the wellbeing of its women. Pregnancy and lactation are just two biological changes that women go through throughout their lives that have a big impact on their health. In order to avoid issues that could hurt themselves or their families, women should at least start leading healthy lifestyles and engaging in health-promoting behaviors' throughout this crucial phase of reproductive age **Khleel & Mohammed, (2021)**.

Lifestyle and unhealthy behavior are two leading causes of death in the world, and the philosophy of providing health services has shifted from disease treatment to health prevention and promotion. The importance of health promoting behavior has played an important role in the healthcare system **Ghiasvand et al, (2020)**. According to World Health Organization data, roughly 830 women die every day from pregnancy-related diseases that are easily preventable **Khleel & Mohammed, (2021)**. In Egypt rate of maternal mortality rate is still high, with 1400 women and 50 percent of their newborns dying yearly due to pregnancy and childbirth complications **Zaki & Fouad, 92021)**.

Lifestyle choices can alter throughout pregnancy, along with the social, psychological, and physical changes to a woman's body. Pregnancy can result in a number of unhealthy lifestyle behaviors', including inactivity, sedentary behavior, alcohol use, exposure to tobacco smoke, unhealthy eating patterns, sleep disturbances, and

psychosocial/mental stress, all of which have the potential to significantly increase the health risks for the unborn child and the early years of life **Zong & Xi., (2022)**.

Women's health behaviors during pregnancy may negatively or positively affect maternal and fetal/neonatal outcomes. Health behaviors during pregnancy that are likely to lead to positive outcomes—that is, health-promoting behaviors—include obtaining early prenatal care; acquiring pregnancy/childbirth education; adhering to nutritional and weight-gain guidelines; getting regular exercise and adequate sleep; avoiding use of tobacco, alcohol, illicit drugs, and certain over-the-counter drugs; avoiding engaging in risky sexual behaviors; reducing stress; and avoiding exposure to communicable infections **Herzog et al, (2022)**.

Health-promoting behaviors during pregnancy reduce the risk of preterm delivery, the need for cesarean section and the risk of obesity and diabetes. Failure in observing such behaviors can lead to complications during pregnancy, such as bleeding and maternal infection, multiple admissions to intensive care units, low birth weight or early neonatal death. Since providing maternal and newborn health services is one of the priorities of health systems **Bahabadi et al, (2020)**.

Health services are now primarily focused on preventing illness rather than treating it, as lifestyle and unhealthy behavior are two of the leading causes of death worldwide. The significance of behaviors' that promote health has played a

significant part in the healthcare system **Ozgoli, (2020)**. According to data from the World Health Organization, approximately 830 women each day die from easily preventable disorders related to pregnancy **Khleel et al, (2021)**.

Encouragement of pregnant women to lead healthy lifestyles may reduce their risk of contracting conditions connected to pregnancy, such as gestational diabetes and obstetric problems, such as preterm birth, miscarriage, and stillbirth. Additionally, good habits formed during pregnancy may be sustained afterwards and beyond, enhancing the health of both mothers and their unborn children **Rockliffe et al, (2021)**.

Pregnant women's lifestyle includes the way they work and rest, their type of nutrition, their manner of coping with stress or communicating with others and also prenatal care. The factors affecting health-promoting behaviors should be determined in pregnant women in order to promote their healthy behaviors. According to statistics provided by the WHO, 60% of people's quality of life and health status depends on their own behaviors and lifestyle **Bahabadi et al, (2020)**.

Community health nurses are a trusted source of information during pregnancy and they can provide lifestyle advice and support. In many countries, community health nurses tend to have relatively high levels of contact and continuity of care with pregnant women compared to other healthcare professionals. This places them in a privileged position to discuss sensitive topics including nutrition, physical activity and weight management. Therefore, midwives and obstetrical nurses are arguably the best-placed professionals to provide women with ongoing lifestyle advice and support throughout pregnancy **Bahri Khomami et al, (2021)**.

Significance of the Study

Maternal wellbeing has continuously been one of the major health concerns of diverse communities. According to the World Health Organization data, approximately 830 women die every day from conditions related to pregnancy that can be easily preventable **Khleel & Mohammed, (2021)**. The maternal mortality ratio is still high in Egypt, with 1400 women and 50 percent of their newborns dying yearly due to pregnancy and childbirth complications **Zaki & Fouad, (2021)**.

For Egypt in 2017, there were 37 maternal deaths for every 100,000 live births. From 1998 to 2017, Egypt's maternal mortality rate decreased at a moderate rate, dropping from seventy deaths per 100,000 live births in 1998 to thirty-seven deaths per 100,000 live births in 2017 **Omer et al, (2021)**. The already maternal mortality rate for Sohag is 46.5% and for Sohag city is 66.5% per 100,000 live births **The Central Agency for Public Mobilization and Statistics (CAPMAS), (2020)**.

Aim of the study

To assess women's knowledge and reported practice about health behaviors during pregnancy at Sohag city.

Study Questions

1. Do mothers have knowledge about health behaviors during pregnancy?
2. What's the reported practice that affect the health of pregnant women

Subjects and Method

Research design: A descriptive Cross-sectional research design was used in the study.

Study Setting]

The study was carried out in the city of Sohag, which has three maternal and child health care facilities. These facilities are East Child Care Centre and Al-Shaheed Medical Centre and Al-Emery Neighbourhood Centre. Pregnant women from Sohag city and the surrounding villages can receive free antenatal care at these facilities.

Study sample

This study included 354 pregnant women who were selected by systematic sampling technique where select one woman and skip another, were 192 from East Child Care, 142 from Al-Shaheed Medical Center and 20 from Al-Emery neighborhood center with mean age $(25.62 \pm 4.56 (18.0-37.0))$ proportional to the total number of the pregnant women who attending MCH centers at Sohag city.

Sample Size

The sample size was calculated using the EPI info 2000 statistical package. The calculation was done using the expected frequencies of the mean health behaviors from previous studies using 95% confidence interval, 80% power of the study, 32.0% prevalence of the mean health risk behaviors and worst acceptable result 5%. The sample size according to the above criteria was 334 pregnant women. However, to avoid non-response rate 354 women had been chosen by using systematic random sample technique in the three selected maternal and child health centers.

Exclusion Criteria

1. Medically diagnosis as a high-risk pregnancy.

Tools of Data Collection

Structured Interview questionnaire used for data collection developed by researcher after reviewing related literature and research. It included two tools:

Tool (I): An Interview questionnaire. It included three parts:

Part 1: Socio demographic characteristics as age, educational level, address, marital status and income according to **Abed-Eltawab scale, (2014)**.

Scoring system:

It was developed by **Abed-Eltawab, (2014)** which used to assess socioeconomic status. The total score was divided into three classes as high (from 85-100%), moderate (from 64-84%), and low (less than 60%).

Part 2: Obstetric history of the pregnant

women: as "gestational age, age of first pregnancy, number of gravidity, parity, abortion, living children, stillbirth, type of delivery and antenatal visit.

Part 3: Pregnant women's Knowledge about health behaviors during pregnancy:

It is used to assess the knowledge of pregnant women toward health behaviors during pregnancy. It consists of 25 questions such as what the definition of health risk behavior? What the elements of risky health behaviors during pregnancy?.....etc.

Scoring system

It was calculated as one for correct answer and zero for incorrect answer. where some questions have more than one answer (except Q4, Q6, Q8, Q11, Q15). The total knowledge score level ranged from (0- 80). Higher score indicates good knowledge. It was categorized as poor < 50%, fair 50% - < 75%, good >75% (Ahamed et al, 2018)

Tool II: Health practice Questionnaire-II

It consisted of 25 items concerning four domains; health diet, exercise, relaxation and sleep, using medication and herbal, and antenatal care (Omar, 2019). Adapted questionnaire where minor change was performed on few items and modified to be suitable for the present study as; heroine, alcohol and seatbelt had been deleted, while sexual intercourse had been modified because they are contracted with Egyptian culture.

Scoring system

5-point "Likert scale" with options ranging from "never" to "always". Scoring was made as follows: (a) Never: 1 point, (b) Rarely: 2 points, (c) Sometimes: 3 points, (d) Often: 4 points, and (e) Always: 5 points. All questions were evaluated similarly with a 5-scale scoring, while reverse coding was made for items (6, 15, 17 and 25). Lowest and highest scores that can be achieved from questionnaire are 25 and 125, respectively Lindgren, (2005). A high overall score is interpreted in accordance with an improvement of health-related behavior of the pregnant.

Validity of the study tools

The tools were reviewed to ascertain their validity by five experts in the Community Health Nursing department, Faculty of nursing, Assuit and Sohag university who reviewed the instrument for clarity, relevance, comprehensiveness, understanding, and applicability.

Reliability

A reliability analysis was carried out in order to examine the internal consistency of its questions by using alpha-cronbach test. The value of Cronbach's alpha was 0.753 for knowledge and 0.813 for reported practice implying that the instrument was consisted and reliable in achieving the study objectives.

Administrative design

An official letter approval obtained from Dean of the faculty of nursing, Sohag University to the first undersecretary of the Ministry of Health as a permission to carry out the study at Maternal, Child health centers in the selected places. This letter included a brief explanation of the objectives of the study and permission to carry out the study.

Pilot study

The aim of pilot study is to test clarity of tools and estimated the time needed for filling the sheet. The pilot study was carried out before data collection on 10% (36 pregnant women) who were excluded from the sample for the presence of some modifications in the clarity of statements. The necessary modification in the sheet was done.

Ethical consideration

Before beginning the study, the researcher received ethical permission from the nursing faculty's scientific research ethics committee at Assuit Universities. The researcher then visited with the medical and nursing directors of the chosen settings to explain the study's objectives and secure their agreement. After explaining the research's purpose to the expectant mothers, they gave their oral agreement to participate in the study. Pregnant women were advised by the researcher that participation in the study was completely optional and that they may opt out at any moment, without having to give a reason. Additionally, they received a guarantee that the information would be kept private.

Field of work

Between the first of January and the end of April 2022, the study was conducted. The researcher interviewed pregnant women in the waiting room of the previously stated setting two days a week (Monday and Wednesday), from 9:00 a.m. to 2:00 p.m., to complete the questionnaire sheet. Depending on the subjects' answers to the questions, the average time for completing each sheet was around 15-20 minutes depending on the persons' response to questions. About (15-16) pregnant women interviewed / day.

Statistical Analysis

The data obtained were reviewed, prepared for computer entry, coded, analyzed and tabulated. Data entry and Data analysis were done by using SPSS version 22 (Statistical Package for Social Science). Data were presented as number, percentage, mean, standard deviation. Chi-square test was used to compare between qualitative variables. Independent samples t-test was used to compare quantitative variables between two groups and ANOVA test was used for more than two groups. P-value considered statistically significant when $P < 0.05$. person correlation was done to measure correlation between questionnaire variables.

Results

Table (1): indicates that 39.0% of the studied pregnant women their age varied between 18 < 25 years old with mean \pm SD 25.62 \pm 4.56 (18.0-37.0), 37.3%, 87.6% and 66.4% of them had secondary education. were housewife and were living in rural area respectively.

Table (2): Shows the distribution of the studied pregnant women regarding to their obstetric history it was noted that 46.3% of the studied pregnant women were in the third trimester, 79.5%, 68.2%, 54.2% and 52.8% of the pregnant women had < 3 deliveries, no history of abortion, had one antenatal care visit during the current pregnancy and had normal delivery respectively.

Figure (1): Illustrates that 28.5% of the studied pregnant women in low, while 51.1% of them were in middle social class and 20.4% of them in high social class.

Figure (2): Illustrates that 51.4% of the studied pregnant women had normal weight, while 30.7% of them were overweight and 17.8% of them were obese.

Table (3): Indicates the knowledge of the studied pregnant women about nutrition as a health behavior. This table clears that 76.8 % of them reported that the proper nutrition is Important for fetus formation, 93.2% of them reported anemia as health problems related to malnutrition, 86.7% pointed to vitamins as a component of the integrated meal, 73.7% mentioned that water help rid the body of excess salts, 72.6% reported eating a lot of pickles before and during food as a fault food habits and 66.9% of them did not know the normal rate of weight gain for a pregnant woman.

Table (4): Reveals the knowledge of the studied pregnant women about (rest, sleep and physical exercise) as a health behavior. This table highlights that 53.4% of them mentioned that physical activity

help in facilitating the birth process, 65.0% of them reported incorrect answer about sleep hours that pregnant women need and 56.5% mentioned that mother's work for long periods of time can cause abortion.

Table (5): Illustrates the knowledge of the studied pregnant women about smoking and using unprescribed medication as a health risk behavior. It was founded that 53.1% of them reported birth defect as a health problem associated with taking non-prescription medication during pregnancy, 62.1% and 49.4% mentioned that active smoking and passive smoking can cause birth defect respectively. While, 51.1% of them reported correct answer about the important period of pregnancy to avoid taking medication

Table (6): Highlights the knowledge of the studied pregnant women about stress, sexual relation and prenatal follow up as a health risk behavior. Concerning to the effect of stress and anxiety on the health of the pregnant woman, 46.9% of them didn't know, 38.7% of them didn't know the advantages of intercourse during pregnancy, while 54.8% reported that intercourse can cause pain and 84.2% of them reported the correct answer about the importance of follow-up during pregnancy.

Table (7): Demonstrates that there was a statistically significant difference between reported practice with occupation ($p < 0.05$) while there was Highly Statistically Significant between reported practice with education & social class ($p < 0.01^{**}$), while there was no statistically significant difference between reported practice with age ($P = 0.203$) and residence ($p = 0.329$).

Figure (3): Highlights that there was positive correlation between knowledge and behavioral scores with ($r = 0.307$ and $p = 0.000^*$).

Results

Table (1): Socio-Demographic characteristics of the studied pregnant women at Sohag city, 2022

Characteristics	No. (354)	%
Age: (years)		
18 < 25	138	39.0
25 - < 30	132	37.3
≥ 30	84	23.7
Mean \pm SD (Range)	25.62 \pm 4.56 (18.0-37.0)	
Mother education:		
Illiterate	36	10.2
Read & write	43	12.1
Basic education	65	18.4
Secondary education	132	37.3
University education	78	22.0
Mother occupation:		
Employee	44	12.4
Housewife	310	87.6
Residence:		
Rural	235	66.4
Urban	119	33.6

Table (2): Obstetric history of the studied pregnant women at Sohag city, 2022

Items	No. (354)	%
Gestational age:		
First trimester	46	13.0
Second trimester	144	40.7
Third trimester	164	46.3
Number of pregnancies:		
One	90	25.4
Two	93	26.3
Three	82	23.2
More than three	89	25.1
Age at first pregnancy: (years)		
< 20	141	39.8
20 - < 25	174	49.2
≥ 25	39	11.0
Number of deliveries:		
< 3	210	79.5
≥ 3	54	20.5
Number of abortions:		
None	180	68.2
One	64	24.2
Two or more	20	7.6
Number of live births:		
< 3	210	79.5
≥ 3	54	20.5
Stillbirths:		
Yes	3	1.1
No	261	98.9
No. of antenatal care visits during current pregnancy:		
One	192	54.2
Two	103	29.1
Three or more	59	16.7
Type of delivery:		
Normal	133	52.8
C.S.	119	47.2

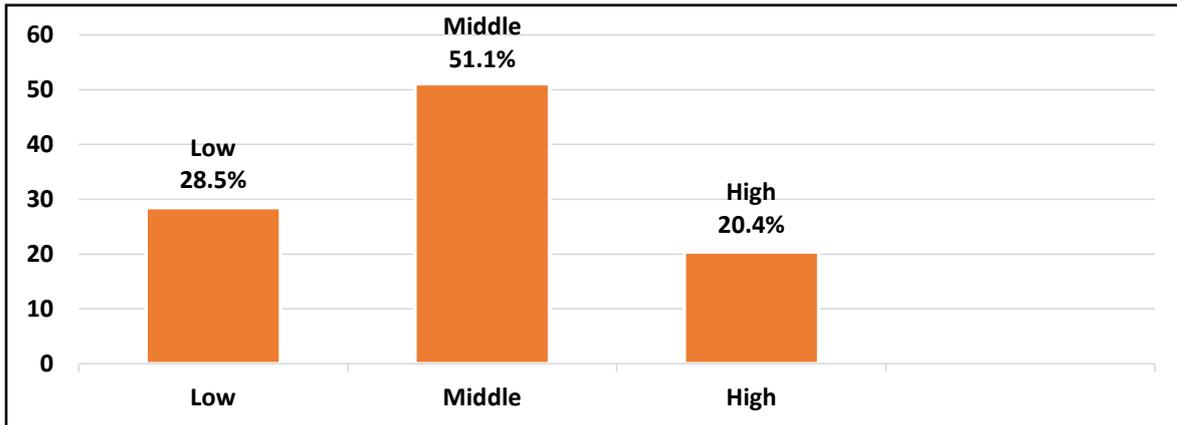
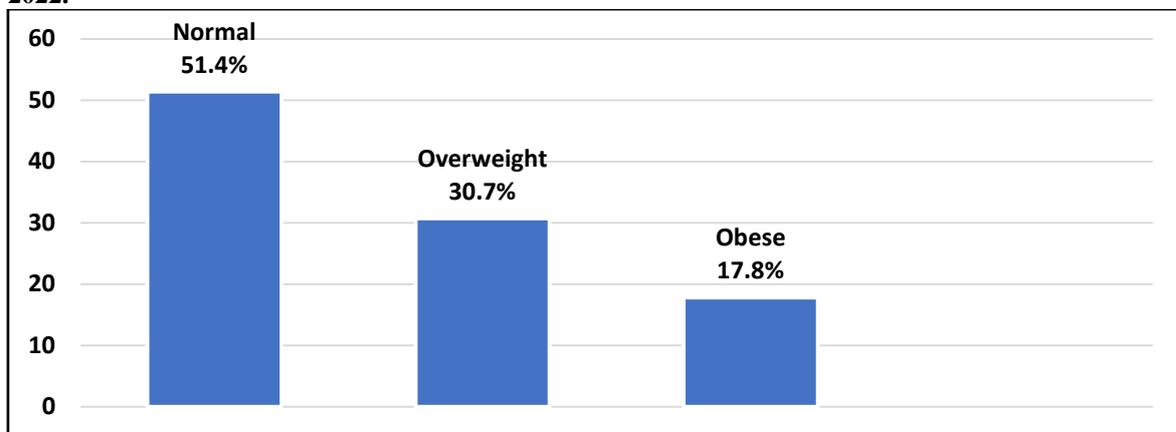
Figure (1) Distribution of the studied pregnant women regarding to social class at sohag city, 2022.**Figure (2) Distribution of the studied pregnant women regarding to body math index at Sohag city, 2022.**

Table (3): Knowledge of the studied pregnant women about nutrition as a health behavior at sohag city, 2022

Items	No. (354)	%
Importance of proper nutrition during pregnancy: *		
Reducing the incidence of gestational diabetes	44	12.4
Reducing the incidence of high blood pressure	51	14.4
Maintaining a healthy weight	137	38.7
Important fetus formation	272	76.8
Don't know	17	4.8
Health problems related to malnutrition: *		
Premature birth	46	13.0
Anemia	330	93.2
Affecting child's development and intelligence	154	43.5
Fatigue from the least effort	168	47.5
Don't know	5	1.4
Component of integrated meal: *		
Proteins	195	55.1
Carbohydrates	52	14.7
Vitamins	307	86.7
Salts and minerals	40	11.3
Fats	29	8.2
Water	191	54.0
Don't know	10	2.8
The main meal:		
Correct (lunch)	159	44.9
Incorrect	195	55.1
Importance of drinking water for a pregnant woman: *		
Reducing the chances of preeclampsia	22	6.2
Riding the body of excess salts	261	73.7
Stimulating blood circulation	107	30.2
Reducing stress	29	8.2
Regulating the work of the digestive system and preventing constipation	71	20.1
Don't know	34	9.6
Daily water consuming:		
Correct (2:3 liter/day)	83	23.4
Incorrect	271	76.6
Faulty eating habits: *		
Drinking tea after food	165	46.6
Using frying oil for many times	157	44.4
Exaggeration in sprinkling spices and peppers on food	117	33.1
Eating a lot of pickles before and during food	257	72.6
Don't know	17	4.8
Normal rate of weight gain during pregnancy:		
Correct (8:10 kg)	117	33.1
Incorrect	237	66.9
Complications of being overweight during pregnancy: *		
Preeclampsia	34	9.6
Obesity and health problems during puberty for the child	97	27.4
Miscarriage	27	7.6
Don't know	208	58.8

*More than one answer

Table (4): Knowledge of the studied pregnant women about physical activity and sleep as a health behavior at Sohag city, 2022

Items	No. (354)	%
Importance of exercise for pregnant woman: *		
Getting rid of stress and depression	81	22.9
Facilitating the birth process	189	53.4
Providing the body with continuous energy and activity	97	27.4
Getting a quiet sleep	19	5.4
Protection from the risk of many diseases	66	18.6
Don't know	78	22.0
Sleep hours for pregnant women:		
Correct (8:9 hours)	124	35.0
Incorrect	230	65.0
Effect of lack of sleep on a pregnant woman's health: *		
High blood pressure	109	30.8
Preeclampsia	10	2.8
Fetal heart rhythm disturbances	50	14.1
Preterm birth	22	6.2
The weight of the fetus at birth	22	6.2
Don't know	193	54.5
Effect of mother's work for long periods of time: *		
Abortion	200	56.5
Premature birth	98	27.7
Low baby weight	89	25.1
Don't know	55	15.5

*More than one answer

Table (5): Knowledge of the studied pregnant women about smoking and using unprescribed medication as a health behavior at Sohag city, 2022

Items	No. (354)	%
Health problems associated with taking non-prescription medicines during pregnancy: *		
Abortion	147	41.5
Birth defects	188	53.1
Low birth weight of the fetus	26	7.3
Don't know	62	17.5
Important period of pregnancy to avoid taking medications:		
Correct (first trimester)	181	51.1
Incorrect	173	48.9
Health problems associated with smoking during pregnancy: *		
Premature birth	31	8.8
Miscarriage	114	32.2
Low birth weight	54	15.3
Birth defects	220	62.1
Don't know	74	20.9
Effect of passive smoking on a pregnant woman: *		
Premature birth	31	8.8
Miscarriage	117	33.1
Low birth weight	51	14.4
Birth defects	175	49.4
Don't know	86	24.3

*More than one answer

Table (6): Knowledge of the studied pregnant women about stress, sexual relation and prenatal follow up as a health behavior at Sohag city, 2022

Items	No. (354)	%
Effect of stress and anxiety on pregnant woman's health: *		
Premature birth	81	22.9
A change in the child's body temperature	29	8.2
Low weight of the child	69	19.5
Postpartum depression	75	21.2
Don't know	166	46.9
Effect of low/lack of support from family and friends during pregnancy: *		
Abortion	132	37.3
Premature birth	68	19.2
High blood pressure associated with pregnancy	107	30.2
Preeclampsia	6	1.7
Don't know	114	32.2
*Advantages of intercourse during pregnancy:		
Strengthening the muscles of the reproductive system	45	12.7
Facilitating the birth process	145	41.0
Strengthening the husband's relationship with his wife	77	21.8
No need to use contraception	26	7.3
Don't know	137	38.7
*Disadvantages of intercourse during pregnancy:		
Pain	194	54.8
Vaginal bleeding	72	20.3
Miscarriage	130	36.7
Premature birth	37	10.5
Genital infection	155	43.8
Don't know	53	15.0
Prenatal follow-up		
Important	298	84.2
Not important	56	15.8

*More than one answer

Table (7): Relation between demographic characteristics of the studied pregnant women and total score of reported practice about health behaviors of pregnant women at Sohag city, 2022

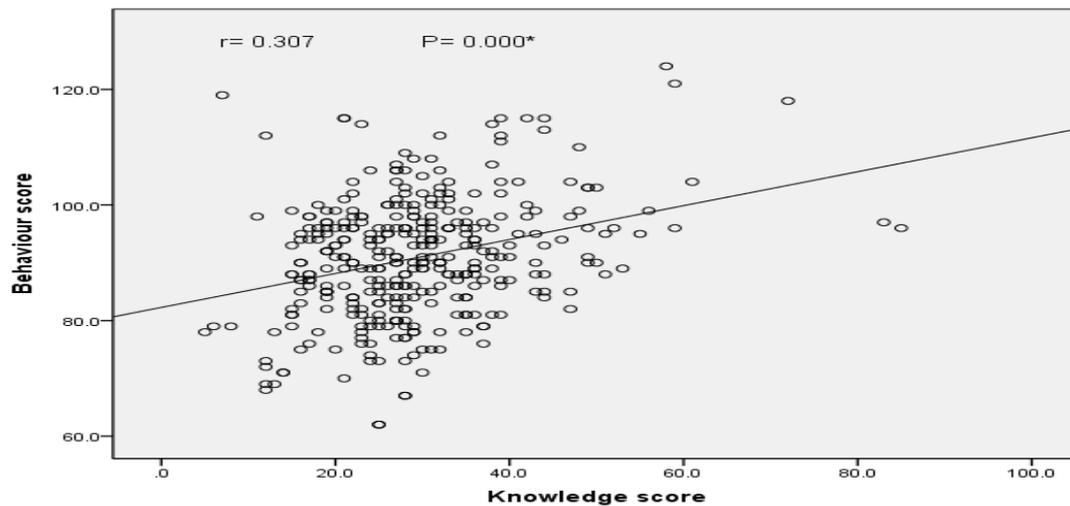
Characteristics	Reported practice level						P-value
	Poor		Fair		Good		
	No.	%	No.	%	No.	%	
Age: (years)							
18 < 25	23	16.7	95	68.8	20	14.5	0.203
25 < 30	28	21.2	86	65.2	18	13.6	
≥ 30	25	29.8	46	54.8	13	15.5	
Mother education:							
Illiterate	19	52.8	15	41.7	2	5.6	0.0001*
Read & write	7	16.3	32	74.4	4	9.3	
Basic education	12	18.5	46	70.8	7	10.8	
Secondary education	30	22.7	86	65.2	16	12.1	
University education	8	10.3	48	61.5	22	28.2	
Mother occupation:							
Employee	4	9.1	27	61.4	13	29.5	0.003*
Housewife	72	23.2	200	64.5	38	12.3	
Residence:							
Rural	47	20.0	150	63.8	38	16.2	0.329
Urban	29	24.4	77	64.7	13	10.9	
Social class:							
Low	29	28.7	67	66.3	5	5.0	0.0001*
Middle	45	24.9	113	62.4	23	12.7	
High	2	2.8	47	65.3	23	31.9	

Chi-square test

*Statistically Significant (p<0.05)

** Highly Statistically Significant (p<0.01)

Figure (3): Correlation between knowledge score and practice scores regarding health risk behaviors among pregnant women at Sohag city, 2022



Discussion

The goals of Healthy People 2030 are to keep women healthy before, during, and after pregnancy as well as to reduce pregnancy complications and maternal fatalities. Some women have health issues that develop during pregnancy, while others have issues that might cause concerns during pregnancy even before they get pregnant. Pregnancy problems can be avoided by encouraging women to maintain healthy lifestyles and seek medical attention before,

during, and after pregnancy. So, this study aims to assess knowledge and practice of the pregnant women during pregnancy **Shahi et al, (2022)**.

Regarding individual characteristics of the participated pregnant women, more than one third of them their age ranged between 18 < 25 years old. This finding agreed with **Khleel & Mohammed, (2021)** who found that less than one third of the pregnant women aged 20- 24 years. On the other hand, this result disagreed with **O'Keeffe et al,**

(2016) who found that less than three quarters of women aged from 30-39 years.

In terms of education, more than a third of the mothers in the study had only completed high school. This result was consistent with that of **Weller & Sirin, (2017)**, who discovered that more over half of the pregnant women had completed secondary school. **Oechsle et al, (2020)** discovered that more than half of the pregnant women had a high level of education, which was in contrast to this finding.

This discrepancy may be explained by the different study population and that may be because this study conducted in upper Egypt.

Referral to the occupational status, most of the studied pregnant women were housewife. This result was consisted with **Hassan & Omer, (2020)** Who reported that two third of the studied pregnant women were housewife.

Concerning residence; it was found that about two thirds of pregnant women were from rural area, this finding agreed with **Khleel & Mohammed, (2021)** who reported that less than two-thirds of the studied sample were from rural area.

Referral to the economic level of the pregnant women; The present study showed that about half of them were in the middle economic class. This finding disagreement with **Oechsle et al, (2020)** who found that more than half of the studied women were in the middle class. On the other hand, this results in conflict with **Ali & Abo-Kresha et al, (2021)** who found that less than fifth of the studied pregnant women were in the middle class.

Regarding obstetrical history of the studied women, more than one quarter of them had two pregnancies, most of them had < 3 deliveries and more than two thirds of studied women had no history of abortion. This finding was agreed with **Omar, (2019)** who reported that more than one third of them were multigravida, less than three quarters of them had < 3 deliveries and more than two thirds of them had no history of abortion.

With respect to type of deliveries, this study finding revealed that more than half of pregnant women had normal delivery. This finding was agreed with **Halima et al, (2021)** who found that more than one third of them had normal delivery.

Referral to body mass index, this study reported that about half of studied pregnant women had normal BMI. This finding was agreed with **O'Keeffe et al, (2016)** who studied "Positive lifestyle changes around the time of pregnancy: a cross-sectional study" and reported that one third of them had normal BMI

The current study found that there was positive correlation with knowledge scores and practice scores with ($r=0.307$ and $p=0.000^*$)

In the current study, mostly of the studied pregnant women reported that anemia during pregnancy as

the main health problem of malnutrition. This result was in the same line with **Elzeiny et al, (2019)** who studied "Perinatal outcomes of maternal anemia in Alexandria, Egypt" and reported that less than three quarters of them were anemic.

Regarding Component of integrated meal, the present study showed that most of the pregnant women reported that the vitamins is the most important ingredient of the meal

This finding was disagreed with **Oche et al, (2020)** who reported that only one third of pregnant women reported daily intake of multivitamins and most of the pregnant women reported daily intake of protein.

Regarding faulty food habits during pregnancy, the present study showed that about three quarters of the pregnant women reported that eating salty food during pregnancy is the most common faulty food habits during pregnancy while less than half of them reported fried food.

This finding was in agreement with **Kebbe et al, (2021)** who reported that more than half of pregnant women have salty food during pregnancy while, less than half reported fried food.

The finding of this study showed that about two thirds of the studied pregnant women don't know the normal weight gain during pregnancy while, more than half of them don't know the complications of being overweight during pregnancy.

Regarding Importance of exercise for pregnant woman, the present study showed that more than half of the pregnant women reported that exercise during pregnancy can facilitate the birth process while less than one quarter don't know anything about the effect of exercise for pregnancy

This finding was in agreement with **Dudoniené & Kuisma, (2023)** who reported that more than half of pregnant women reported that exercise during pregnancy facilitate childbirth while, one quarter of all women reported that they were aware of the impact exercise might have during pregnancy

The present study showed that more than two thirds of the pregnant women don't know numbers of the Sleep hours for pregnant women while, less than one third of them reported that poor sleep can cause high blood pressure and more than half don't know the effect of poor sleep during pregnancy.

This finding was disagreed with **Liu et al, (2019)** who reported that mostly of pregnant women reported that lack of sleep during pregnancy can cause preterm delivery.

Regarding using medication, the present study showed that more than half of the pregnant women reported that using nonprescribed medication during pregnancy can cause birth defect.

This finding agreed with **Alsous et al, (2021)** who reported that less than one-third of pregnant women use medication with physician's advice.

Furthermore, this finding agreed with **Ahamed et al, (2018)** who reported that more than two-thirds of pregnant women used at least one herbal product during their last pregnancy.

This finding was disagreed with **El Hajj et al, (2020)** who reported that more than one half of pregnant women claimed to have used herbal medicines during pregnancy. The difference in the prevalence of herbal medicine using could be explained by several factors such as culture, socio-demographic factors, and use of health care services.

Regarding smoking the present study showed that less than two thirds of the studied pregnant women reported that smoking can cause birth defect. This result disagreement with **Gebremariam et al, (2023)** who found that mostly of study sample reported that smoking doesn't cause harm to baby.

This difference explained by the factors which associated with the maternal age, maternal education, region of residence, culture, ethnicity and religion.

Regarding intercourse during pregnancy, the present study showed that more than half of the pregnant women reported that intercourse during pregnancy can cause pain while less than half of them reported that intercourse during pregnancy can cause genital infection.

This finding was in agreement with **Corbacioglu et al, (2023)** who reported that more than one third of pregnant women reported that sexual intercourse may harm the pregnancy.

This finding was disagreed with **Oche et al, (2020)** who reported that mostly of pregnant women thought coitus was safe in pregnancy.

According to the finding of this study mostly of the studied pregnant women reported that the prenatal follow up is important This result was in agreement with **Gebremariam et al, (2023)** who found that mostly of the study sample reported that pregnant woman needs to come for at least four antenatal checkups throughout her pregnancy

The finding of this study was disagreed with **Fagbamigbe et al, (2021)** who reported that only quarter of pregnant women started antenatal care during first trimester while, the results of this study is lower than the result of the study performed by **Krukowski et al, (2022)** who claimed that the majority of the sample received prenatal care in the first trimester.

This This discrepancy can be attributed to characteristics which associated with the timely initiation of antenatal care contact as maternal age, maternal education, spouse education, household wealth quintiles and region of residence, ethnicity, religion and birth order.

The current results disclosed that there was a significant relationship between the reported

practice and women's educational level ($p=0.000^*$), occupation ($p=0.003^*$) and social class ($p=0.000^*$).

According to **Weller & Sirin (2017)**, there was a significant association between reported practice and occupations ($p=0.001$), educational attainment ($p=0.001$), and social status ($p=0.001$). This finding was in agreement with their findings.

This result was disagreed with **Mahmoodi et al, (2015)** who reported that the only demographic variable found to have a significant relationship with health promoting behaviors was occupation ($P<0.032$).

According to the presented data, there was no statistically significant difference between the overall score of reported practice with pregnant women's age groups ($p=0.203$), site of accommodation ($p=0.329$).

This finding consisting with **Weller & Sirin, (2017)** who reported that no statistically significant difference could be detected between age groups ($p=0.849$), site of accommodation ($p=0.572$) and reported practice

In this study, the majority of women had adequate knowledge of the main risk factors in

Pregnancy women with a middle school or lower educational level were significantly less likely than women with a baccalaureate degree/graduate degree to know the main maternal risk factors in pregnan

Conclusion

Based on the results of the current study, it can be concluded that:

The present study illustrated that the pregnant women had poor level of knowledge, and fair score of reported practice about health behaviors during pregnancy. There was statistically significant difference between knowledge and reported practice of pregnant women with demographic characteristics as education, occupation and social class. There was positive correlation between knowledge and practice scores with ($r=0.307$ and $p=0.000^*$)

Strength and weakness of the study

The main strength of this study was that, being community-based nature, it could reflect the actual experience of the mothers during the study period. However, our study had some basic limitations. First, the cross-sectional nature of the study design doesn't exactly establish the cause and effect relationship. Secondly, the study might be prone to recall bias because the information was collected by the participants self-reported.

Recommendations

In the light of the study's finding, the researcher is recommended that:

1. Establishment educational program for pregnant women to promote their health behaviors in

order to prevent complication through maternal and child health session.

2. Designing and implementing of a counseling program for pregnant women to improve their health behaviors during pregnancy.
3. Further studies are needed in this field to assess the effect of health education program on women's knowledge and practices toward health behaviors during pregnancy.

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