

# Pregnant Women's Knowledge about Safety Measures during the First Trimester of Pregnancy

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**Abstract:** For many women, early pregnancy is a time of reappraisal of behavior, nutrition and lifestyle to ensure that their unborn child has the best and healthiest start in life. However, safety measures or measures that increase or ensure safety from dangers should be carried out during the first trimester of pregnancy. **Objective:** Assess pregnant women's level of knowledge about safety measures during the first trimester of pregnancy. **Settings:** El Shatby Maternity University Hospital affiliated to Alexandria University and Dar Ismail Maternity Hospital affiliated to Ministry of Health. **Results:** Pregnant women demonstrated lack of knowledge about most aspects related to safety measures during the first trimester. **Conclusion:** Pregnant women's lack of knowledge about safety measures during the first trimester was related to nutrition, physical activities, hygiene, sex, traveling, smoking, substances and medications abuse as well as exposure to infection, radiation, and environmental hazards. **Recommendations:** Maternity nurses should use various educational strategies and format to inform pregnant women accurately and completely about safety measures during early antenatal visits, to improve their levels of knowledge and appropriate behavior.

**Keywords:** Knowledge, Safety measures, the first trimester of pregnancy.

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## I. INTRODUCTION

Although pregnancy is a vital event as well as a unique and powerful experience in woman's life, it is an exciting and, sometimes, nerve wracking time when pregnant women face the unknown experience of motherhood and watch the profound changes in their bodies<sup>(1, 2)</sup>. The first trimester of pregnancy lasts three months or 12 weeks, starting from the first day of the last menstrual period and lasts until the end of week 12. During this trimester, most dramatic changes and development happen; the fertilized egg rapidly divides into layers of cells; implants in the uterine wall, and become an embryo during the first eight weeks. The embryo develops rapidly and by the end of the first trimester, it becomes a fetus that is fully formed, weighing approximately 14-24 gm and measuring, on average, 7.5 to 10 cm in length<sup>(3, 4)</sup>.

Although the fetal organs and body systems are fully formed by the end of 12 weeks, the fetus cannot survive independently. During this period of time, the fetus is also most vulnerable; all of the major organs and body systems can be damaged, if the fetus is exposed to drugs, infectious agents, radiation, certain medications, tobacco and toxic substances. Therefore, a healthy first trimester is crucial to the normal development of the fetus<sup>(3)</sup>. During the first trimester, many changes also happen rapidly to the pregnant women's body to help nourish and protect their fetuses. In addition, there may be emotional fluctuations between positive feelings (e.g. excitement, happiness, joy) and rather

negative ones (e.g. disbelief, anticipation, worry, tearfulness). Moreover, women may experience extreme tiredness due to the physical and emotional demands of pregnancy <sup>(5)</sup>.

Women may experience minor discomforts during the first trimester of pregnancy due to the changes that occur in their body systems. Some discomforts are experienced for several weeks or months, while others are only experienced for a short time. Pregnant women experience these discomforts differently; some experience many symptoms, and others experience only a few or none at all <sup>(6)</sup>. During the first trimester, hormonal changes affect almost every organ system in the pregnant woman's body. These changes can trigger symptoms such as morning sickness; heartburn; cravings for certain foods; constipation; extreme tiredness; frequency of micturation; tender breasts and mood swings <sup>(7)</sup>. During this trimester, pregnant women may also experience certain complications such as bleeding; anemia; urinary tract infection; preeclampsia; hyperemesis gravidarum and gestational diabetes <sup>(8)</sup>.

For many women, early pregnancy is a time of reappraisal of behavior, nutrition and lifestyle to ensure that their unborn child has the best and healthiest start in life. However, safety measures or measures that increase or ensure safety from dangers should be carried out during the first trimester of pregnancy <sup>(2, 9)</sup>. During this early phase of pregnancy, avoiding unhealthy nutrition and physical activities that cause stress or fatigue are especially important; incorrect measures related to hygiene as well as bowel and bladder should also be avoided. In addition, unbroken traveling; sexual intercourse; smoking; as well as taking unusual substances and medications are unsafe during the first trimester of pregnancy. Moreover, pregnant women should avoid exposure to infection; radiation and environmental hazards <sup>(10)</sup>.

As Egypt maternal mortality rate in 2017 was high (37 deaths per 100,000 live births), pregnancy should be safe for the pregnant woman and her fetus <sup>(11)</sup>. To achieve this safety, pregnant women should be advised about safety measure during their early antenatal visits to protect herself and her fetus from dangers. So, this study will be done to identify the gap in pregnant women's knowledge about safety measures, in order to fill it in the future and avoid unsafe pregnancy.

However, the aim of this study was to assess pregnant women's level of knowledge about safety measures during the first trimester of pregnancy.

## II. MATERIALS AND METHOD

### MATERIALS

#### Research Design:

A descriptive research design was utilized in this study.

#### Setting:

The study was conducted at the antenatal clinics of El Shatby Maternity University Hospital affiliated to Alexandria University and Dar Ismail maternity Hospital affiliated to Ministry of Health.

#### Subjects:

The study comprised a convenient sample of 200 pregnant women, 100 from each of the previously mentioned settings. They were chosen according to the following criteria:

- At the 2<sup>nd</sup> trimester of pregnancy (13-24 weeks of gestation).
- With normal course of pregnancy.
- Available at the time of data collection.
- Willing to participate in the study.

The sample size of pregnant women was estimated by using the Epi-Info program, where the following parameters were applied;

- Population size: 3615/3 months
- Expected frequency: 50%

**International Journal of Novel Research in Healthcare and Nursing**

Vol. 7, Issue 3, pp: (567-577), Month: September - December 2020, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- Acceptable error: 10%
- Confidence coefficient: 95%
- Minimum sample size 94

**Tools:**

Two tools were developed and used by researcher to collect the necessary data:

**Tool one:****Basic data structured interview schedule**

It entailed two parts:

**Part I:** Socio-demographic data such as age, religion, level of education, occupation, marital status, current residence, family type and income, as well as crowding index and house condition.

**Part II:**

- Reproductive history such as gravidity, parity, and type of previous deliveries as well as complications of previous pregnancies and deliveries in addition to number of abortions, stillbirths, dead and living children
- Profile of present pregnancy such as inter-pregnancy interval between current and last pregnancy, pregnancy planning, number and place of antenatal visits, as well as presence of minor discomforts.

**Tool two:****Knowledge about safety measures during the first trimester of pregnancy structured interview schedule**

It evaluated pregnant women's knowledge about safety measures during the first trimester. This tool comprised 73 questions related to nutrition (12 questions), physical activities (17 questions), hygiene (7 questions), care of bladder and bowel (6 questions), as well as sex (1 question), traveling (2 questions), smoking (2 questions), substances and medications abuse (3 questions), in addition to exposure to infection (15 questions), radiation (3 questions) and environmental hazards (5 questions).

A scoring system was used for pregnant women's knowledge about safety measures during the first trimester. Each knowledge item was given a score; correct & complete (3); correct & incomplete (2); incorrect or don't know (1). The total score of knowledge for each pregnant woman ranged from (73 –219) and classified as follows: Good (171-219), Fair (122- <171) & Weak (73- <122).

**METHOD**

The study was accomplished according to the following steps:

1. Approval was obtained from the Ethical Research Committee, Faculty of Nursing, Alexandria University, Egypt.
2. Official letters from the Faculty of Nursing, Alexandria University, Egypt were directed to the responsible authorities of the study settings to take their permission to collect data after explaining the purpose of the study.
3. The study tools were developed by the researcher based on extensive review of recent and relevant literature.
4. Tools were tested for content validity by a jury of 5 experts in the field.
5. Tools were checked for their reliability by Cronbach's alpha test and the result was reliable (0.640).
6. A pilot study was carried out on 20 pregnant women (excluded from the study sample) to test the feasibility of the study, ascertain relevance, clarity and the applicability of the tools as well as detect any problem peculiar to the statements as sequence and clarity that might interfere with the process of data collection. After conducting the pilot study, it was found that the sentences of the tool were clear and relevant; however, few words had been modified. Following this pilot study, the tool was revised, reconstructed and made ready for use.

7. Collection of data covered a period of 4 months, starting from the beginning of October 2019 till the end of January 2020, 3 days/week; 4-5 pregnant women /day.

8. Statistical analysis:

- The collected data were categorized, coded, computerized, tabulated and analyzed using Statistical Package for Social Sciences (SPSS) version 23 program.
- Simple frequency tables were used to describe and summarize categorical variables.
- A descriptive and analytical statistics were used such as percentages.

#### **Ethical consideration:**

For each recruited subject the following issues were considered: securing the subjects' written informed consent, keeping their privacy and right to withdraw at any time as well as assuring confidentiality of their data.

### **III. RESULTS**

**Table (I)** illustrates the number and percent distribution of pregnant women according to their knowledge about safety measures related to nutrition. Incorrect answer or don't know was reported by a sizeable proportion of pregnant women (70% & 69%) about avoiding white bread and rice as well as raw seafood respectively. It was also reported by more than one-half of them about avoiding high sugar food and drinks (51.5%); as well as fat intake (54.5%), high mercury fish and high vitamin A foods (57.5%).

**Table (II)** demonstrates the number and percent distribution of pregnant women according to their knowledge about safety measures related to physical activities. Incorrect answer or don't know was reported by the majority of pregnant women (82%) about avoiding lying flat on the back. It was also reported by more than three-fifths of them about avoiding doing any activity in very hot weather (61%), avoiding back bends while doing different physical activities (63.5%), avoiding sitting for a long time (64.5%) and avoiding sports that require physical contacts with others (67%). In addition, incorrect answer or don't know was reported by one-half (50%) of pregnant women about avoiding lying on the abdomen.

**Table (III)** shows the number and percent distribution of pregnant women according to their knowledge about safety measures related to hygiene. Incorrect answer or don't know was reported by more than three-fifths (64%) of pregnant women about avoiding using perfumed soap and shampoo. It was also reported by more than one-half (53% & 56%) of them about avoiding being in sweaty clothes for a long time and vaginal douche respectively. In addition, incorrect answer or don't know was reported by almost two-fifths (39%) of pregnant women about avoiding basin or tub bath.

**Table (IV)** manifests the number and percent distribution of pregnant women according to their knowledge about safety measures related to care of bladder and bowel. Incorrect answer or don't know was reported by a sizeable proportion of pregnant women (73%) about avoiding taking lot of fluids before bedtime. It was also reported by more than one-half (53% & 57.5%) of them about avoiding eating foods that don't contain fibers and using laxatives respectively. In addition, incorrect answer or don't know was reported by two-fifths (40%) of pregnant women about avoiding using catheter and/or enema.

**Figure (1)** displays the number and percent distribution of pregnant women according to their knowledge about safety measures related to sex. Incorrect answer or don't know about avoiding sex by cases with history of previous abortion was reported by more than two-fifths (44%) of pregnant women.

**Table (V)** exhibits the number and percent distribution of pregnant women according to their knowledge about safety measures related to infection. Incorrect answer or don't know was reported by a sizeable proportion of pregnant women (70%) about washing hands long enough. It was also reported by almost three-fifths (57.5% & 59.5%) of them about avoiding mosquito bites and kissing people respectively. In addition, incorrect answer or don't know was reported by more than two-fifths (41% & 44.5%) of pregnant women about washing hands after changing child's diaper or touching his/her toys and washing thoroughly between fingers of the hands respectively.

**Table (VI)** clarifies the number and percent distribution of pregnant women according to their knowledge about safety measures related to exposure to radiation and environmental hazards. Incorrect answer or don't know was reported by almost three-fifths (57.5%) of pregnant women about avoiding being with persons during their X-ray. It was also reported by almost one-half (49%) of them about a void a long time exposure to microwave, computer, TV or mobile. In addition, incorrect answer or don't know was reported by more than three-fifths (62%) of pregnant women about avoiding exposure to cleaning products' chemicals. It was also reported by almost one-half (47.5%) of them about avoiding exposure to chemicals used for nail polish, dyeing and straightening hair.

**Figure (2)** brings to light the number and percent distribution of pregnant women according to their total score of knowledge about safety measures during the first trimester. It was revealed that 48.5% of pregnant women achieved fair total score, compared to 36% of those who attained good total score. However, only (15.5%) received weak total score.

#### IV. DISCUSSION

Understanding pregnant women's knowledge about safety measures during the first trimester can contribute to elucidate which information health care providers need to highlight, in order to prevent pregnancy related complications as well as serious outcomes for pregnant women and their fetuses <sup>(12)</sup> **Mierzejewska, et al., (2020)**. The study aimed to assess pregnant women's knowledge about safety measures during the first trimester of pregnancy.

The results of the current study demonstrated that pregnant women tended to have lack of knowledge about *most of nutritional items* (Table I). This can negatively impact mothers' and fetuses' health, causing a range of poor maternal and fetal outcomes. This finding corresponds with a study carried out in western Cameroon, where it was detected that most of pregnant women (91.2%) didn't recognize a healthy diet <sup>(13)</sup> **Pete, et al., (2019)**.

It was also revealed in the present study that pregnant women were more likely to have insufficient knowledge about more than one-third of items related to *physical activities* (Table II). This may affect the mother's and fetal health because the benefits of being active during the prenatal period far outweigh the risks. This finding relatively suits a study carried out in Sulaymaniyah city, Iraq, where it was indicated that the majority (81.2 %) of pregnant women had inadequate knowledge regarding proper physical activities during pregnancy <sup>(14)</sup> **Muhammad & Amen, (2015)**.

In addition, the results of the present study indicated that pregnant women had deficient knowledge about more than one-half of items related to *hygiene* (Table III). This is very serious because pregnant women may be more vulnerable to infection due to excessive sweating and vaginal discharge, which result from hormonal changes <sup>(15)</sup> **Open Learn Create (2017)**. This finding relatively accords with a study done in Izmir, Turkey, where it was manifested that more than one-half (51.9%) of adolescent pregnant women displayed information requirement in the area of personal hygiene <sup>(16)</sup> **Sen, et al., (2012)**.

Moreover, it was demonstrated in the present study that pregnant women tended to have inadequate knowledge about almost all items related to *care of bowel and bladder* (Table IV). This may influence their behaviors, leading to bladder and bowel discomforts or problems <sup>(17)</sup> **Pregnancy, Birth & Baby (2018)**. This finding partly and relatively coincides with a study done in Soran City, Iraq; where there was inadequate knowledge among the majority of pregnant women (76% & 82%) about how to avoid constipation and hemorrhoids respectively <sup>(18)</sup> **Khalil & Hamad, (2019)**.

Furthermore, knowledge about safety measures related to *sex* during the first trimester of pregnancy among pregnant women in the present study was roughly deficient (Figure 1). This is very dangerous because of the fact that sex is contraindicated during the first trimester of pregnancy for women with previous history of abortion. This finding relatively suits a study accomplished in Jeddah city, Saudi Arabia, where it was observed that the majority of participants (78.4%) reported that sexual relation is not harmful during the first trimester of pregnancy <sup>(19)</sup> **Alsaleh, et al., (2019)**.

Likewise, the results of the present study revealed imperfect knowledge among pregnant women about almost all of items pertaining to *infection* (Table V). This may be reflected on their behavior leading to catching infection, which can be passed to the fetus causing miscarriage, birth defects or premature birth <sup>(20)</sup> **Villines, (2018)**. This finding relatively tallies with a study conducted in Kurnool, Andhra Pradesh, India, where it was detected that knowledge about some of the most common infections associated with congenital anomalies was inadequate among both experimental and control groups (90% & 97%) respectively <sup>(21)</sup> **Mercy, (2018)**.

Besides, the results of the present study indicated that pregnant women were more likely to have lack of knowledge about all of items belonging to exposure to radiation and environmental hazards (Table VI). This is very dangerous because it impacts embryonic skeleton formation and development<sup>(22)</sup> **Alchalabi, et al (2017)**. This finding is relatively in harmony with a study executed in Bilaspur, Chhattisgarh, India, where it was found that almost two-thirds (66.6%) of pregnant women were not aware that exposure to high dose radiation is dangerous to the fetus<sup>(23)</sup> **Nagi, et al., (2016)**. It is also relatively concordant with a study fulfilled in Bordeaux, France, where it was recognized that a sizeable proportion of women (70.1%) had lack of knowledge regarding environmental risk factors<sup>(24)</sup> **Teyssiere, et al., (2019)**.

In general, total score of knowledge about safety measures during the first trimester was inadequate among pregnant women in the present study (Figure 2). This was expected since their knowledge about almost all elements of safety measures was deficient as mentioned before. This finding relatively accords with a study done in Jeddah city, Saudi Arabia, where it was strikingly noticed that almost all participants (96%) had low knowledge score (<60%) about health precautions during pregnancy<sup>(19)</sup> **Alsaleh, et al., (2019)**.

## V. CONCLUSION

Based on the findings of the present study, it can be concluded that pregnant women demonstrated lack of knowledge about safety measures during the first trimester in most aspects related to nutrition, physical activities, hygiene, care of bladder and bowel and sex, as well as exposure to infection, radiation, and environmental hazards.

## VI. RECOMMENDATIONS

Based on the findings of the present study, the following recommendations are suggested:

- Health policymakers should design interventions to improve pregnant women's levels of knowledge and to promote appropriate behavior in relation to the safety measures during pregnancy.
- Maternity nurses should use various educational strategies and format to inform pregnant women accurately and completely about safety measures during early antenatal visits, to improve their levels of knowledge and appropriate behavior.
- Maternity nurses should be aware of cultural myths and misconceptions that prevent pregnant women from recognizing and performing safety measures during pregnancy.
- Pregnant women's knowledge, practices and attitudes regarding safety measures during the three trimesters should be simultaneously assessed to identify potential gaps.

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APPENDICES - A

**Table (I): Number and percent distribution of pregnant women according to their knowledge about safety measures related to nutrition**

Knowledge about safety measures related to nutrition	Correct & complete answer		Correct & incomplete answer		incorrect answer or don't know		Total	
	No	%	No	%	No	%	No	%
Avoiding raw or undercooked eggs	103	51.50	40	20.00	57	28.50	200	100
Avoiding raw or undercooked meat	135	67.50	55	27.50	10	05.00	200	100
Avoiding raw seafood (shellfish)	61	30.50	1	00.50	138	69.00	200	100
Avoiding high mercury fish (e.g. shark, swordfish, shrimps, crabs)	36	18.00	49	24.50	115	57.50	200	100
Avoiding unwashed fruits or vegetables	152	76.00	26	13.00	22	11.00	200	100
Avoiding un-boiled milk	103	51.50	5	02.50	92	46.00	200	100
Avoiding junk or fried food	124	62.00	44	22.00	32	16.00	200	100
Avoiding high sugar food & drinks(e.g. canned fruit, fruit juice)	44	22.00	53	26.50	103	51.50	200	100
Avoiding white bread and rice	47	23.50	13	06.50	140	70.00	200	100
Avoiding caffeinated drinks (e.g. tea, coffee, chocolate, soft drinks)	96	48.00	73	36.50	31	15.50	200	100
Avoiding high vitamin A foods (e.g. Kidney, liver, brain)	42	21.00	43	21.50	115	57.50	200	100
Avoiding fat intake (e.g. animal fat, cream, creamy cheese, creamy milk)	48	24.00	43	21.50	109	54.50	200	100

**Table (II): Number and percent distribution of pregnant women according to their knowledge about safety measures related to physical activities**

Knowledge about safety measures related to physical activities	Correct & complete answer		Correct & incomplete answer		incorrect answer or don't know		Total	
	No	%	No	%	No	%	No	%
Avoiding physical activities that cause exhaustion or fatigue	168	84.00	0	00.00	32	16.00	200	100
Avoiding doing any activity in crowded places	123	61.50	0	00.00	77	38.50	200	100
Avoiding standing for a long time	157	78.50	0	00.00	43	21.50	200	100
Avoiding sitting for a long time	71	35.50	0	00.00	129	64.50	200	100
Avoiding walking for a long distance.	115	57.50	0	00.00	85	42.50	200	100
Avoiding climbing many stairs	139	69.50	2	01.00	59	29.50	200	100
Avoiding strenuous or exhausting exercises	178	89.00	2	01.00	20	10.00	200	100
Avoiding jumping from high places	174	87.00	0	00.00	26	13.00	200	100
Avoiding sports that require physical contacts with others	66	33.00	0	00.00	134	67.00	200	100
Avoiding walking on slippery surfaces	185	92.50	0	00.00	15	07.50	200	100
Avoiding back bends while doing different physical activities	72	36.00	1	00.50	127	63.50	200	100
Avoiding doing any activity in very hot weather	78	39.00	0	00.00	122	61.00	200	100
Avoiding lying flat on your back	36	18.00	0	00.00	164	82.00	200	100
Avoiding activities that carry a risk of falling or abdominal injury	185	92.50	0	00.00	15	07.50	200	100
Avoiding lying on the abdomen	100	50.00	0	00.00	100	50.00	200	100
Avoiding running	113	56.50	0	00.00	87	43.50	200	100
Avoiding lifting heavy objects (e.g. mattress etc.)	142	71.00	0	00.00	58	29.00	200	100

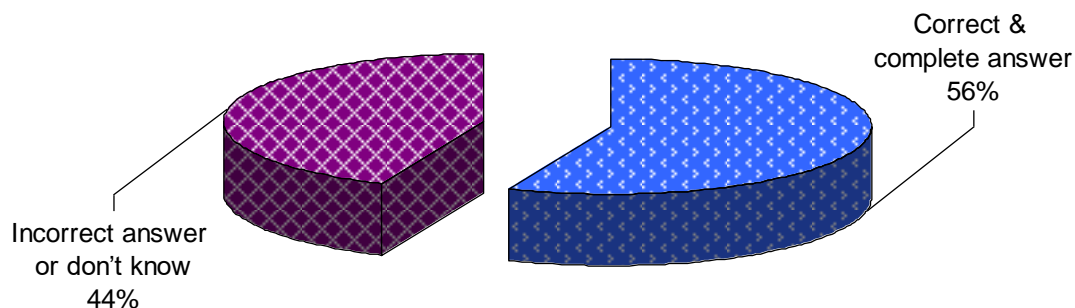


**Table (III): Number and percent distribution of pregnant women according to their knowledge about safety measures related to hygiene**

Knowledge about safety measures related to hygiene	Correct & complete answer		Correct & incomplete answer		incorrect answer or don't know		Total	
	No	%	No	%	No	%	No	%
Avoiding basin or tub bath	60	30.00	62	31.00	78	39.00	200	100
Avoiding bathing with very hot water	134	67.00	0	00.00	66	33.00	200	100
Avoiding vaginal douche	88	44.00	0	00.00	112	56.00	200	100
Avoiding intake of sweets that cause tooth decay	153	76.50	0	00.00	47	23.50	200	100
Avoiding being in sweaty clothes for a long time	92	46.00	2	01.00	106	53.00	200	100
Avoiding wearing too tight clothes	122	61.00	0	00.00	78	39.00	200	100
Avoiding using perfumed soap and shampoo.	31	15.50	41	20.50	128	64.00	200	100

**Table (IV): Number and percent distribution of pregnant women according to their knowledge about safety measures related to care of bladder and bowel**

Knowledge about safety measures related to care of bladder and bowel	Correct & complete answer		Correct & incomplete answer		incorrect answer or don't know		Total	
	No	%	No	%	No	%	No	%
Avoiding using laxatives	85	42.50	0	00.00	115	57.50	200	100
Avoiding constipation by avoiding strong tea	166	83.00	0	00.00	34	17.00	200	100
Avoiding using catheter and/or enema	58	29.00	62	31.00	80	40.00	200	100
Avoiding taking lot of fluids before bedtime	52	26.00	2	01.00	146	73.00	200	100
Avoiding eating foods that don't contain fibers	93	46.50	1	00.50	106	53.00	200	100
<b>Avoiding washing the perineum from back to front</b>	<b>104</b>	<b>52.00</b>	<b>0</b>	<b>00.00</b>	<b>96</b>	<b>48.00</b>	<b>200</b>	<b>100</b>



**Figure (1): Percent distribution of pregnant women according to their knowledge about**

**Table (V): Number and percent distribution of pregnant women according to their knowledge about safety measures related to exposure to infection**

Knowledge about safety measures related to exposure to infection	Correct & complete answer		Correct & incomplete answer		incorrect answer or don't know		Total	
	No	%	No	%	No	%	No	%
Avoiding kissing people	81	40.50	0	00.00	119	59.50	200	100
Avoiding touching body fluids of infected persons (e.g. sweat, blood, urine)	101	50.50	48	24.00	51	25.50	200	100
Washing hands before and after eating	86	43.00	89	44.50	25	12.50	200	100
Washing hands after touching raw fruits & vegetables	59	29.50	102	51.00	39	19.50	200	100
Washing hands after using toilet	154	77.00	0	00.00	46	23.00	200	100
Washing hands after changing child's diaper or touching his/her toys	78	39.00	40	20.00	82	41.00	200	100
Washing hands after touching rubbish or dirty cloths	98	49.00	63	31.50	39	19.50	200	100
Washing hands after touching animals or dirty soil	100	50.00	64	32.00	36	18.00	200	100
Washing hands thoroughly with soap and water	69	34.50	131	65.50	0	00.00	200	100
Washing thoroughly between fingers of the hands	86	43.00	25	12.50	89	44.50	200	100
Washing hands long enough	60	30.00	0	00.00	140	70.00	200	100
Rinsing and drying hands well	67	33.50	97	48.50	36	18.00	200	100
Avoiding intake of raw or unwashed fruits and vegetables	79	39.50	111	55.50	10	05.00	200	100
Avoiding mosquito bites	85	42.50	0	00.00	115	57.50	200	100
Avoiding persons with infectious diseases	181	90.50	0	00.00	19	09.50	200	100

**Table (VI): Number and percent distribution of pregnant women according to their knowledge about safety measures related to exposure to radiation and environmental hazards**

Knowledge about safety measures related to exposure to radiation and environmental hazards	Correct & complete answer		Correct & incomplete answer		incorrect answer or don't know		Total	
	No	%	No	%	No	%	No	%
Avoiding performance of X-ray	110	55.00	0	00.00	90	45.00	200	100
Avoiding being with persons during their X-ray	85	42.50	0	00.00	115	57.50	200	100
Avoid a long time exposure to microwave, computer, TV or mobile	51	25.50	51	25.50	98	49.00	200	100
Avoiding use of pollutants (e.g. agriculture pesticides, insecticides)	105	52.50	45	22.50	50	25.00	200	100
Avoiding use of chemicals such as benzene	140	70.00	0	00.00	60	30.00	200	100
Avoiding exposure to chemicals used for nail polish, dyeing & straightening hair	63	31.50	42	21.00	95	47.50	200	100
Avoiding exposure to cleaning products' chemicals (e.g. chlorine, lemon salt)	34	17.00	42	21.00	124	62.00	200	100
Avoid exposure to car exhaust	145	72.50	0	00.00	55	27.50	200	100

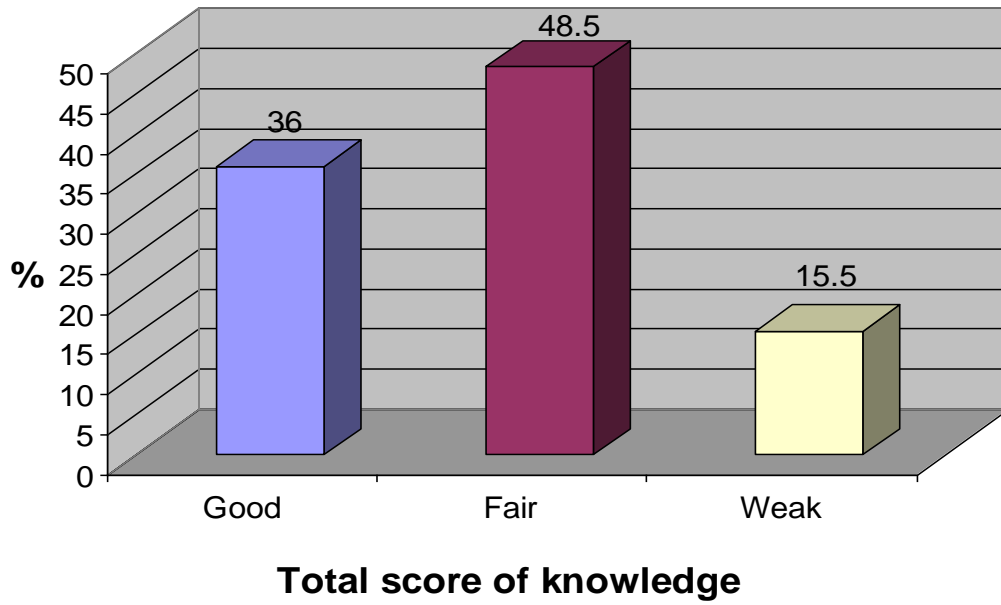


Figure (2): Percent distribution of pregnant women according to their total score of knowledge about safety measures during the first trimester