Effectiveness of Self-instructional Module on Knowledge and Remedial Practices Regarding Selected Minor Ailments Among Primigravida

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ABSTRACT

***Context*:** Most pregnant women complain some degree of minor ailments that are not serious in themselves, but their presence decreases the mother's feeling of comfort and wellbeing, particularly among the primigravida.
Aim: This study aimed to examine the effectiveness of the self-instructional module on knowledge and remedial practices regarding selected minor ailments among primigravida.
Methods: A quasi-experimental design (one group pretest/posttest) was utilized to achieve the aim of this study—a purposive sample of 120 primigravida women. The study was carried out at the obstetrics and gynecology outpatient clinic in Benha university hospital. Data were collected through four main tools: A self-administered questionnaire to assess women's characteristics and obstetrical history, maternal knowledge assessment questionnaire; maternal health practices assessment questionnaire, and women's satisfaction questionnaire.
Results: showed that the mean age of studied sample 23.02±7.57years. An improvement with highly statistically significant differences observed in women's knowledge and remedial practices regarding minor ailments at the post-intervention phase compared to the pre-intervention phase at ($p<0.001$). The majority of pregnant women were satisfied after the implementation of the self-instructional module. There was a non-significant positive correlation between total knowledge and total healthy practices regarding minor ailments at the pre-intervention phase ($P>0.05$) while there was a highly positive statistical correlation between total knowledge and total healthy practices regarding minor ailments at the post-intervention phase ($P\leq 0.001$).
Conclusion: The research hypotheses were supported, and the self-instructional module had a positive effect on the improvement of pregnant women's knowledge and, in turn, remedial practices after its implementation. Also, there was a statistically significant reduction in the frequency of minor ailments at the post-intervention phase compared to the pre-intervention phase in favor of post-intervention. The antenatal self-instructional module regarding minor ailments should be restructured and reviewed to meet up with the health needs of pregnant women, particularly primigravida.

Keywords: Self-instructional module, minor ailment, primigravida, knowledge, remedial practices

1. Introduction

Pregnancy is the most significant event in a woman's life, which requires unique care from the time of conception to the postpartum period. The pregnant woman's body undergoes some profound anatomical, physiological, and psychological changes to adapt and support the entire pregnancy, which ultimately supports the growing fetus. Although these physiological changes are normal, they can often be interpreted as a disease because a pregnant woman's body cannot adequately adapt to pregnancy changes *(Gagandeep, 2017)*.

Minor ailments (minor discomforts) of pregnancy are a series of commonly experienced symptoms that annoy women throughout pregnancy. It caused by the effects of pregnancy hormones and the consequences of uterine enlargement as the fetus grows during pregnancy. During pregnancy, hormones, including estrogen, progesterone, and prolactin, increase rapidly. The pregnancy hormones turn the uterus into an environment suitable for the baby's growth, and at the same time, it can cause discomfort for the mother *(Medforth et al., 2019)*.

Minor ailments varying during all periods of pregnancy and classified into discomforts occur during the first, the second, and the third trimester of pregnancy. Dramatic hormonal changes in the first trimester of pregnancy embrace many discomforts that tend to ease with the start of the fourth month of pregnancy *(Heitmann et al., 2017)*.

These discomforts are nausea and vomiting, urinary frequency, fatigue, breast tenderness, increased vaginal discharge, stuffy nose, nosebleeds, pica, gingivitis, and ptyalism. Moreover, discomforts during the second and third trimesters, the discomforts are challenging to be classified because many problems represent individual variations in

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women. These discomforts are heartburn, ankle edema, varicose veins, hemorrhoids, constipation, back pain, leg cramps, fainting and dizziness, dyspnea, flatulence, carpal tunnel syndrome, and round ligament pain. Most of the minor ailments in pregnancy will spontaneously subside after delivery. Therefore, women should not be worrying too much *(Sangeetha et al., 2015).*

Incidences of common minor ailments during the first trimester include nausea and vomiting that are affecting 50-75% of pregnant women. Common minor ailments during the second and third trimesters are heartburn that affects 89.1% of all pregnant women. Constipation affects 78.2% of women, especially in the third trimester, and shortness of breath that affects 94.1% of all pregnant women, edema of ankle and feet occurs in the majority (over 80%) of healthy pregnancies. Varicosities may develop in 40% of pregnant women *(Ruth et al., 2016).*

Most women experience some of the so, called "minor ailments" of pregnancy and may accept these ailments as a typical “symptom” of pregnancy. These may be "minor" in that they are not life-threatening, but they may be a significant source of ailments. The woman may need to cope with these ailments while continuing to work and care for her family, often having to look after other children while experiencing fatigue and discomfort. However, the monitoring of minor illnesses during pregnancy is virtually absent in developing countries. These ailments should be appropriately treated as they may escalate and become life-threatening *(North Bristol NHS Trust, 2019).*

Minor ailments are the current difficulties for health providers to manage pregnant women as well as for pregnant women to manage. Treating various symptoms requires unique observations and knowledge of a variety of treatment options. Therefore, health service providers are required to cooperate with women to obtain the best treatment approach for minor illnesses *(Alageswari & Dash, 2019).*

Many pregnant women do not know how to treat minor ailments during pregnancy, which leads to complications and negatively affects their daily life activity. The primigravida women especially require health teaching that herbs and medicines should be avoided, especially during early pregnancy, because they can enter the fetal circulation through the placenta. Some medications exert a toxic or teratogenic effect on the fetus *(Heitmann et al., 2016).*

Self-management regarding minor ailments and practices during the prenatal period is the process whereby the women use knowledge and beliefs, self-regulation skills and abilities, and social facilitation to promote the positive outcome and restore the healthy lifestyle during the pregnancy. It mainly prevents harmful effects on the fetus as well as the mother. However, many women suffer from minor ailments during pregnancy, and instead of using hospital services or medication, non-drug treatments or treatment measures are used first *(Gagandeep, 2017).*

Most of the minor ailments during pregnancy can be minimized with proper education and prompt treatment. Therefore, the nurse must provide education carefully and suggest an amendment for a pregnant mother who needs information on many topics. The observant nurse listens and knows typical concerns of expectant parents can anticipate questions that will be asked and prompt mothers and partners to discuss what is on their mind *(Aldossary et al., 2018).*

The self-instructional module is one of the educational materials and learning packages that help individualized learning for achieving pre-specified objectives. A module is self-contained and includes the instructional materials necessary for the learning of a specific unit or topic by a learner without the presence of the material taught. This does not preclude learning from other learners. Many times, printed self-instructional modules can be given to supplement the individualized health teaching. The women often avidly read books and pamphlets related to their own experience. Nurses have an opportunity to point out areas that may not correspond with local health care practices *(The Ohio State University Wexner Medical Center, 2017).*

Furthermore, the nurse has ample opportunities to discuss a healthy lifestyle for pregnancy in terms of diet, exercise, and personnel habits. Sometimes, the mother will ask for the nurse's guidance. It is often helpful to link advice to a specific problem that the woman is experiencing, such as minor ailments of pregnancy. This discussion will serve as the basis for instruction to initiate a change in women's behavior to improve, maintain, and restore equilibrium *(Alageswari & Dash, 2019).*

2. Significance of the Study

Minor ailments are common during pregnancy may lead to serious complications if not managed well *(Rosy, 2014).* There was no accurate Egyptian statistics regarding the prevalence of minor ailments among Egyptian primigravida. However, Egyptian studies conducted by *Gamel et al. (2017)* reported the commonness of minor ailments among a sample of 90 pregnant women at the antenatal clinic of Mansoura University Hospital. The study reported nausea and vomiting, fatigue and fainting, heartburn, leucorrhoea, low back pain, sleep disturbance, and muscle spasm among more than 70% of the studied women, frequent urination, breast heaviness, dyspnea among more than 60% of the women. Less than fifty percent of them complained from various minor ailments of ptyalize, constipation, edema, piles, and varicose veins.

The woman who is pregnant for the first time enters pregnancy with specific knowledge and practices towards childbearing. Some of which are unscientific and unhealthy for herself and her baby. The importance of knowledge is paramount because knowledge is a potent tool. The best way to ensure a healthy baby is to learn as much as a mother can about pregnancy. Increasingly, most pregnant women believe that these minor ailments happen in pregnancy, and they have to tolerate because knowledge about remedial measures is insufficient among these women, especially primigravida *(Ramaiah, 2015)*.

Moreover, the cost of simple disease management education is meager, and the results have been great. Health education of management of minor ailments enhances the mother to progress on health status and is also within the scope of nursing practice, so it is mandatory for the mother

to gain the knowledge to equip herself to cope, adapt and tolerate with the worrying symptom or discomfort and to be more confident in herself and her pregnancy *(Bej, 2018).* So, to increase awareness, knowledge as well as the remedial practices on minor ailments during pregnancy, the researchers planned to conduct this study.

3. Aim of the study

The current study aimed to examine the effectiveness of the self-instructional module on knowledge and remedial practices regarding selected minor ailments among primigravida. This aim was achieved through the following objectives:

- Assessing the level of women's knowledge and practices regarding minor ailments during pregnancy.
- Designing and implementing a self-instructional module.
- Evaluating the effectiveness of the self-instructional module regarding minor ailments during pregnancy on women's knowledge and remedial practices.

3.1. Research hypotheses

- There will be a significant improvement of women's knowledge regarding minor ailments during pregnancy after applying the self-instructional module compared to their pre-intervention level.
- There will be a significant development of women's remedial practices level regarding minor ailments during pregnancy after applying the self-instructional module compared to their pre-intervention level.
- Women who applied to the self-instruction module will exhibit reduced frequency of minor ailments compared to their pre-intervention level.
- The studied pregnant women will be satisfied with the self-instructional module after its implementation.

3.2. Operational definition

Minor ailments were meant in this study as the experienced annoying symptoms for women throughout pregnancy. It will include minor ailments regarding the following symptoms:

Gastrointestinal disorders (nausea, vomiting, constipation, heartburn, flatulence, ptyalism, gingivitis, and pica). Urinary disorders (frequent urination, urgency, and leucorrhea). Musculoskeletal disorders (leg cramps and backache). Nervous system disorders (sleep disturbance, faintness, dizziness, and headache). Respiratory system disorders (nasal stuffiness and dyspnea).

4. Subjects & Methods

4.1. Research design

A quasi-experimental design (One Group Pre-test Post-test design) was utilized to fulfill the aim of this study. A quasi-experiment is an empirical interventional study used to estimate the causal impact of an intervention on the target population without random assignment. Quasi-experimental research shares similarities with the traditional experimental design or randomized controlled trial, but it specifically lacks the element of random assignment to treatment or control *(Dinardo, 2008; Iowa State University of Science and Technology, 2020).* In a pretest-posttest design, the dependent variable is measured once before the treatment is implemented, and once after it is implemented *(Posternak & Miller, 2001; Spurlock, 2018).*

4.2. Research Setting

This research was conducted at the obstetrics and gynecology outpatient clinic in Benha university hospital. This particular setting has chosen because it was the main university hospital. This department specialized in providing maternity care for women with different social backgrounds and covers a wide geographical area of Benha city and Qaliubya Governorate. It started from 9 am to 12 pm.

4.3. Subjects

A purposive sample of primigravida among those who attended the setting mentioned above for six months was recruited for the study, which was (120) primigravida women. The studied sample was selected according to the following inclusion criteria:

- Primigravida with minor ailments and willing to participate in the research.
- At 8-30 weeks of gestation.
- The women who intend to follow and commit the schedule antenatal visits.
- At least able to read and write.
- Free from pregnancy complications and free from any medical disorder.
- Available during the time of the research.

4.4. Tools of the study

Four main tools were used for data collection:

4.4.1. A Self-Administered Questionnaire

Researchers designed it after reviewing the relevant literature *(Alageswari & Dash, 2019)* to assess personal patient characteristics and obstetric history. It was written in Arabic. It consisted of two parts:

Part 1 concerned with women's characteristics. It consisted of (age, residence, level of education, occupation, income, type of family, source of information, weight, and height for BMI). Body mass index calculated as following:

BMI = weight (kg)/height2 (m)

BMI Categories:

- Underweight = <18.5
- Normal weight = 18.5–24.9
- Overweight = 25–29.9
- Obesity = BMI of 30 or greater

Part 2 encompassing the women's obstetrical history, it consisted of (gestational age, trimester).

4.4.2. Maternal Knowledge Assessment Questionnaire

Maternal knowledge questionnaire was designed in the Arabic language by the researchers after reviewing related literature *(Madhavi, 2016; Tharpe et al., 2017)*. The 68-multiple-choice questions designed to measure maternal

knowledge regarding minor ailments. Each question has four options (one right answer, two wrong answers, and I do not know).

The sections included general maternal knowledge regarding minor ailments (4 questions), maternal knowledge regarding gastrointestinal disorders (28 questions), and maternal knowledge regarding urinary disorders (8 questions). Besides, it included maternal knowledge regarding musculoskeletal disorders (8 questions), maternal knowledge regarding nervous system disorders (12 questions), and maternal knowledge regarding respiratory system disorders (8 questions). The questions were formulated as close-ended questions (multiple choice questions). This questionnaire was used pre and post-intervention.

Scoring system

The correct answer was given a score of (1); the wrong answers and "do not know" response was given a score of (0). The total score earned by the women reflects their knowledge regarding minor ailments. As well as women' total knowledge score were classified as the following:

- Poor (<50% correct answers).
- Average (50% to <75% correct answers).
- Good (≥ 75%to 100% correct answers).

4.4.3. Maternal Health Practices Assessment Questionnaire

The maternal health practices assessment questionnaire was adapted from *(Aldossary et al., 2018)* to assess the women's actual health practice to manage the minor ailments. It was translated into the Arabic language by the researchers (translation and back translation was done to ensure accuracy). The 80-questions' questionnaire has five subscales that focus on different areas of maternal health practices regarding minor ailments.

These subscales were maternal health practices regarding gastrointestinal discomforts (nausea and vomiting, constipation, heartburn, flatulence, ptyalism, gingivitis, and pica - 35 questions), maternal health practices regarding urogenital discomforts (frequent urination, urgency, and leukorrhea - 10 questions), maternal health practices regarding musculoskeletal discomforts (leg cramps and backache - 10 questions), maternal health practices regarding nervous system discomforts (sleep disturbance, faintness and dizziness, and headaches - 15 questions), and maternal health practices regarding respiratory system discomforts (nasal stuffiness and dyspnea - 10 questions). Each minor discomfort has five practices (remedial measures). The questions were formulated as close-ended questions (multiple choice questions). This tool was used pre and post-intervention.

Scoring system

The items were judged according to a three-point Likert scale continuum from never (1), sometimes (2), and always (3). Then, summing up the scores of the items and the overall scores gave the health practices total score. Then, the frequency of practices of each minor ailment was calculated to be scored from unsatisfactory (1), neutral (2), and satisfactory (3). As well as women' total practices score were classified as the following:

- Satisfactory level: ≥ 60 %
- Unsatisfactory level: < 60 %

4.4.4. Modified Women's Satisfaction Questionnaire

Women's satisfaction was evaluated using a visual analog satisfaction scale (VASS). The VAS was adopted from *(Singer & Thode, 1998)*. The scale included 12 statements such as Self-instructional module help for relieving the minor ailments of pregnancy, implementing the self-instructional module, did not cause adverse conditions, and the self-instructional module is easy to be used. The VAS scale is an instrument in which 0-3 represents that the subject was unsatisfied with the self-instructional module implementation, 4-6 uncertain, and 7-10 indicated that the subjects were satisfied.

4.5. Procedures

This research was conducted under the approval of the Faculty of Nursing Ethical Committee, Benha University. Official permission was obtained from the directors of the pre-mentioned setting.

The data collection tools were presented to a committee consisting of three experts in medicine and nursing in the field of obstetrics and genetic pathology to test the validity of the content. Adjustments made according to the committee's opinion regarding the clarity of sentences and the appropriateness of the content. Tool reliability was performed by the Cronbach's alpha test, which revealed that each tool consisted of relatively homogeneous elements, as shown in the medium to the high reliability of each instrument (0.86 for maternal knowledge assessment questionnaire, 0.85 for maternal health practices assessment questionnaire, and 0.87 for modified women's satisfaction questionnaire).

Ethical considerations: Each woman was given explanations about the purpose of the research and informed that participation was voluntary. They were free to withdraw at any time before its completion. Those who have agreed to complete this research were asked to sign a consent form before starting the data collection. Confidentiality was guaranteed during the search process, and it was confirmed to the woman that all data was used only for research purposes.

The pilot study was conducted on 10% of the total duration of the data collected (about three weeks) to test the simplicity, clarity, and applicability of the study tools in addition to estimating the time required to complete the questionnaire, and to assess the feasibility of the research process. According to the results of the pilot study, adjustments were made as adding, deleting, or reformulating of some questions. Women participating in the pilot were excluded from the study to avoid contamination of the sample.

The following phases were adopted to fulfill the aim of this research. Preparatory phase, interviewing and assessment phase, planning phase, self-instructional module

implementation phase, and evaluation phase. These phases were carried out from the beginning of February 2019 and completed at the end of July 2019, covering six months. The researcher visited the previously mentioned setting two days/week (Tuesdays, Thursdays), from 9.00 am to 12.00 pm until the predetermined duration of six months has been completed.

The preparatory stage was the first stage of the research, and the researchers carried out a review of relevant local and international literature on various aspects of the research problem. This stage helped the researchers to identify the magnitude and seriousness of the problem and directed the researchers to prepare the required data collection tools.

Interviewing and assessment phase: This phase encompassed interviewing each woman in the waiting room of the outpatient clinic. At the beginning of the interview, the researchers greeted the woman, introduced themselves to each woman included in the research, explained the purpose of the research, provided the woman with all information about the research, and take written consent to participate in the research. Researchers collected data through the administration of the self-administered questionnaire, maternal knowledge assessment questionnaire, and maternal health practices assessment questionnaire to each woman (tool II and III were pretests). The average time for the completion of each woman interview was around (20-30 minutes). The interviewed women/day ranged from 2-3 women. The data obtained during this phase constituted the baseline for further comparison to evaluate the effect of self-instructional modules.

Planning phase: The self-instructional module (SIM) was developed by the researchers, based on the results of the assessment stage, and reviewing of related literature *(Sangeetha et al., 2015; Alageswari & Dash, 2019; Aldossary et al., 2018; Madhavi, 2016)*. The SIM was developed in the form of a printed booklet to satisfy the studied pregnant women's knowledge deficit and practices regarding minor disorders during pregnancy. It was written in the Arabic language to suit women's level of understanding and based on the topic of the research. The SIM consists of many parts to cover the majority of minor ailments that annoy the women during pregnancy. Each minor ailment was illustrated for its definition, causes, time of start, and remedial practices to be reduced or relieved. Moreover, the SIM was illustrated by colored pictures to be more cleared and attractive.

Sessions number and its contents, different methods of teaching, and instructional media were determined. Different methods of teaching were used, such as discussion, demonstration, clarification, and brainstorming. Instructional media included video contains all content of the sessions, and self-instructional module about minor ailments during pregnancy were distributed to all recruited women in the study from the first session to achieve its objectives. Objectives were constructed and included the following:

General objective:

By the end of the self-instructional module sessions, each woman would be able to acquire essential knowledge, and healthy practices regarding minor ailments during pregnancy and will be satisfied with the self-instructional module regarding minor ailments during pregnancy.

Specific objectives:

By the end of the self-instructional module sessions, each woman would be able to:

- Define minor ailments of pregnancy.
- Classify minor ailments according to anatomical system changes.
- Enumerate the causes of each minor ailment.
- Identify the time of occurrence of each minor ailment.
- Discuss the remedial measures to relieve their complaints from minor ailments during pregnancy.
- Adopt healthy practices regarding minor ailments during pregnancy.

Implementation phase: The researcher designed the self-instructional module to overcome the minor ailments during pregnancy. This module was implemented through three scheduled sessions. It was conducted in the waiting room of the outpatient clinic immediately after completion of the assessment phase. Each session took about 30-45 minutes. At the beginning of the first session, the woman was directed with self-instructional module contents. The subsequent session started with feedback about the previous session and the objectives of the new session. A simple Arabic language was used to suit women's level of understanding. At the end of each session, five minutes were devoted to permit women to ask questions to clarify the session contents and to correct any misunderstanding. Each woman was informed about the time of the next sessions.

The first session included a definition of minor ailments during pregnancy, classification of minor ailments according to anatomical system changes and the causes, time of occurrence, and the remedial measures of minor ailments regarding the gastrointestinal system. The second session included the causes, time of occurrence, and the remedial measures of minor ailments regarding the urogenital and musculoskeletal system. The third session included the same skeleton for the nervous and respiratory system. These sessions were repeated to each subgroup of (4-6) women until the predetermined sample size was completed.

Evaluation phase: The effectiveness of the self-instructional module was evaluated three weeks after implementation. The researcher used the same tool's format which used during the assessment phase (pre-post -test format) (tool II; to evaluate women's knowledge, tool III; to evaluate women's practices regarding minor ailments and tool IV; to evaluate women's satisfaction regarding the self-instructional module). Most of the time, the researcher followed the women via telephone.

4.6. Limitation of the study

Sometimes the courses were long due to the noise and interruption of other individuals.

4.7. Data analysis

The data was verified before computer entry. The Social Sciences Statistical Package (SPSS version 22.0) was used for this purpose, followed by data scheduling and analysis.

Descriptive statistics applied (e.g., mean, standard deviation, frequency, and percentages. The correlation coefficient (r) used to find the correlation between studied variables (knowledge and practice). Test of significance (t-test, chi-square) used to find the difference between the women's knowledge, remedial practices, and occurrence of minor ailments before and after the intervention. Statistically, a significant difference was considered at p-value ≤ 0.05, and a highly statistically significant difference was considered at p-value ≤ 0.001, while the p-value >0.05 indicates a non-significant difference.

5. Results

Table 1 shows the personal characteristics of the studied sample. It was cleared that more than half (58.3%) of the studied sample was in the age group of 18-23 years with a mean age of 23.02±7.57 years. As regards the residence, less than two thirds (60.8%) of them lived in rural areas. Regarding the educational level, about one third (34.2%) of them had a secondary level of education. Furthermore, less than two-thirds of them (60.0%) were housewives. Moreover, more than half (58.3%) of them had fair enough income. Also, about two-thirds (65.8%) of the studied sample lived with a nuclear family.

Figure 1 reveals that about two-thirds (66.7%) of the studied sample were overweight, while more than one quarter (27.5%) of them had normal body mass index. Furthermore, the minority (5.8%) of them were obese.

Figure 2 displays that about two-thirds of the studied sample (66.7%) (65.8%) took their information from family members and health-care personnel, respectively, taking into consideration results are not mutually exclusive.

Table 2 demonstrates that about half (49.2%) of the studied sample were in the second trimester (13-28 weeks) with a mean gestational age of (19.94±4.72) weeks.

Table 3 clarifies that there was a highly statistically significant difference between the results of the post-intervention phase compared to the pre-intervention phase in favor of post-intervention regarding all items of studied sample's knowledge regarding minor ailments with p≤0.001.

Figure 3 displays that (10.0%) and (68.4%) of the studied sample had good knowledge regarding minor ailments at pre-intervention and post-intervention phases respectively while it was revealed that (70.8%) and (20.8%) of the studied sample had poor knowledge regarding minor ailments at pre-intervention and post-intervention phases respectively.

Table 4 clarifies a highly statistically significant difference between the result of the post-intervention phase compared to the pre-intervention phase in favor of post-intervention regarding all items of studied sample's remedial practices regarding minor ailments with p<=0.001. (note, as a result, not all pregnant woman suffers from all minor ailments of pregnancy like each other, their health practices were evaluated in an informational way).

Figure 4 displays that 30.8% and 81.7% of the studied sample had a satisfactory level of remedial practices regarding minor ailments at pre-intervention and post-intervention phases, respectively, while it was revealed that (69.2%) and (18.3%) of the studied sample had an unsatisfactory level of healthy practices regarding minor ailments at pre-intervention and post-intervention phases respectively.

Table 5 demonstrates a statistically significant difference between the occurrence of minor ailments at the post-intervention phase compared to the pre-intervention phase in favor of post-intervention regarding (morning sickness, heartburn, constipation, gingivitis, leg cramps, backache, and dyspnea) with p≤ 0.05. At the same time, there was a highly statistically significant difference regarding (flatulence, sleep disturbance, and headaches) with p≤0.001.

Table 6 clarifies a statistically significant relationship between total knowledge score regarding minor ailments and only with (age and type of family) of the studied sample (p ≤ 0.001) (p ≤ 0.05), respectively, at the pre-intervention phase. While, there was no statistically significant relationship between total knowledge score regarding minor ailments and personal characteristics of the studied sample (age, residence, educational level, occupation, income and type of family) (P>0.05) at post-intervention phase.

Table (7) clarifies that there was a statistically significant relationship between total remedial practices score regarding minor ailments at the pre-intervention phase only with (age and educational level) of the studied sample (p ≤ 0.001) (p ≤ 0.05) respectively. While, there was no statistically significant relationship between total remedial practices score regarding minor ailments at post-intervention phase and personal characteristics of the studied sample (age, residence educational level occupation income) (p>0.05). However, the type of family is significant as p=<0.05 at the post-intervention phase.

Table 8 clarifies a non-significant positive correlation between total knowledge and total healthy practices regarding minor ailments at the pre-intervention phase (P>0.05). At the same time, there was a highly positive statistical correlation between total knowledge and total healthy practices regarding minor ailments at the post-intervention phase (P≤ 0.001).

Table (9) clarifies the pregnant women's satisfaction towards the self-instructional module. Results show that the majority of mothers were satisfied with the self-instructional module (Total mean score percent = 91.5%). The few percentages of mothers who were uncertain and dissatisfied with the guidelines (4.4% and 4.1%), respectively, they have referred their refusal to the very long subjects and its complexity.

Table (1): Frequency and percentage distribution of the studied sample according to their characteristics (n=120).

Personal characteristics	No	%
Age		
18 – 23	70	58.3
24 – 29	24	20.0
30 – 35	13	10.8
>35	13	10.8
Mean ± SD 23.02±7.57		
Residence		
Urban	47	39.2
Rural	73	60.8
Level of education		
Read and write	10	8.3
Primary education	16	13.3
Preparatory education	24	20.0
Secondary education	41	34.2
University education	29	24.2
Occupation		
Housewife	72	60.0
Employed	36	30.0
Students	12	10.0
Income		
Enough	14	11.7
Fairly enough	70	58.3
Not enough	36	30.0
Type of family		
Nuclear	79	65.8
Extended	41	34.2
BMI		
Mean ± SD 25.8±1.79		

**Results not mutually exclusive*

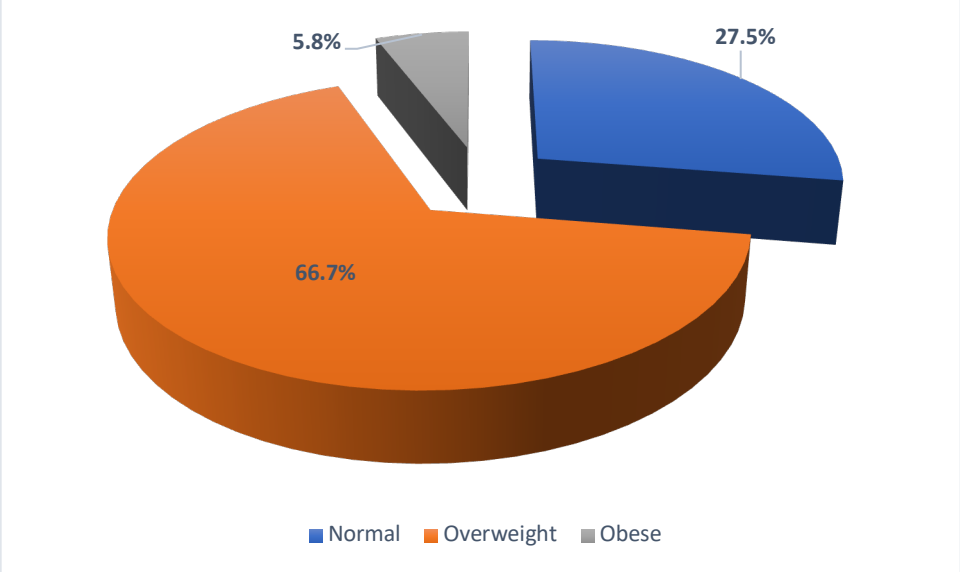

Figure (1): Percentage distribution of the studied sample regarding their degree of obesity (BMI) (n=120).

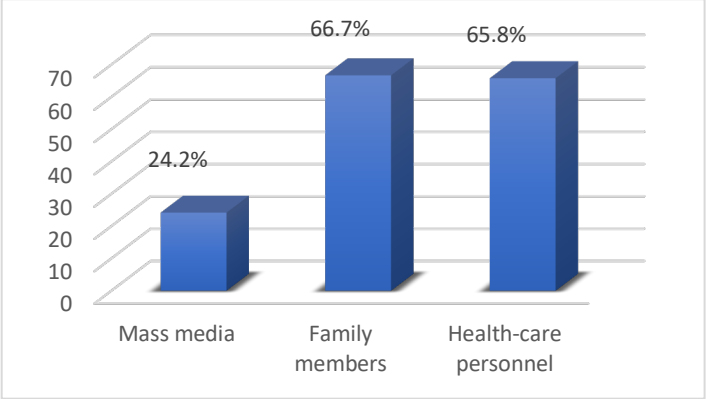

Figure (2): Percentage distribution of studied sample regarding their source of information about minor ailments.

Table (2): Frequency and percentage distribution of the studied sample according to their obstetric history (n=120).

Obstetric history	No	%
Gestational age		
Mean ± SD	19.94±4.72	
Trimester:		
1st trimester (8-12 weeks)	29	24.2
2nd trimester (13-28 weeks)	59	49.2
3rd trimester (29-30 weeks)	32	26.7

Table (3): Comparison of studied sample knowledge about minor ailments dimensions at pre-intervention, Post-intervention phases (n = 120).

Knowledge items	Pre-intervention				Post-intervention				X^2	p-value
	Correct		Incorrect or do not know		Correct		Incorrect or do not know			
	No	%	No	%	No	%	No	%		
General knowledge about minor ailments										
Definition of minor ailments	39	32.5	81	67.5	94	78.3	26	21.7	51.0	0.000
Common minor ailments during 1st trimester	38	31.7	82	68.3	98	81.7	22	18.3	61.0	0.000
Common minor ailments during 2nd and 3rd trimester	54	45.0	66	55.0	90	75.0	30	25.0	22.5	0.000
Complications of minor ailments when badly managed or neglected	29	24.2	91	75.8	87	72.5	33	27.5	56.1	0.000
Knowledge about the following minor ailments										
GIT related minor ailments										
Morning sickness	28	23.3	92	76.7	109	90.8	11	9.2	111.5	0.000
Heartburn	39	32.5	81	67.5	113	94.2	7	5.8	98.3	0.000
Constipation	42	35.0	78	65.0	112	93.3	8	6.7	88.7	0.000
Flatulence	55	45.8	65	54.2	112	93.3	8	6.7	63.9	0.000
Ptyalism	30	25.0	90	75.0	110	91.7	10	8.3	109.7	0.000
Gingivitis	25	20.8	95	79.2	112	93.3	8	6.7	128.7	0.000
Pica	50	41.7	70	58.3	110	91.7	10	8.3	67.5	0.000
Urogenital system minor ailments										
Frequent urination	69	57.5	51	42.5	108	90.0	12	10.0	32.7	0.000
Leukorrhea	31	25.8	89	74.2	111	92.5	9	7.5	110.3	0.000
Musculoskeletal minor ailments										
Leg cramps	53	44.2	67	55.8	112	93.3	8	6.7	67.5	0.000
Backache	49	40.8	71	59.2	108	90.0	12	10.0	64.1	0.000
CNS minor ailments										
Sleep disturbance	75	62.5	45	37.5	112	93.3	8	6.7	33.1	0.000
Headaches	43	35.8	77	64.2	107	89.2	13	10.8	72.8	0.000
Faintness and dizziness	76	63.3	44	36.7	111	92.5	9	7.5	29.6	0.000
Respiratory system minor ailments										
Nasal stuffiness	42	35.0	78	65.0	107	89.2	13	10.8	74.7	0.000
Dyspnea	54	45.0	66	55.0	113	94.2	7	5.8	68.5	0.000

**A Statistically significant p ≤ 0.05, A Highly Statistical significant p ≤ 0.001.*

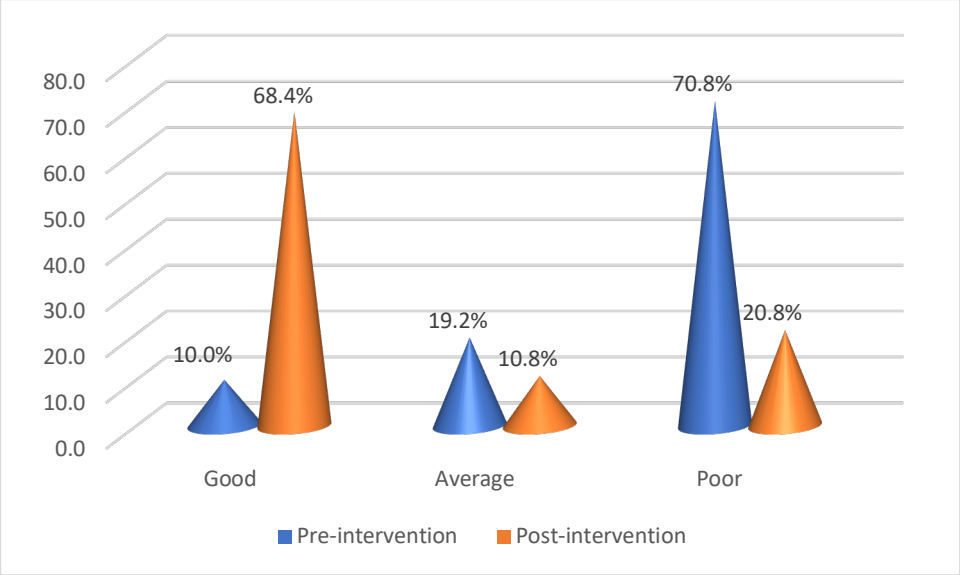

Figure (3): Percentage distribution of studied sample regarding their total knowledge score about minor ailments at pre-intervention, Post-intervention phases (n = 120).

Table (4): Comparison of the studied sample's remedial practices about minor ailments dimensions at pre-intervention, Post-intervention phases (n = 120).

Healthy practices	Pre-intervention						post-intervention						X^2	p-value
	Satisfactory		Neutral		unsatisfactory		Satisfactory		Neutral		unsatisfactory			
	No	%	No	%	No	%	No	%	No	%	No	%		
GIT minor ailments:														
Morning sickness	18	15.0	78	65.0	24	20.0	47	39.2	73	60.8	0	0.0	37.1	0.000
Heartburn	18	15.0	60	50.0	42	35.0	63	52.5	44	36.7	13	10.8	42.7	0.000
Constipation	54	45.0	66	55.0	0	0.0	80	66.7	40	33.3	0	0.0	11.4	0.000
Flatulence	30	25.0	42	35.0	48	40.0	61	50.8	47	39.2	12	10.0	32.4	0.000
Ptyalism	19	15.8	45	37.5	56	46.7	55	45.8	43	35.8	22	18.3	32.3	0.000
Gingivitis	18	15.0	43	35.8	59	49.2	61	50.8	37	30.8	22	18.3	40.7	0.000
Pica	48	40.0	72	60.0	0	0.0	79	65.8	41	34.2	0	0.0	16.0	0.000
Urogenital system minor ailments:														
Frequent urination	14	11.7	38	31.7	68	56.7	60	50.0	29	24.2	31	25.8	43.6	0.000
Leukorrhea	21	17.5	42	35.0	57	47.5	61	50.8	37	30.8	22	18.3	35.3	0.000
Musculoskeletal minor ailments:														
Leg cramps	35	29.2	59	49.2	26	21.7	80	66.7	26	21.7	14	11.7	34.0	0.000
Backache	28	23.3	63	52.5	29	24.2	78	65.0	31	25.8	11	9.2	42.5	0.000
CNS minor ailments:														
Sleep disturbance	28	23.3	39	32.5	53	44.2	70	58.3	21	17.5	29	24.2	30.4	0.000
Headaches	22	18.3	47	39.2	51	42.5	68	56.7	27	22.5	25	20.8	37.8	0.000
Faintness and dizziness	6	5.0	48	40.0	66	55.0	53	44.2	33	27.5	34	28.3	50.4	0.000
Respiratory system minor ailments:														
Nasal stuffiness	29	24.2	50	41.7	41	34.2	71	59.2	26	21.7	23	19.2	30.2	0.000
Dyspnea	24	20.0	56	46.7	40	33.3	72	60.0	29	24.2	19	15.8	40.0	0.000

**A Statistical significant $p \leq 0.05$, A Highly Statistical significant $p \leq 0.001$*

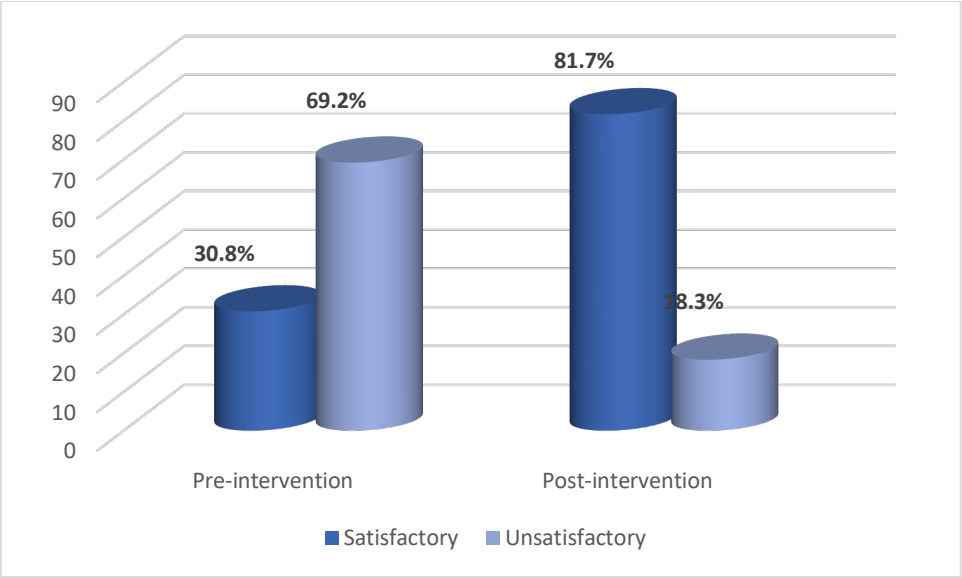

Figure (4): Percentage distribution of studied sample total practices score about minor ailments at pre-intervention, post-intervention phases (n = 120).

Table (5): Comparison of the studied sample according to the occurrence of selected minor ailments at pre-intervention, post-intervention phases.

Minor Ailments	Before self-instructional module implementation		Three weeks after self-instructional module implementation		X^2	P-value
	No	%	No	%		
GIT related minor ailments						
Morning sickness	92	76.6	71	59.2	8.43	≤ 0.05
Heartburn	37	30.8	20	16.7	6.64	≤ 0.05
Constipation	43	35.8	29	24.2	3.88	≤ 0.05
Flatulence	39	32.5	18	15.0	10.14	≤ 0.001
Ptyalism	13	10.8	12	10.0	0.045	>0.05
Gingivitis	44	36.6	35	29.2	7.34	≤ 0.05
Pica	68	56.6	59	49.2	1.53	≥0.05
Urogenital system minor ailments						
Frequent urination	55	45.8	42	35.0	2.92	≥0.05
Leukorrhea	52	43.3	47	39.2	0.43	≥0.05
Musculoskeletal minor ailments						
Leg cramps	72	60	50	41.7	8.01	≤ 0.05
Backache	80	66.6	62	51.7	5.58	≤ 0.05
CNS minor ailments						
Sleep disturbance	47	39.1	23	19.2	11.61	≤ 0.001
Headaches	59	3849.1	31	25.8	13.93	≤ 0.001
Faintness and dizziness	14	11.6	6	5.0	3.94	≥0.05
Respiratory system minor ailments						
Nasal stuffiness	30	25	19	15.8	3.10	≥0.0
Dyspnea	38	31.6	20	16.7	7.36	≤ 0.05

**Results not mutually exclusive*

Table (6): Relation between total knowledge score regarding minor ailments and selected personal characteristics of the studied sample (N=120).

Personal characteristics	Total knowledge													
	Pre-intervention								Post-intervention					
	Poor		Average		Good		X^2	P	Poor		Averag		Good		X^2	P
	No	%	No	%	N	%			No	%	N	%	No	%		
Age																
18 - 23	56	65.9	12	52.	2	16.			14	56.	7	53.	49	59.		
24 - 29	20	23.5	4	17.	0	0.0	34.5	0.00	5	20.	3	23.	16	19.	3.97	0.68
30 - 35	4	4.7	4	17.	5	41.			3	12.	0	0.0	10	12.		
>35	5	5.9	3	13.	5	41.			3	12.	3	23.	7	8.5		
Residence																
Urban	37	43.5	6	26.	4	33.	2.50	0.28	10	40.	6	46.	31	37.	0.33	0.84
Rural	48	56.5	17	73.	8	66.			15	60.	7	53.	51	62.		
Educational level																
Read and write	6	7.1	2	8.7	2	16.			2	8.0	0	0.0	8	9.8		
Primary	15	17.6	1	4.3	0	0.0			5	20.	1	7.7	10	12.		
Preparatory	20	23.5	3	13.	1	8.3	11.4	0.17	7	28.	2	15.	15	18.	5.38	0.71
Secondary	25	29.4	9	39.	7	58.			7	28.	6	46.	28	34.		
University	19	22.4	8	34.	2	16.			4	16.	4	30.	21	25.		
Occupation																
Housewife	51	60.0	13	56.	8	66.			14	56.	7	53.	51	62.		
Employed	25	29.4	8	34.	3	25.	0.52	0.97	9	36.	5	38.	22	26.	1.34	0.85
Students	9	10.6	2	8.7	1	8.3			2	8.0	1	7.7	9	11.		
Income																
Enough	10	11.8	3	13.	1	8.3			1	4.0	2	15.	11	13.		
Fairly enough	48	56.5	13	56.	9	75.	1.58	0.81	19	76.	9	69.	42	51.	6.48	0.16
Not enough	27	31.7	7	30.	2	16.			5	20.	2	15.	29	35.		
Type of family:																
Nuclear	57	67.1	15	65.	7	58.	8.36	0.03	16	64.	8	61.	55	67.	0.20	0.90
Extended	28	32.9	8	34.	5	41.			9	36.	5	38.	27	32.		

**A Statistically significant p ≤ 0.05, A Highly Statistically significant p ≤ 0.001.*

6. Discussion

The anatomical, hormonal, and physiological changes in pregnancy are associated with what is perceived by many women as minor ailments or "discomforts" of pregnancy. The majority of women will put up with these as normal "part and parcel" of pregnancy, not wishing to appear to be making a fuss. Professionals involved in caring for pregnant women have a role in providing advice and reassurance regarding the nature of these symptoms. Most of these complaints are medically trivial, but they can be a cause of significant discomfort and distress for many pregnant women *(Kazemi et al., 2017).*

In this research, the researchers attempted to examine the effectiveness of the self-instructional module on knowledge and remedial practices regarding selected minor ailments among primigravida. Research hypotheses significantly supported by the results of the present research.

Personal characteristics can play a significant role in determining the exact features of a pregnant woman that may affect their complaints during pregnancy. Regarding the personal characteristics of the studied sample, the present findings cleared that more than half of the studied sample was in the age group 18-23 years with a mean age of 23.02±7.57 years. As regards the residence, less than two-thirds of them lived in rural areas. Furthermore, less than two-thirds of them were housewives. Regarding the educational level, about one-third of them had a secondary level of education.

Moreover, more than half of them had fairly enough income. Also, about two-thirds of the studied sample was lived with a nuclear family. This finding could be the reason that pregnant women lived with nuclear family might have lack of knowledge about minor ailments during pregnancy than those lived with extended family due to lack of acquired experiences from the elderly in the family. These results were similar to *Abd Elhaliem et al. (2018),* who conducted a study entitled "utilization of self-care practice guideline on relieving minor discomfort (ailments) among new pregnant woman, Egypt." The study reported that the mean age of pregnant women was 22.34±5.09. More than three-quarters of them lived in rural areas, and nearly two-thirds of their studied sample were housewives. This convergence of results may be due to the societal similarity of the sample.

Table (7): Relation between total practices score regarding minor ailments and selected personal characteristics of the studied sample (N=120).

Personal characteristics	Total healthy practices											
	Pre-intervention						Post-intervention					
	Satisfactory		Unsatisfactory		X^2	P	Satisfactory		Unsatisfactory		X^2	P
	No	%	No	%			No	%	No	%		
Age												
18 – 2	16	43.3	54	65.1			56	62.9	14	63.6		
24 – 29	3	8.1	21	25.3	23.84	.000	20	22.5	4	18.2	.325	.955
30 – 35	9	24.3	4	4.8			11	12.3	2	9.1		
>35	9	24.3	4	4.8			11	12.3	2	9.1		
Residence:												
Urban	13	35.1	34	41.0	.365	.546	38	42.7	9	40.9	.034	.853
Rural	24	64.9	49	59.0			60	67.3	13	59.1		
Educational level:												
Read and write	4	10.8	6	7.2			6	6.7	4	18.2		
Primary education	1	2.7	15	18.1			12	13.5	4	18.2		
Preparatory education	7	18.9	17	20.5	17.27	.012	18	20.2	6	27.3	6.59	.159
Secondary education	17	45.9	24	28.9			36	40.4	5	22.7		
University education	8	21.7	21	25.3			26	29.2	3	13.6		
Occupation:												
Housewife	24	64.9	48	57.8			61	68.5	11	50.0		
Employed	10	27.0	26	31.4	.560	.756	27	30.3	9	40.9	1.54	.463
Students	3	8.1	9	10.8			10	11.2	2	9.1		
Income:												
Enough	6	16.2	8	9.6			10	11.2	4	18.2		
Fairly enough	21	56.8	49	59.1	1.12	.569	60	67.4	10	45.5	2.11	.348
Not enough	10	27.0	26	31.3			28	31.4	8	36.3		
Type of family:												
Nuclear	22	59.5	57	68.7	.966	.326	60	67.3	19	86.4	5.04	0.025
Extended	15	40.5	26	31.3			38	42.7	3	13.6		

**A Statistically significant p ≤ 0.05, A Highly Statistically significant p ≤ 0.001*

Table (8): Correlation between total knowledge and total healthy practice score of the studied sample regarding minor ailments at pre and post-intervention phases (n = 120).

Variables	Total knowledge			
	Pre		Post	
	r	P-value	r	P-value
Total healthy practices	0.128	0.163	0.747	0.000

**A Highly Statistically significant p ≤ 0.001*

Moreover, the results of the present study matched with *Aziz and Maqsood, (2016),* who studied "self-management of pregnant women regarding minor discomforts in primary health care centers in the city of Erbil." The results indicated that the majority of the study sample ranged from 18-25 years, high school graduates, housewives, and live in nuclear families. These results came in harmony with *Bala, (2017),* who conducted a "descriptive study to assess the prevalence of minor ailments during pregnancy, home care remedies adopted by primigravida mothers and to develop an information booklet regarding the management of minor ailments during pregnancy in a selected hospital of Delhi." The study cleared that 40% and 50% of studied sample aged 18-23 and 24-29-year-old respectively. 93% of women were housewives, 40%) of them graduated from secondary school. The similarity of the current research findings and the other studies might be referred to as the similarity in the sample size, socioeconomic level, and area of residence.

On the other hand, the previously mentioned were somewhat different from *Aldossary et al. (2018),* who studied "a cross-sectional study about knowledge and practices of primigravida women: minor and common pregnancy discomforts." The study founded that the majority of the women (79.2%) were in the age group between 20-<30 and less than half of them were with university education (46.3%) and high school (36.6%), but regardless of their higher education, a large portion of the sample were housewives (84.1%). The difference between our research findings and the latter group studies might be related to the difference in the selection criteria.

Concerning obstetrics history, the results of the current study showed that about half of the studied sample was in the second trimester (13-28 weeks) with a mean gestational age of (19.94±4.72) weeks. This result came in contrary to the results of *Aldossary et al. (2018),* who indicated that less than half of pregnant women (43.9%) were in the 3rd trimester of pregnancy.

Table (9): Frequency and percentage distribution of pregnant women's satisfaction towards the self-instructional module (n = 120).

statements	Satisfied		Uncertain		Unsatisfied	
	No.	%	No.	%	No.	%
Minor ailments concept and normal changes during pregnancy.	115	95.8	3	2.5	2	1.7
Self-instructional module concept during pregnancy period.	107	89.2	5	4.2	8	6.7
The maternal complication in case of neglecting the minor ailments	110	91.7	3	2.5	7	5.8
Risks of using any medication to treat minor ailments without consultation.	117	97.5	2	1.7	1	0.8
Role of healthy practices in relieving the minor ailments of pregnancy.	95	79.2	18	15.0	7	5.8
The self-instructional module is of critical importance for the pregnant mother	101	84.2	11	9.2	8	6.7
The self-instructional module helps for relieving the minor ailments of pregnancy.	114	95.0	2	1.7	4	3.3
Implementing the self-instructional module did not cause adverse conditions.	120	100.0	0	0.0	0	0.0
Implementing the self-instructional module was safe during pregnancy.	120	100.0	0	0.0	0	0.0
Learned healthy practices were not expensive.	113	94.2	2	1.7	5	4.2
The self-instructional module is easy to be used.	99	82.5	11	9.2	10	8.3
I will use the self-instructional module in a future pregnancy.	106	88.3	6	5.0	8	6.7
Total mean score	109.75	-	5.25	-	5	-
Total mean score percent	-	91.5%	-	4.4%	-	4.1%

Also, this result was agreed with *Abd Elhaliem et al. (2018),* who illustrated that the gestational age of 40.0% of women was 11-13 weeks. This convergence between both studies could be explained by the similarity of the sample size and characteristics.

As regards the source of information about minor ailments, the results of current research showed that about two-thirds of studied samples gain their information from family members and health-care personnel, respectively, taking into consideration that these results not mutually exclusive. These results are pretty much consistent with *Aldossary et al. (2018)*, who explained that the primigravida women learn more from friends or family member's experiences, such as their older sisters, where the source of information for one-third of primigravida women in their study was from their family members. In contrast, only 8.5% of primigravida women derived their information from a health care provider. These results emphasized the significant role of a family member in affecting knowledge and practices of pregnant women regarding minor ailments positively or negatively. So, pregnant women should be armed with the right knowledge and practices through educational programs to correct knowledge and misperceptions that may be gained from surrounding individuals.

Body mass index can significantly affect pregnant women's discomfort during pregnancy. Concerning the body mass index, the results of current research revealed that about two-thirds of the studied sample was overweight, while more than one-quarter of them had a normal body mass index. Furthermore, the minority of them were obese. These results were a serious indicator and needed to study the relationship between the body mass index, incidence, and severity of minor ailments during pregnancy. Also, these results serve as a warning bell and indicate the extent of false dietary habits and practices among women, which may worsen their complaints from the minor ailments during pregnancy or causing some complications, demonstrating the importance of dietary health education programs for women at all ages. This finding may be explained by the fact that women, due to cultural or personal reasons, generally do not practice physical activity and may overeat during pregnancy. Besides, limited physical activity leads to obesity, which is a predisposing factor for increasing the severity of minor discomforts.

Knowledge is the understanding of any given topic. In the current research, knowledge refers to a pregnant women's understanding of minor ailments, its causes, and management of those ailment using safe remedial practices *(Patel et al., 2016).*

Concerning pregnant women's knowledge regarding minor discomfort, the results of the present research displayed a highly statistically significant difference between the results of the post-intervention phase compared to the pre-intervention phase in favor of post-intervention regarding all items of studied sample's knowledge of minor ailments with $p \leq 0.001$. Few and more than two-thirds of the studied sample had good knowledge regarding minor ailments at pre-intervention and post-intervention phases, respectively. While it was revealed that slightly less than three quarters and one-fifth of the studied sample had poor knowledge regarding minor ailments at pre-intervention and

post-intervention stages, respectively, these results indicate that the educational intervention helped to develop the knowledge of pregnant women about a simple disease and illustrate the effectiveness of the program. The effectiveness of educational intervention may be enhanced by applying an effective self-education unit. Besides, the knowledge provides thoughtful and sound advice on measures to alleviate these harassments that helps enhance the public health and wellbeing of the pregnant customer.

The result of this research was consistent with *Kumar, (2014)*, who studied "the efficacy of the Instructional Module (SIM) at the level of knowledge regarding some of the selected simple illnesses and their treatment measures among pregnant women," and concluded that the Self Instructional module (SIM) was effective for increasing pregnant women's knowledge about minor illnesses and treatment measures as well as *Latha and Indira, (2016)*, who studied "effectiveness of IEC (Information, Education & Communication) package on knowledge regarding minor ailments of pregnancy and its management among antenatal mothers at NMCH, Nellore" The study showed that 60% of women had inadequate knowledge and 40% of them had moderate knowledge. Nobody had adequate knowledge of minor ailments. In the posttest, 70% of women had moderate knowledge, 28% of them had adequate knowledge, and 2% of them had inadequate knowledge regarding minor ailments. Hence, the posttest was higher than the pretest. It could be concluded that the educational package was effective in increasing the knowledge level of women regarding minor ailments of pregnancy.

Additionally, this result was in accordance with *Gururani et al. (2015),* who conducted a study about "minor disorder of pregnancy and its home management." The study illustrated that before the implementation of a planned teaching program, the antenatal mothers showed poor knowledge of the common minor disorders (19.56±12.73), whereas, after the implementation, the knowledge significantly improved with the difference of 18.02±0.742 revealing the effectiveness of the planned teaching program. Moreover, these results correspond to *Alageswari and Dash, (2019),* who studied "assessment of knowledge and expression of practice concerning self-management of minor aliments among mothers before birth, India." The study founded that antenatal mothers (62%) had moderately adequate knowledge, whereas (38%) of mothers had poor knowledge of minor ailments. The previously mentioned results displayed that teaching about minor disorders of pregnancy and its management helped the mothers to manage their minor disorders at home by themselves and carry on more comfortably and safely. This finding supports the first research hypothesis.

Practices are defined as the observed actions of a pregnant woman that can affect her general health and wellbeing *Bej, (2018).* Regarding pregnant women's practices to relieve minor ailments of pregnancy, the results of the present research revealed a highly statistically significant difference between the results of the post-intervention phase compared to pre-intervention stages in favor of post-intervention regarding all items of studied sample's healthy practices regarding minor ailments with $p \leq 0.001$. Where the results displayed that less than one third and the majority of the studied sample had a satisfactory level of healthy practices regarding minor ailments at pre-intervention and post-intervention stages, respectively, while it was revealed that more than two thirds and less than one-fifth of the studied sample had an unsatisfactory level of healthy practices regarding minor ailments at pre-intervention and post-intervention phases, respectively. These results matched with *Aziz and Maqsood, (2016),* who showed that self-management practices of pregnant women regarding minor ailments were very poor. Increasingly, *Kaur and Gagandeep, (2017)*, who conducted" assessment of the knowledge and expressed practices regarding self-management of minor ailments among antenatal mothers, India." The study demonstrated that the majority of antenatal mothers (76%) had an average level of practices, whereas, (22%) antenatal mothers had a weak level of practices. Very few (2%) had a good level of practice concerning minor ailments of pregnancy and their remedies measures. These results could be interpreted by a woman who was pregnant for the first time entered pregnancy with certain beliefs, attitudes, knowledge, and practices towards minor ailments. Some of which were unscientific and unhealthy, causing serious condition as abortion, preterm labor, bleeding and make deliveries difficult. These misconceptions need to be corrected for the sake of child and mother through proper educational programs. This finding supports the second research hypothesis.

Regarding the reduction in the frequency of minor ailments at pre and post-intervention phases, the results of present study illustrated a statistically significant difference between the occurrence of minor ailments at post-intervention phase compared to pre-intervention phase in favor of post-intervention regarding (morning sickness, heartburn, constipation, gingivitis, leg cramps, backache, and dyspnea) with $p \leq 0.05$. While there was a highly statistically significant difference regarding (flatulence, sleep disturbance, and headaches) $p \leq 0.001$, this finding might be due to the education program used a self-instructional module that has been of value in helping to relieve minor ailments during pregnancy. The knowledge provided was also necessary to develop positive, healthy self-care practices towards pregnancy-related minor ailments, which are necessary for the subsequent adoption of self-care measures to improve general health and wellbeing.

This result was in consistent with *Vijayalakshmi, (2011)*, who conducted "a study to assess the effectiveness of selected antenatal exercise in terms of relieving minor disorder among primigravida women attending antenatal outpatient department at government Rajaji hospital, Madurai." The study founded a significant reduction of minors ailments and concluded that antenatal education was effective for gravid women to reduce minor disorders and promote comfort. Increasingly, *Gamel et al. (2017),* who studied "utilization of self-care brochure for relieving mother's minor discomforts during pregnancy", concluded that providing the pregnant mothers with the self-care booklet was associated with the mitigation of most of the

reported self-annoying discomforts among the study group compared to those of the control group as reported by women three weeks post-intervention. This finding is supporting the third research hypothesis.

The result of the present research indicated that there was a non-statistically significant relationship between total knowledge score regarding minor ailments at the pre-intervention phase except for age and type of family at ($p \leq 0.001$), and ($p \leq 0.05$) respectively. While there was no statistically significant relationship between total knowledge score regarding minor ailments at post-intervention phases and personal characteristics of the studied sample (age, residence, educational level, occupation, income, and type of family) ($P > 0.05$), this finding showed the significant influence of age and family type on the level of knowledge acquired for first-time pregnant women. The result of the present research was nearly congruent with *Kumar, (2014),* who reported a non-significant association between pretest knowledge scores with their demographic variables except educational status and type of family.

On the contrary, this result was inconsistent with *Rosy (2014),* who conducted "a study to assess the knowledge and practice regarding minor disorders of pregnancy and the incidence among the antenatal mothers who were attending OPD at a selected hospital, Kolar." The study founded a significant association between knowledge scores of participants with occupation and income. Additionally, *Alageswari and Dash, (2019)* showed that the gravidity alone has a significant association with the knowledge of antenatal mothers on minor ailments ($p < 0.05$), remaining all variables showed non-significant association ($p > 0.05$). This difference in results may be due to the difference in the place of studies and the personal characteristics of the studied sample.

The result of the present research clarified that there was a statistically significant relationship between total healthy practices score regarding minor ailments at the pre-intervention phase only with (age and educational level) of the studied sample ($p \leq 0.001$) ($p \leq 0.05$) respectively. While there was no statistically significant relationship between total healthy practices, score regarding minor ailments at post-intervention phases and personal characteristics of the studied sample (age, residence, educational level, occupation, income ($P > 0.05$), but the type of family is significant as $p =< 0.05$ at post-intervention phase. The result of the current research was not following *Aziz and Maqsood, (2016),* who concluded that there was a significant association between knowledge and age group, level of education, and gestational age while there was no significant correlation between self-management practices and age groups concerning minor ailments.

Concerning the correlation between total knowledge and total healthy practices, the results of the present research showed that there was a non-significant positive correlation between total knowledge and total healthy practices regarding minor ailments at the pre-intervention phase ($P > 0.05$). While a highly positive statistical correlation between total knowledge and total healthy practices regarding minor ailments at the post-intervention phase ($P \leq 0.001$). From the researchers' point of view, this ensured that pregnant women at the post-intervention phase acquired correct knowledge, which in turn affected their practices positively. This finding of the current research was confirmed by *Rosy (2014),* who revealed that there was a high statistically significant correlation between knowledge and practice scores of minor disorders of pregnancy at 0.05 levels.

The satisfaction of pregnant women seeking help is one of the essential qualitative indicators of health care provision and is of exceptional importance in antenatal care. The satisfaction of pregnant women is achieved by meeting their needs and expectations *(Al-Ateeq & Al-Rusaiess, 2015).* Regarding the pregnant women's satisfaction towards the self-instructional module, the results of the current research revealed that the majority of mothers were satisfied with the self-instructional module, and this supported the fourth research hypothesis. The few percentages of mothers who were uncertain and dissatisfied with the self-instructional module (4.4% and 4.1%), respectively, were not preferring the very long subjects and their complexity. This result was supported by *Gamel et al. (2017),* who mentioned that the intervention group had agreed that the self-care guide is easy to be used and the majority of them reported that they would use it in the future pregnancy which reflects their satisfaction from the self-care guide.

7. Conclusion

Based on the findings of the current research; it was concluded that research hypotheses were supported and the self-instructional module had a positive effect on the improvement of pregnant women' knowledge and in turn, their remedial practices were also improved at post-intervention phase compared to pre-intervention phase and this support the first and second research hypotheses. Also, the majority of pregnant women were satisfied after the implementation of the self-instructional module. This finding supported the fourth hypothesis.

Additionally, there was a statistically significant reduction in the frequency of minor ailments at the post-intervention phase compared to the pre-intervention phase in favor of post-intervention, and this supported the third hypothesis. Moreover, there was a non-significant positive, statistically significant correlation between total knowledge and total healthy practices regarding minor ailments at the pre-intervention phase while there was a highly positive statistical correlation between total knowledge and total healthy practices regarding minor ailments at the post-intervention phase ($P \leq 0.001$).

8. Recommendations

Based on the findings of the current research, the following recommendations were suggested:

- Dissemination of the current study booklet to all antenatal clinics and maternity hospitals at Benha city.
- From time to time, the prenatal self-education unit should be restructured and reviewed concerning minor illnesses to meet the health needs of pregnant women.

- The antenatal self-instructional module regarding minor ailments during pregnancy should be seriously upheld in every antenatal visit.
- Pregnant women satisfaction surveys should be carried out routinely to improve the quality of antenatal care services, including minor ailments' health education.
- Replication of the study on a large representative probability sample is highly recommended in different maternity hospitals to achieve more generalization of the results.
- Further studies should be conducted to incorporate the views and responses of health care providers because the study only depended on the responses of pregnant women.
- The self-care concept using a self-instructional module must be an integral part of the under or postgraduate nursing curriculum.

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