Effect of Instructional Guidelines on Pregnant Women' Knowledge and Practice regarding Complementary Therapies

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Abstract

Complementary therapies (CT) are used by millions of people. Such therapies are used to treat a wide range of medical conditions, but they are especially common during pregnancy. **Aim:** To determine the effect of instructional guidelines on pregnant women' knowledge and practice regarding complementary therapies. **Subjects and methods: Design:** A quasi-experimental research design was used to achieve the study's aim. **Setting:** The study was conducted in Antenatal Outpatient Clinic at Obstetrics and Gynecology Hospital at Port Said City**. Subjects**: A total of 100 pregnant women were selected from previous settings based on the non-probability purposive sampling technique is used. **Tools:** Tool I: A structured interview questionnaire; it consisted of two parts; (1) Demographic characteristics, (2): Obstetric history, Tool II: Pregnant women's knowledge regarding complementary therapy, and Tool III: Pregnant women' self-reported practices regarding complementary therapy. **Results**: Regarding the source of information about complementary therapies, it was revealed that only less than one-third received knowledge about complementary therapies from their peer groups. The results revealed that post instructional guidelines knowledge and practice regarding complementary therapies was improved and statistically significantly higher than pre- instructional guidelines implementation among pregnant women. **Conclusion:** The results of the current study concluded that the instructional guidelines had a positive effect in improving pregnant women's knowledge and practice regarding complementary therapies. **Recommendations:** Maternity and community health nurses should play a role in providing frequent training and workshops to pregnant women in antenatal clinics about the importance of complementary therapies.

Keywords: Complementary therapies, Knowledge, practice, pregnant women.

Introduction:

Pregnancy is the period during which a human being develops from the genetic material of a single egg and, in most cases, sperm. Conception happens naturally as a result of sexual activity. The kid grows and matures from just two cells to a fully developed newborn over around forty weeks before being born **(Leuri, 2019)**

The National Centre for Complementary and Integrative Health (NCCIH) defines complementary and alternative therapy as a healthcare strategy that is not part of mainstream Western or conventional medicine. The phrase 'complementary' refers to medicine that is used in addition to conventional medicine, whereas the term 'alternative' refers to medicine that is used instead of conventional medicine. Nutritional supplements, herbal medicine, relaxation therapies, and aromatherapy are the most prevalent methods utilized during pregnancy in many countries **(NCCIH, 2017).**

Complementary therapy is a type of health care that is not part of traditional western or conventional medicine. The phrase supplementary medicine refers to medicine that is used in addition to conventional treatment. The use of complementary therapies during pregnancy is common all around the world. Germany has 69 percent of pregnant women, while America has 69 percent. Complementary therapy is used by 51 percent of pregnant women in the United States and 73 percent of pregnant women in Australia. A supplementary therapy encompasses a variety of heating techniques and therapies that are not based on mainstream western medicine and come from all over the world **(WHO, 2018).**

About 65 to 80 percent of the world's healthcare practices use complementary and alternative medicine (**WHO, 2018**). These usage estimates have also been reported in industrialized countries, where usage has gradually climbed **(Pan et al., 2012**). Every year, up to 72 million people in the United States use at least one complementary and alternative therapy, with an estimated 425 million visits to alternative providers (**Barnes et al., 2017**).

Complementary therapies are popular because they place a strong emphasis on the individual's personality as well as the interplay between the mind, body, and environment. They appeal to people who wish to take a more active role in their health treatment and believe that these therapies are more in line with their values. There are different types of complementary therapies that include breathing exercise, massage, yoga, music therapy, and Ayurveda (**Hall et al., 2018).**

Complementary medicines can cause harmful effects in some people, including severe allergic reactions. Many complementary medicines contain active ingredients that people may not recognize. Cases of contamination have also been reported. In the case of complementary therapies, a contraindication does not necessarily mean "do not treat", but rather, "seek doctors' permission and proceed with caution". This is especially important when the client has a condition for which he or she is receiving medical attention and/or prescribed medication, e.g. cancer, diabetes, hypothyroidism, epilepsy, or high blood pressure. (Other 'circumstances' that require the same level of caution include pregnancy and withdrawal from substance misuse.

Things to consider before using complementary therapies such as What are the benefits?, What is the scientific evidence to support its use?, Will the therapy potentially harm me because of its side effects, possible interaction with other medication, the therapist's advice to stop or delay conventional treatment?, and Can I afford the cost of the therapies or medicines?.

Reduced anxiety, reduced back and leg pain, greater sleep, no side effects, relatively accessible, and simple to administer and practice are just some of the advantages of complementary therapy. Also, it reduced the levels of the stress hormone norepinephrine, higher levels of the "feel-good" neurotransmitters serotonin and dopamine, decreased levels of cortisol, a stress indicator, and overall mood improvement (**Institute of Medicine, 2015**).

Types of complementary therapies included acupuncture or acupressure that may help to reduce backache or pelvic pain in pregnant women. Acupuncture or acupressure is also used to bring on labor, although its effectiveness is uncertain. Acupuncture or acupressure is generally safe when performed by a trained acupuncturist. Mild pain from the needles is the most common side effect. Chiropractic and osteopathy are used to reduce low back and pelvic pain in pregnant women. The effectiveness of these treatments is uncertain but they are generally thought to be safe for pregnant women **(Victoria, 2021).**

Massage is used to help cope with changes in their body, reduce stress, and improve sleep. Usually, the abdomen is not massaged at all or massaged very lightly. Massages are usually avoided in the first trimester and it's best not to lie flat on your back in the second half of your pregnancy since this puts too much pressure on the vein that runs from your legs to your heart **(Sriasih et al., 2019)**.

Massage contains influencing soft tissues of the body. It is used to help relax muscles tense and to help calm. Different massage techniques may help to benefit to reduce pain during labor such as lower back massage, smooth strokes, also called effleurage, counter pressure, and hip squeeze. Massage stimulates our body to release endorphins, the natural pain-killing, mood-lifting chemicals produced in the brain. In the first stage of labor, massage may reduce anxiety and ease the pain. It also helps to cope with contractions by making feel less intense and more manageable (**Thomson et al., 2019)**.

Massage therapy is helping in pain relief and reducing emotional stress. Several theories explain the mechanism by which massage might relieve pain, such as reduction in cortisol and norepinephrine levels, increasing serotonin levels, stimulation of endorphin release in

addition to enhancing circulation with a consequent increase in oxygen transmission to the tissues, and the facilitation of toxin excretion through the lymphatic system **(Gallo et al., 2017)**.

The physiological mechanism of breathing is a protective action as it is a fight-or-flight reflex triggered by the central nervous system. Physiologically, deep abdominal breathing stimulates the parasympathetic nervous system (**Ma et al., 2017).** As a result, the blood circulation in pregnant women will undergo oxygenation, which will trigger the release of endorphins associated with a decrease in heart rate and an increase in feelings of calmness. At the same time, endorphins can also suppress the sympathetic system, leading to a decrease in the release of stress hormones such as cortisol (**Bordoni et al., 2017)**.

Reflexology; a therapist uses hands, fingers, and thumbs to stimulate certain areas of the feet to reduce low back or pelvic pain. It is reported to be safe. Naturopathy is based on the belief in 'nature's healing power'. Treatments aim to support good health through things like diet, herbal supplements, or exercise. There isn't much research on the use of naturopathic treatments in pregnant women. Hypnosis has been used to help with labor pain or to reduce stress. However, hypnotherapy techniques need to be practiced to be effective during childbirth. Biofeedback training aims to help women recognize body signals such as heart rate or tensed muscles and to change their physical responses during labor. There isn't enough high-quality evidence to prove it's effective at reducing labor pain **(National Centre for Complementary and Integrative Health Medicine, 2017).**

The fact that women continue to use complementary and alternative medicine without the knowledge or consent of their midwives is alarming. Lack of disclosure with health providers about CAT use is problematic since it might increase risks and jeopardize therapy relationships. Nurses should know the importance of communication and trust sharing to develop the therapeutic relationship between nurses and women (**Pairman et al., 2015).**

Significance of the study:

The average prevalence of use of CAM across all surveys was 20.6% (range 12.1-32%). The average referral rate to CAM was 39% (range 24.6-86%), and CAM was recommended by 46% of physicians (range 38-55%). The average percentage of physicians who had received training in CAM was 10.3% (range 4.8-21%) **(National Centre for Complementary and Integrative Health Medicine, 2017)**.

Little is known about the critical decisions faced by pregnant women and clinicians in deciding to use CAT therapies where little information about effectiveness and potential adverse effects often exist. Increased knowledge about patient and provider perceptions of CAT use has the potential to contribute to the development of decisions. It is accessible, cost-effective, and is a non-invasive technique that helps to reduce the intensity of pain, stress, and anxiety.

The nurse plays an important role in pain management for pregnant women through using complementary therapy. Nurses assist with side-effects of orthodox treatments such as nausea, constipation, pain, insomnia, edema, muscular pains, and tension; Induces feelings of well-being, enabling patients to feel better. Gives a positive experience, unlike so many of the other treatments they may be having; provides emotional support and helps relieve stress and tension; reduces levels of anxiety by relaxing patients; gives patients time to talk if they choose **(National Centre for Complementary and Integrative Health Medicine, 2017).** Therefore, the researchers conducted this study to determine the effect of instructional guidelines on pregnant women' knowledge and practice regarding complementary therapies

Operational definition:

Complementary therapy: A group of diagnostic and therapeutic disciplines that are used together with conventional medicine. An example of a complementary therapy is using acupuncture in addition to usual care to help lessen a patient's discomfort following surgery.

Aim of the study:

To determine the effect of instructional guidelines on pregnant women' knowledge and practice regarding complementary therapies through:

- Assessing knowledge level among pregnant women regarding complementary therapies.
- Assessing practice level among pregnant women regarding complementary therapies
- Finding out the association between demographic characteristics of pregnant women and their knowledge regarding complementary therapies**.**
- Evaluating the effect of instructional guidelines on knowledge and practice regarding complementary therapies among pregnant women.

Research hypothesis:

Pregnant women who will receive instructional guidelines will exhibit better knowledge and practice level post-implementation than pre-implementation.

Subjects and Method:

Research design:

A quasi-experimental research design was used to achieve the study's aim.

Setting:

The study was conducted in the Antenatal Outpatient Clinic at Obstetrics and Gynecology Hospital at Port Said City. This setting was chosen because of the high attendance rate of pregnant women attending for follow-up in the previously selected setting, as well as the fact that it serves the most population of the country. This clinic includes one room divided into diagnostic and examination areas. As well as, waiting for the area for women's admission where the researchers interviewed the recruited pregnant women to implement the instructional guidelines. The antenatal outpatients' clinics provide services for pregnant women from Saturday to Wednesday, from 9 a.m. to 1 p.m.

Subjects:

A total of 100 pregnant women were selected from previous settings based on the non-probability purposive sampling technique is used within six months. The researchers selected pregnant women with inclusion criteria e.g normal pregnancy, suffer from any type of minor discomforts, their gestational age from 24-34. And exclusion criteria such as refused to participate in the study &/or high risk pregnancy.

Sample size calculation:

The sample size was calculated based on considering the level of significance of power analysis of 0.95(β=1-0.95=0.5) at alpha .05 (one-sided) with a large effect size (0.5) was used as the significance, 0.001 was used as the high significance.

Tools:

Tool (I): A structured interview questionnaire was developed by the researchers after reviewing the related literature and research studies**;** it consists of four parts.

Part 1: Used to collect data regarding pregnant women's demographic characteristics, it consisted of (age, educational level, occupation, and residence) (4 items).

Part 2: Used to collect data regarding obstetric history, it consisted of (gestational age, No. of pregnancies) (2 items).

Tool (II): Pregnant women's Knowledge regarding complementary therapy (Steel et al., 2016; National Centre for Complementary and Integrative Health Medicine, 2017) (pre-post tool):

It was developed by the researchers and included 10 questions (multiple choice questions). It was used to collect information about pregnant women's knowledge about complementary therapy such as the meaning of complementary therapy, types of complementary therapy, benefits of complementary therapy, the difference between complementary and alternative therapies, and factors increased using complementary therapy.

Scoring system:

The pregnant women who checked an item (yes) received one points, while those who checked an item (no) received zero. In addition, the total knowledge score of women was categorized as follows. The overall knowledge score ranged from 0 to 10, with 0 being the lowest and 10 being the highest. The knowledge score was considered to be unsatisfactory knowledge for those who scored from 0-4 (< 60%), and those who scored from

5 to 10 were considered to have satisfactory knowledge (≥ 60%).

Tool (III): Pregnant women's self-reported practices regarding complementary therapy: (pre-post tool); It was developed by the researchers after reviewing the related literature and research studies **(Bordoni et al., 2017, Gallo et al., 2017; Victoria, 2021).** It was used to collect data about pregnant women's practices of different types of complementary therapies such as acupuncture or acupressure, chiropractic, osteopathy, massage, breathing exercise, reflexology, and biofeedback training.

Scoring system:

Each item was given a score of two points for each step that was done correctly, one point for each step done incompletely, and zero points for steps that were not done. If the answer was less than (50%) that was considered inadequate practice level and (50%) or above was considered adequate practice level.

Validity of the tools:

The content validity of the tools, their clarity, comprehensiveness, appropriateness, and relevance was reviewed by five experts, two in medical-surgical nursing and three experts in the physiotherapy field. Modifications were made according to the panel judgment to ensure sentence clarity and content appropriateness.

Reliability of the tools:

The Cronbach's test was used to determine the reliability of the knowledge questions, which was 0. 87, and the reliability of the reported practice questions was 0.89.

A pilot study

A pilot study was conducted on a sample (10 pregnant women) before beginning data collection to evaluate the feasibility and applicability of the tools. The necessary modification depended on the pilot study was done so pregnant women who participated in the pilot study were excluded from the study sample.

Methods of data collection:

The study included 100 pregnant women. The researchers have visited the previously selected settings two days / a week from 9 am to 1 pm (Saturday and Tuesday). Data were collected within six months, from the beginning of August 2019 to the end of January 2020. Approximately, 45-50 minutes were taken to complete each interview tool.

The instructional guidelines implementation was divided into three phases: preparatory, implementation, and evaluation.

A-Preparatory phase:

The data collection tools were distributed to the antenatal mothers twice: (1) as a pre-test to assess their knowledge and practice before adopting instructional guidelines, and (2) was as a post-test to assess their knowledge and practice after one month of the implementation of the instructional guidelines.

After reviewing the related literature and assessing the actual needs of the studied antenatal mothers, the simplified booklet was used as a supportive material and given to pregnant women in the Arabic language to cover all items regarding the knowledge regarding complementary therapy. Lectures, discussions, photographs, and posters were all employed as instructional methods.

B-Implementation phase:

The researchers collected data from the pregnant women who attended previously selected settings. The researchers met pregnant women individually at the waiting area present at previously selected settings and explained the aim of the study after introducing themselves to pregnant women.

The researchers created and implemented instructional guidelines for complementary therapy that included a theoretical and practical component. It was implemented through lectures, posters, educational films, scenarios, and role-plays. Pregnant women were given an educational booklet written in simple Arabic with illustrative photos provided by the researchers regarding complementary therapy. The first session began with an introduction to the instructional guidelines for complementary therapy, and each subsequent session began

with a summary of the previous session's feedback.

One theoretical and one practical session were introduced to pregnant women in eleven groups of 9–10 pregnant women, one session every two weeks for four weeks at the lecture's room at the previously selected setting in the form of lectures and group discussion with a duration of 45 - 60 minutes for each session. In the first session, the meaning of complementary therapy, types of complementary therapy, benefits of complementary therapy, the difference between complementary and alternative therapies, and factors increased using complementary therapy. While, in the second session was concerned with the discussion and implementation of pregnant women's practices of different types of complementary therapies such as acupuncture or acupressure, chiropractic, osteopathy, massage, breathing exercise, reflexology, and biofeedback training.

At the end of each session, the important points were reviewed. The educational sessions were repeated to each group of women. Each pregnant woman was provided with the educational booklet at the end of the 1st session as a guide and was informed about the time of the next session.

The instructional guidelines included knowledge regarding complementary therapy included two parts as follow:

Theoretical part:

- Meaning of complementary therapy
- Types of complementary therapy
- Causes for using complementary therapy
- Benefits of complementary therapy
- The difference between complementary and alternative therapies
- Factors increased using complementary therapy.

The practical part included procedure of different types of complementary therapy as follow:

- Acupuncture or acupressure
- Chiropractic and osteopathy
- Massage
- Breathing exercise
- Reflexology
- Biofeedback training

Evaluation:

Evaluation of the instructional guidelines was done after one month. A post-test was applied for the pregnant women to evaluate their knowledge and practices using the same pre-test tools that were evaluated according to the same method of scoring that was used before the application of the instructional guidelines (parts III and IV).

Ethical considerations:

Before beginning the study, the researchers met with the directors of the selected setting to explain the study's aim and obtain their cooperation. Informal consent was obtained from pregnant women to obtain their cooperation. The purpose of the study was stated, as well as the expected outcomes of the study. The study's purpose was explained to pregnant women. The pregnant women were informed that participation in the study was voluntary, and they were allowed to withdraw from the study at any time, without giving any reason. Pregnant women were informed that their data would be private and used for research purposes only.

Administrative design:

Administrative permission was obtained through an issued letter from the Dean of the Faculty of Nursing, to the director of the antenatal outpatient clinic.

Statistical analysis:

SPSS was used to examine the data (version 19). The demographic characteristics and information sources of the individuals were investigated, and the results were expressed as frequencies and percentages. To examine the homogeneity of demographic characteristics, the Chi-square and Two-Sample Kolmogorov-Smirnov tests were utilized. The U test and analysis of covariance were used to compare the knowledge and practice subscales (ANCOVA). The ANCOVA was done with the assumptions in mind, with the influence of pre-test scores as a covariate variable corrected and the adjusted means compared. The threshold for significance was set at P 0.05.

Results:

Table (1): Represented that 77% of pregnant women their age ranged between 18 < 30 years with mean ± SD 22.23 ± 3.64, (36%) of them had basic education, meanwhile, and also, it is pointed out that 75% of pregnant women were housewives.

Figure (1): Demonstrated that (71%) of pregnant women were from rural areas and 29% of them were from urban areas.

Table 2 Portrayed the obstetric history of the studied pregnant women, it observed from this table that, (61%) of the pregnant women were had from one to three pregnancies. More than half (59%) of the pregnant women were between 30 weeks and 34 weeks.

Figure (2) revealed that the main source of information among the studied pregnant women was doctors (62%).

Figure (3) highlighted that the most frequent cause of using complementary therapy among the studied pregnant women was back pain (39%).

Table (3): Represented that, the knowledge mean score of pregnant women about complementary therapy was decreased pre instructional guidelines implementation.While there was increasing and improvement in the mean score of knowledge with statistical significance after one month of instructional guidelines implementation.

Tables (4) showed that after the instructional guidelines, (97%) of the pregnant women had a satisfactory knowledge level of complementary therapy compared to before the intervention. pregnant women's knowledge level improved significantly after the instructional guidelines with a significant difference pre and post one month of guidelines (P<0.001).

It was noticed from **tables (5)** that, a high percentage of pregnant women have less practice about complementary therapy before the implementation of the instructional guideline. After guidelines implementation, highly statistically significant improvements were observed in pregnant women's practices about the complementary therapy in all tested areas (P<0.001).

Figure (4) showed the total practice scores of the pregnant women before and after receiving complementary therapy instructional guidelines. Before the instructional guidelines, it was revealed that (94%) of the pregnant women evaluated had inadequate practice with complementary therapy, which dropped to 10% after the intervention. However, only 6% of the pregnant women in the study had adequate practice before the instructional guidelines, but after one month, 90% of pregnant women increased their practices score with a statistically significant difference.

It cleared from **figure 4** that (78%) of studied pregnant women were highly satisfied with instructional guidelines regarding complementary therapy (n=100)

Table (6): Revealed that there was a statistically significant relationship between the age and educational level of the studied pregnant women and knowledge throughout the phases of the instructional guidelines at p<0.01.

Table (7) illustrated the correlation between the total score of pregnant women's knowledge and practice pre and post the instructional guidelines; a significant positive correlation was found between the score of knowledge and the score of practice with statically significant differences (p <0.05).

Table (8): Displayed that the majority of the pregnant women reported that practices of instructional guidelines regarding complementary therapies had a positive effect on decreasing their complaints.

Table (1): Distribution of studied pregnant women regarding their demographic characteristics (n=100)

Items	No.	%
Age in years		
18 < 30	77	77
30 < 40	23	23
Mean ±Stander deviation	22.23 ± 3.64	
Educational level		
- Illiterate	13	13
-Basic education	36	36
-Secondary education	24	24
-University education	27	27
Occupation		
- Working	25	25
- Housewives	75	75

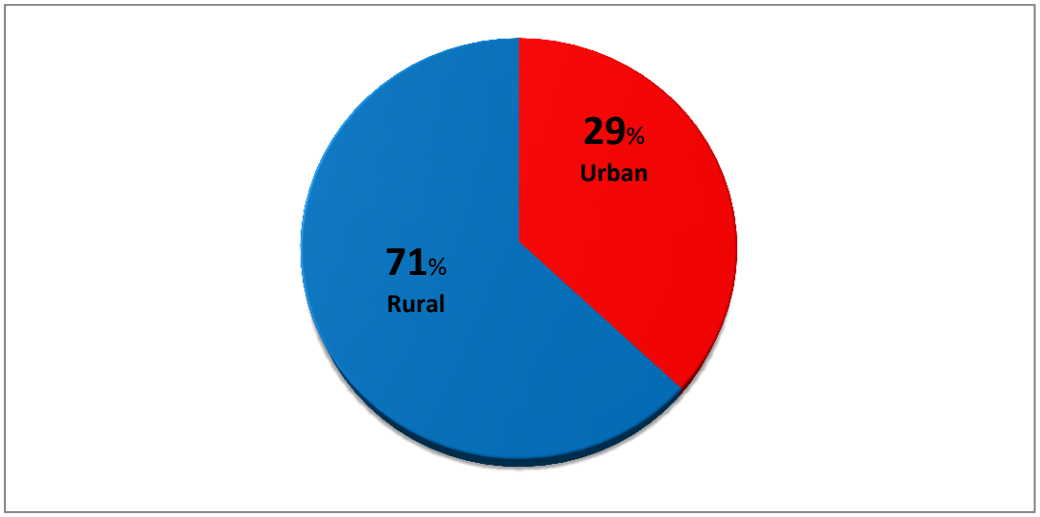

Figure (1): Distribution of studied pregnant women regarding their residence (n=100)

Table (2): Distribution of pregnant women regarding their obstetric history (n=100)

Items	No.	%
Number of pregnancy		
- 1< 3	61	61
- > 3	39	39
Gestational age		
- 28-30	41	41
- 30-34	59	59

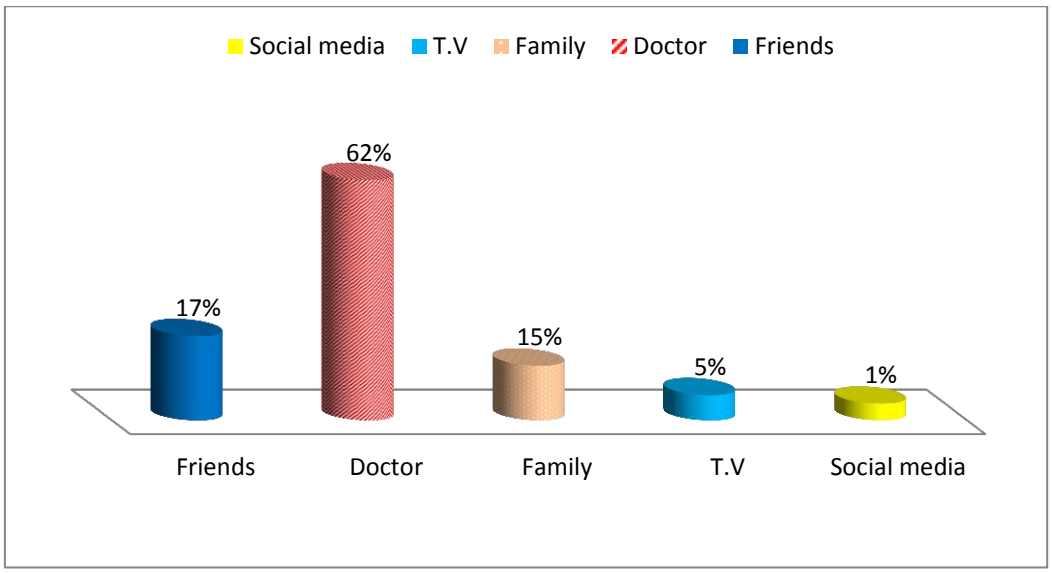

Figure (2): Percentage distribution of studied pregnant women regarding their source of information about complementary therapy (n=100)

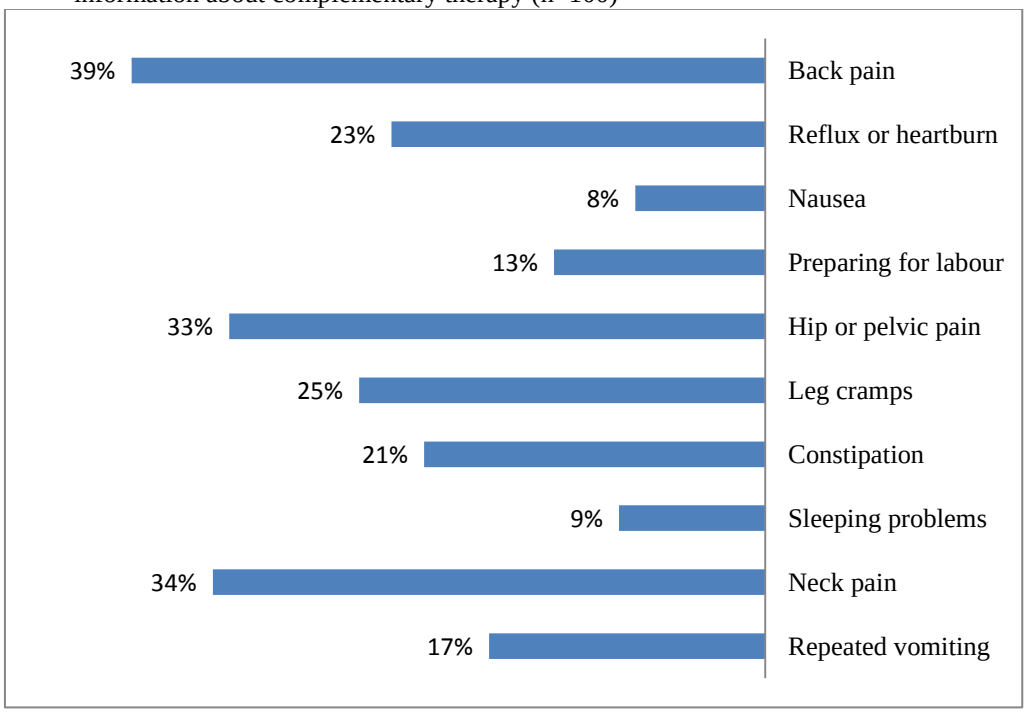

Figure (3): Percentage distribution of studied pregnant women regarding their causes of using complementary therapy (n=100)

Table (3) Comparison between the mean score of studied pregnant women regarding their knowledge about complementary therapy pre and post one month of instructional guidelines implementation (n=100).

Variable	Score	Pre-instructional guidelines implementation	one month post-instructional guidelines implementation	Paired t-test	P-value
		Mean ±SD	Mean ±SD		
Meaning of complementary therapy	2	.62±.45	1.46±.32	17.2	<0.001
types of complementary therapy	2	.44±.63	1.28±.24	12.03	<0.001
benefits of complementary therapy	2	.73±.51	1.57±.31	14.2	<0.001
The difference between complementary and alternative therapies	2	.73±.23	1.12±.34	63.2	<0.001
factors increased using complementary therapy	2	.54±.61	1.57±.30	12.2	<0.001

Table (4): The total knowledge score level of the studied pregnant women regarding complementary therapy pre and post instructional guidelines (n=100)

Total knowledge	Pre instructional guidelines		Post instructional guidelines		T	P-value
	No	%	No	%		
Satisfactory	17	17	97	97	6.032	<0.001*
Unsatisfactory	83	83	3	3		

***highly significance at 0.001 levels**

Table (5): Distribution of pregnant women' practices of different types of complementary therapies procedure pre and post-one-month instructional guidelines implementation (n=100)

Practices items	No =(30)		p-value
	Pre- instructional guidelines implementation	one month post-instructional guidelines implementation	
Acupuncture or acupressure	20(20)	90 (90)	<0.001*
Chiropractic and osteopathy	10(10)	80 (80)	<0.001*
Massage	15(15)	87 (87)	<0.001*
Breathing exercise	20(20)	92 (92)	<0.001*
Reflexology	8(8)	84 (84)	<0.001*
Biofeedback training	7(7)	70 (70)	<0.001*

*Significance at 0.001 levels

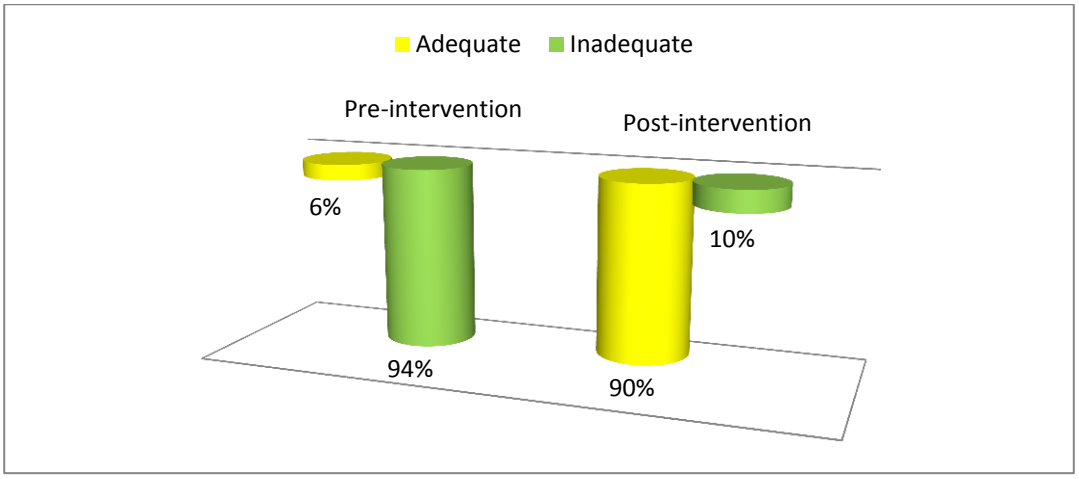

Figure (4): The total practices score level of the studied pregnant women regarding complementary therapy pre and post-one-month instructional guidelines implementation (n=100)

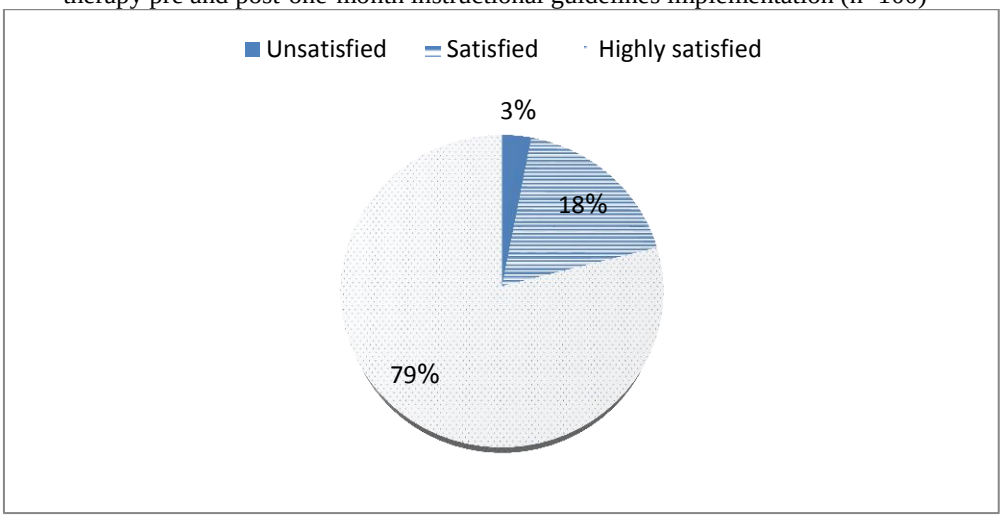

Figure (4): Frequency distribution of studied pregnant women regarding satisfaction about instructional guidelines regarding complementary therapy (n=100)

Table (6): Correlations between studied pregnant women's knowledge regarding complementary therapy and their sociodemographic characteristics (n=100).

Knowledge scores	Pre- instructional guidelines implementation	one month post- instructional guidelines implementation
Age	-.137	-.253*
Education	.136	.305**
Occupation	-.102	-.137
Crowding index	.063	.087

(*) Statistically significant at p<0.05
(**) statistically significant at p<0.01

Table (7): Correlation Co-efficient between the knowledge scores and practices scores pre and post-implementation of the instructional guidelines

Correlation	Practices scores	
	R	P
Knowledge score		
Pre instructional guidelines	0.172	0.368
Post instructional guidelines	0.374	0.047*

** Correlation is significant at the 0.05level.*

Table (8): Distribution of the studied pregnant women regarding effect of practices on their complaints post-implementation of the instructional guidelines

Effect of practices of instructional guidelines regarding complementary therapies on pregnant women's complaints	No	%
Constipation has been decreased		
• Yes	85	85
• No	0	0.0
Reflux or heartburn have been decreased		
• Yes	65	65
• No	0	0.0
Back pain has been decreased		
• Yes	70	70
• No	30	30
Neck pain has been decreased		
• Yes	55	55
• No	45	45
Repeated vomiting has been decreased		
• Yes	70	70
• No	30	30
Nausea has been decreased		
• Yes	84	84
• No	16	16
Leg cramps have been decreased		
• Yes	77	77
• No	22	22
Sleeping problems have been decreased		
• Yes	100	100
• No	0	0.0
Hip or pelvic pain have been decreased		
• Yes	80	80
• • No	20	20
Preparing for labour has been improved		
• Yes	90	90
• No	10	10

Discussion:

It is important to discuss any alternative therapies to use during pregnancy with a healthcare provider before trying them. However, there are a few techniques that are generally considered to be completely safe to use both during pregnancy and labor. These include relaxation techniques, patterned breathing (Lamaze), emotional support, self-hypnosis, acupuncture/acupressure, massage, and aromatherapy **(Traci, 2021).**

The results of the current study revealed that a high percentage of pregnant women had basic education and less than three-quarters were housewives. From the researchers' point of view, this may be the cause of knowledge deficit.

The results of the current study highlighted that less than three-quarters of pregnant women were from rural areas. From the researchers' point of view, this may be the reason for knowledge deficit and difficulty to access information in rural areas.

The findings of the present study revealed that the main source of information among more than three-fifths of the studied pregnant women was doctors. This result was not expected among Egyptian pregnant women especially when they feel unwell; they commonly and directly asked their mothers and friends to solve problems. This result is not similar to the study conducted by those who studied awareness of the maternity and gynecological nurses about complementary therapy and found that the main source of information was friends.

The results of the present study illustrated that there was increasing and improvement in the mean score of knowledge with statistical significance after one month of instructional guidelines implementation among pregnant women and the majority of them had satisfactory knowledge levels. From the researchers' point of view, this result reflects the positive effect of instructional guideline implementations, which meet the pregnant women's needs and provide them with sufficient knowledge regarding complementary therapy.

This could be explained the reasons why the pregnant women didn't receive enough information from the health care team. Some pregnant women were having lack of the interest to know any information while others were interested to know but they didn't find the person who had enough time to provide them with enough information. So, when they found a chance to improve, they agree to participate to improve their knowledge. This improvement is the emphasis on the fact that most pregnant women have a strong desire to learn more knowledge about complementary therapy and show the effect of the program.

This result agreed with **Marie and Deborah**, (**2018)** who studied "Decision-making for use of complementary and alternative therapies by pregnant women and nurse midwives during pregnancy " and reported that it is also important to receive information about CAM to improve limited knowledge by attending continuing education programs.

Similary, **Rebekah, et al., (2018)** studied "Women's motivation, perception and experience of complementary and alternative medicine in pregnancy" and found that a clearer understanding of the importance of complementary therapy use to women in pregnancy is very important.

These results are supported by **Hall et al., (2015)** who studied " Complementary and Alternative Medicine: Interaction and Communication between Midwives and Women" and suggested nurses are usually supportive, communicate with women about the safe use of complementary therapies, and received knowledge through educational programs.

The results of the present study showed that a high percentage of pregnant women had inadequate practice about complementary therapy before the implementation of the instructional guideline in all tested areas. But after one month of guidelines implementation, highly statistically significant improvements and increases in their practices score were observed in pregnant women' practices about the complementary therapy in all tested areas ($P<0.001$). From the researchers' point of view, it reflected the good effect of the instructional guidelines on improving practices which confirmed the significant modifications in the pregnant women's practice that reflected the main goals of the implementation of the instructional guidelines.

The results of the current revealed that there are different types of complementary therapies used among the studied pregnant women such as acupuncture or acupressure, chiropractic and osteopathy, massage, breathing exercise, reflexology, and

biofeedback training. And reflected also, that the most common type used among study group were breathing exercise followed by acupuncture or acupressure, and massage (92%, 90%, and 87%) respectively. From the researchers' point of view, it reflected the simplicity and easy applicability of these types were most frequent used among studied pregnant women.

These findings similar with **Bharti, (2021)** who studied in Pravara "Effectiveness of back massage versus breathing exercises on labour pain and anxiety among primigravida mothers during the first stage of labour" and found that back massage and breathing exercises provided more persistent pain relief.

Similarly, **Choudhary, et al., (2018)** conducted a study about "Effectiveness of labor support measures on the pain perception of mothers in labor" and noticed that back massage and deep breathing exercise were effective in reducing pain.

This result is supported by **Czech et al., (2018)** who found in their study titled "Pharmacological and non-pharmacological methods of labor pain relief establishment of effectiveness and comparison" and stated that non-pharmacological methods such as acupuncture and acupressure, massage techniques can help in reducing pain.

Also, the results are in the same line with **Smith et al., (2018)** who studied "Massage, reflexology and other manual methods for pain management in labor" and found that manual methods like reflexology and massage are effective for the management of pain, and help reduction of tension.

These results are in the same line with **Strouss et al., (2014)** who studied" Complementary and Alternative Medicine Use in Women during Pregnancy" and reported that nearly three-quarters of pregnant women were found to use at least one type of complementary therapy.

This result agreed with **Mollart et al., (2018),** who conducted a study about "'Midwives' Personal Use of Complementary and Alternative Medicine (CAM) Influences Their Recommendations to Women Experiencing a Post-date Pregnancy', Women and Birth" and recommended using complementary the therapies.

The present study highlighted that more than three-quarters of studied pregnant women were highly satisfied with instructional guidelines regarding complementary therapy. From the researchers' point of view, this reflected the success of the instructional guidelines and the good achievement of the study aim.

The present study revealed that there was a statistically significant relationship between the age and educational level of the studied pregnant women and knowledge throughout the phases of the instructional guidelines. From the researchers' point of view, this confirms that young age and educated women are likely to gain information and practice well.

The present study indicated that there was a significant positive correlation between pregnant women's knowledge scores and their practice post-one-month instructional guidelines implementation. From the researchers' point of view, this reflected the importance of improving pregnant women's knowledge and practice to help them learn and acquire good knowledge and apply it. This association is explained that when the studied pregnant women' had sufficient knowledge they can practice well.

The present study results reflected that instructional guidelines implementation regarding complementary therapies is effective. This study is supported by **Kate et al., (2016)** who studied " Complementary therapies for labor and birth study: a randomized controlled trial of antenatal integrative medicine for pain management in labor" and highlighted the effectiveness of a novel integrated antenatal education approach, incorporating evidence-based complementary therapies techniques.

The results of this study showed that practices of instructional guidelines regarding complementary therapies had a positive effect on decreasing pregnant women's complaints post instructional guidelines implementation. According to the researchers' point of view, this indicated that the instructional guidelines were well implemented and successes among pregnant women.

Conclusion:

Based on the results and hypotheses of the present study, the study findings concluded that the results support the research hypothesis in which implementing instructional guidelines had a positive effect in improving pregnant women's knowledge and practice regarding complementary therapies. A significant positive correlation was found between the score of knowledge and the score of practice with statically significant differences ($p < 0.05$).

Recommendations:

Based on the current study results, the following recommendations are proposed:

- Maternity and community health nurses should play a role in providing frequent training and workshops to pregnant women in antenatal clinics about the importance of complementary therapies.
- Replication of the current study with a larger sample of pregnant women in different settings is required for generalizing the results.

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