

Knowledge and Attitudes of Pregnant Women Regarding Painless Labor

Asmaa Elsaied Salama¹, Anaam Ebrahim El-Nagar ², Ghada Abd El-Salam Belal ³,
Manal Abdalla Gaheen ⁴

¹ Demonstrator of Maternal and Neonatal Health Nursing Department, Faculty of Nursing, Tanta University, Egypt.

² Lecturer of Maternal and Neonatal Health Nursing Department, Faculty of Nursing, Tanta University, Egypt.

³ Assist. Prof of Maternal and Neonatal Health Nursing Department, Faculty of Nursing, Tanta University, Egypt.

⁴ Professor of Maternal and Neonatal Health Nursing Department, Faculty of Nursing, Tanta University, Egypt.

Abstract

Painless labor refers to using of different methods that can be used during labor including non-pharmacological and pharmacological methods to help women better cope with labor pain. **Aim:** The present study aimed to assess knowledge and attitudes of pregnant women regarding painless labor. **Subjects and method:** A descriptive research design was used. The study was conducted at out-patient clinics of obstetrics departments of: Tanta University Hospitals, El-Menshawey General Hospital, El-Mogamaa El-Teby Hospital, Doctor Mohamed Mashally Medical Center at Said, and Medical Center at Segar. A purposive sample of 300 pregnant women were included in the study. **Two tools** were used for data collection: **Tool I:** Pregnant women's knowledge regarding painless labor individual questionnaire, consisting of three parts: **Part (1):** Socio-demographic data of the pregnant women. **Part (2):** Obstetric history of the pregnant women. **Part (3):** Pregnant women's knowledge regarding painless labor. **Tool (II):** Women's attitudes toward painless labor. **Results:** The vast majority (95.0%) of the studied pregnant women had low level of knowledge regarding painless labor, while more than two-thirds (69.0%) of them had positive attitudes towards it. A significant relationship and positive correlation were found between the total score of women's knowledge and the total score of women's attitudes regarding painless labor. **Conclusion:** There was a low level of knowledge and positive attitudes regarding painless labor among the pregnant women. **Recommendation:** Planning and developing of antenatal childbirth preparation classes for all pregnant women to improve their compliance regarding painless labor.

Keywords: Attitudes, Knowledge, Painless labor.

Introduction

Labor is a series of events by which uterine contractions and abdominal pressure expel a fetus, placenta, and fetal membranes from the uterus between 38 to 42 weeks of gestation.^(1,2) Although labor is one of the

most joyful, and well celebrated period in women's lifetime, it is associated with the most extreme forms of labor pain. Labor pain is a part of normal physiological process characterized by regular, painful,

coordinated uterine contractions associated with progressive cervical dilatation and effacement. (3-5)

The causes of labor pain depend on the stage of labor. The pain in the first stage of labor is visceral results from tissue ischemia during uterine contractions, cervical dilatation, and effacement, as well as pressure on pelvic structures. While the second stage labor pain is somatic in nature caused by marked distention and stretching of the vagina, perineum as the fetus descends. (6-8)

Every woman experience labor pain uniquely with varying degrees of intensity. Although, labor pain experience is subjective and personal, woman's perception of labor pain can be influenced by such factors as; cervical readiness, fetal position and size, pelvic anatomy, age, parity, maternal position, level of fear and anxiety, previous experience, support persons, and women's ability to control pain. Sociocultural, religious roots, and birthing environments may also affect woman's perception of labor pain. (9,10)

Labor pain is a good sign of labor advancement, but unmanaged labor pain can have negative impacts on maternal and fetal wellbeing, and the progress of labor. The World Health Organization (WHO) considered pain management as a standard of quality-of-care highlighting that all aspects of health care should be given timely, appropriately, and should respect a woman's choice, culture and needs. Thus, painless labor is considered as one of the main goals of maternity care worldwide. (11-13)

Painless labor refers to a variety of pain-relieving strategies or methods during labor as non-pharmacological and pharmacological to help women cope with labor pain or provide exceptional pain

relieve. **Non-pharmacological methods** include; cutaneous stimulation (acupuncture, acupressure, therapeutic touch and massage technique, reflexology, application of heat and cold, hydrotherapy, transcutaneous electrical nerve stimulation (TENS) and sterile water injection). Other non-pharmacological methods available are; changing position, and sensory stimulation measures as; breathing exercise, aromatherapy, herbal preparation, music therapy, biofeedback, and hypnosis. (14)

While, **pharmacological methods** involve using of medications to diminish the sense of labor pain either partially or totally. Among pharmacological methods; systemic analgesia, inhalation analgesia, and regional or neuraxial analgesia/ anesthesia. Each woman has her own knowledge, and attitudes regarding painless labor methods. Lack of women's knowledge regarding painless labor methods will negatively influence; their attitudes, ability to adapt with labor pain, acceptance of pain relieves methods and decreased its utilization among them. (14-16)

So, the maternity nurses play a vital role in caring for women aiming for painless labor. Their nursing care management focuses on providing clear, concise information regarding painless labor methods during childbirth educational classes. Continuous assessment of pain during labor and promoting comfort by using painless labor methods is very important. Moreover, they play a major role in providing emotional support, reducing fear, anxiety, supporting women's choice and access to painless labor methods during this critical life event to ensure the best possible outcome for the woman and her fetus. (17-19)

Significance of the study

Therefore, this study aims to assess knowledge and attitudes of pregnant women regarding painless labor. This information is necessary for service providers and health management teams to determine the areas of deficiencies and improving the quality of antenatal care services provided to women during childbirth educational classes. The International Association for the Study of Pain (IASP) indicated that access to pain management is a fundamental human right. Moreover, pain relieve methods for pregnant women believed to increase satisfaction, reduce anxiety and stress. (20-21)

The aim of this study was to: -

Assess the knowledge and attitudes of pregnant women regarding painless labor.

Research question: -

What are the level of knowledge and attitudes of pregnant women regarding painless labor?

Subjects and method:

Study Design

A descriptive study design was used.

Setting

The study was conducted at out-patient clinics of obstetrics departments of: Tanta University Hospitals, El-Menshawey General Hospital, El-Mogamaa El-Teby Hospital, Doctor Mohamed Mashally Medical Center at Said. Medical Center at Segar.

Subjects: A purposive sample of 300 pregnant women were selected according to the number of women's attending at each setting, following the inclusion criteria:

- Age ranged between 21-45 years.
- At the third trimester of pregnancy.
- With normal current pregnancy course (free from any medical or obstetrical complications).

Tools of data collection: To achieve the aim of this study, the following two tools were used for data collection.

Tool (1) Pregnant women's knowledge regarding painless labor individual questionnaire: It was developed by the researcher after reviewing the recent related literatures (16,22-25) to collect the basic data regarding the study subjects. The questionnaire covered the following parts:

Part (1): Socio-demographic data of the pregnant women: It was used to collect data about; age, current marital status, age at marriage, place of residence, religion, women's educational level, women's occupation, as well as family income.

Part (2): Obstetric history of the pregnant women: This part assessed; gravidity, parity, history of abortions, type and place of previous delivery, first antenatal care (ANC) visit during current pregnancy, place of ANC, reason for current ANC visit, number and regularity of antenatal follow-up visits during current pregnancy. Also, women were also asked about the history of pain experienced in previous labor including its intensity, used pain relieve methods during previous labor. In addition, women's attendance of health education classes regarding painless labor methods, place of health education classes and finally source of health education regarding pain relieve methods during labor.

Part (3): Pregnant women's knowledge regarding painless labor: It was used to assess knowledge of the studied pregnant women about painless labor. It included 20 questions such as; definition of painless labor, sources of labor pain, effect of labor pain on the mother and fetus, methods of painless labor.

The scoring system of tool I: part (3) was as follows:

- Correct and complete answer was given a score of (2).
- Correct and incomplete answer was given a score of (1).
- Incorrect and don't know was given a score of (0).

The total knowledge score was calculated according to (20 questions x 2=40) which were categorized as follows:

- High level of knowledge $\geq 75\%$ of the total score.
- Moderate level of knowledge $50 - < 75\%$ of the total score.
- Low level of knowledge $< 50\%$ of the total score.

Tool (II): Women's attitudes toward painless labor: This tool was adapted from **Delwatta (2019)** ⁽²⁶⁾, **McCauley (2017)** ⁽²⁵⁾, and **Hasan (2016)** ⁽²⁷⁾ which consisted of 16 statements to which the pregnant women were asked about their attitudes towards using painless labor methods such as:

- Labor is a natural process that need some methods to relieve labor pain, pain sensation is not necessary during labor process, labor pain should be eased, Prefer delivery without suffering from labor pain.

Scoring system of the studied pregnant women's attitudes regarding painless labor was as follows:

Each statement rated by using 3-point Likert scale, where:

- Agree was scored as (2).
- Uncertain was scored as (1).
- Disagree or don't know was scored as zero (0).

The total score of women's attitudes was calculated according to (16 statements x 2=32) which were categorized as follows:

- Positive attitude $\geq 60\%$ of the total score.
- Negative attitude $< 60\%$ of the total score.

Method

The study was implemented according to the following steps: -

1. **Administrative approval:** an official letter clarifying the purpose of the study was obtained from the Faculty of Nursing and was submitted to the responsible authorities of the selected study settings to obtain their approval and cooperation for carrying out the study.

2. **Ethical and legal considerations was considered all over the study as the following:**

- The approval of ethical committee was obtained (Code 33/2/2022). Women's informed consent was obtained to participate in the study after explaining the purpose of the study. The right to abstain or terminate participation at any time is allowed. The nature of the study didn't cause any harm or pain for the entire sample. Assuring the women about the privacy and confidentiality of the collected data was maintained and used only for the study purpose.

3. **Tool development: Tool (I): Part (1), Part (2), and part (3)** were developed by the researcher after reviewing the recent related literatures, **tool (II)** was adapted from **Delwatta (2019)** ^[26], **McCauley (2017)** ^[25], and **Hasan (2016)** ^[27].

- **Validity and reliability:** the study tools were translated into Arabic language and then tested for construct and content validity by jury of 5 experts in the field of maternal and neonatal health nursing.

- The reliability of the study tools was tested by using Cronbach's Alpha test. They were (0.816, 0.899 and 0.895) for sociodemographic and obstetric history, knowledge, and attitudes of the pregnant women regarding painless labor

questionnaire respectively that indicating high reliability of the study tools.

- A pilot study was carried out on 10% of the total sample (30 pregnant women) from the previously mentioned settings before the actual data collection to ascertain the feasibility and applicability of the developed tools. Data obtained from the pilot study were excluded from the current study sample.

4. Data was collected through a structured interview using the study tools and was applied individually for each woman in the morning shifts in out-patient clinics of obstetrics departments and M.C.H centers at the previously mentioned study settings from 9:00 a.m. to 1.00 p.m., three days per week, according to the identified days of the week for antenatal care at the study settings until the predetermined sample size was collected.

- The researcher introduced herself to each woman and data were collected using the following tools; **Tool I: part (1), part (2)** were used to collect the socio-demographic data and obstetrics characteristics of the studied pregnant women, as well as **part (3):** to assess the pregnant women's knowledge regarding painless labor. **Tool II:** was utilized to assess attitudes of the pregnant women regarding painless labor.

- Filling the questionnaire needed approximately 15-20 minutes.

- After collecting the required data, an instructional booklet regarding painless labor methods was given to women upon their request to improve their knowledge and attitudes regarding painless labor.

- Data collection was carried out over a period of six months started from July 2022 until the end of December 2022

- **Statistical analysis:**

The collected data were coded, entered, tabulated and analyzed using SPSS (Statistical Package for Social Science) version 25 (IBM Corporation, Armonk, NY, USA).

- For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, which describe a categorical set of data by frequency, percentage or proportion of each category, comparison between two groups and more was done using Chi-square test (χ^2).

- For comparison between means of two groups of non-parametric data of independent samples, Z value of Mann-whitney test was used. For comparison between more than two means of non-parametric data, Kruskal-Wallis (χ^2) was calculated. Correlation between variables was evaluated using Pearson's correlation coefficient (r). Significance was adopted at $p < 0.05$ for interpretation of results of tests of significance.

Results

Table (1): Shows Socio-demographic characteristics of the studied pregnant women. It is noticed that that more than two fifths (43.0%) of the women were more than 25 to 30 years old, with mean age of 27.58 ± 4.58 . The table also revealed that the entire sample (100.0 %) of the studied pregnant women were currently married.

Concerning the studied pregnant women's place of residence, it was noticed that four fifths (80.0%) of the women were from rural areas. Regarding the women's educational level, it was reported that more than half (54.3%) of them had university education. It was also observed that slightly less than three quarters (74.7%) of the women were housewives. As regard to income, according to women's view about

less than two thirds (64.0 %) of the women had enough income.

Table (2): Shows obstetrical history of the studied pregnant women. It is noticed that the majority (91.3%) of the women had no history of abortions. As regard to the type of last delivery, it was showed that more than two thirds of the studied pregnant women (69.5%) delivered by cesarean section with the private hospital was the most commonly reported place of last delivery mentioned by more than two thirds (67.3 %) of them. Also, it was showed that the majority (97.3%) of the women sought initial antenatal care (ANC) visit at the first trimester and (87.7%) of them received their ANC at private hospital/clinic.

Concerning the reason for current ANC visit, it was noted that more than half (54.0%) of the women went to ANC for follow-up. The table also illustrated that the majority (85.6%) of the women had more than 4 antenatal visits during their current pregnancy. It was also showed that the majority (90.0%) of women made regular antenatal follow-up visits during the current pregnancy.

Table (3) and Figure (1): Shows history of pain experienced during previous labor among the studied pregnant women. The table clarifies that nearly three quarters (73.3%) of the women experienced pain during previous labor. The figure shows that the labor pain intensity was unbearable and severe stated by less than two fifths of them (39.6% and 36.8% respectively) according to their description. The table also showed that only (22.3%) of the women used pain relieve methods during previous labor and the pethidine was the most commonly used pain relieved method utilized by (59.2%) of them. Also, the table mentioned that the majority (91.0%) of

women didn't attend any health educational classes regarding pain relieve methods during labor.

Figure (2): Illustrates the total score of the studied pregnant women's knowledge regarding painless labor. The figure reveals that the vast majority (95.0%) of the women had low level of knowledge regarding painless labor compared to only (4.0% and 1.0% respectively) of the women who had moderate and high level of knowledge regarding painless labor.

Figure (3): Clarifies sources of knowledge regarding painless labor among the studied pregnant women. It revealed that nearly half (47.7%) of the women mentioned that the internet was the primary source of knowledge regarding painless labor.

Figure (4): Represents the total score of the studied pregnant women regarding their attitudes towards painless labor. More than two third (69.0%) of the women had positive attitudes towards painless labor, while nearly one third (31.0%) of them had negative attitudes.

Figure (5): Shows the relationship between total score of knowledge and total score of attitudes regarding painless labor among the studied pregnant women. The figure illustrates that women who had low level of knowledge had both positive and negative attitudes towards painless labor, which were mentioned by (67.4% and 32.6%) of them respectively, compared to women who exhibited moderate and high level of knowledge they experienced only positive attitudes. This means that there was significant relationship between total score of knowledge and total score of attitudes regarding painless labor among the studied pregnant women.

Figure (6): Reveals the correlation between total knowledge scores and total attitude

scores regarding painless labor among the studied pregnant women. It was observed that there was a significant positive correlation between the women's total knowledge scores and their total attitudes scores regarding painless labor where $r=0.393$ and $P=0.0001^*$.

Table (1): Socio-demographic characteristics of the studied pregnant women (n=300).

Socio-demographic data	The studied pregnant women (n=300)	
	N	%
Age (years):		
21-25	104	34.7
>25-30	129	43.0
> 30-45	67	22.3
Range	21-45	
Mean±SD	27.58±4.58	
Current marital status:		
Married	300	100
Age at marriage (years):		
<18-20	98	32.7
>20-25	175	58.3
>25-35	27	9.0
Range	13-35	
Mean±SD	22.02±3.32	
Place of residence:		
Rural	240	80.0
Urban	60	20.0
Women's educational level:		
Illiterate	5	1.7
Read and write	4	1.3
Primary / Preparatory	35	11.7
Secondary/ diplom	93	31.0
University education	163	54.3
Women's occupation:		
Housewife	224	74.7
Working	76	25.3
Family income from the women' view:		
Enough	192	64.0
Not enough	108	36.0

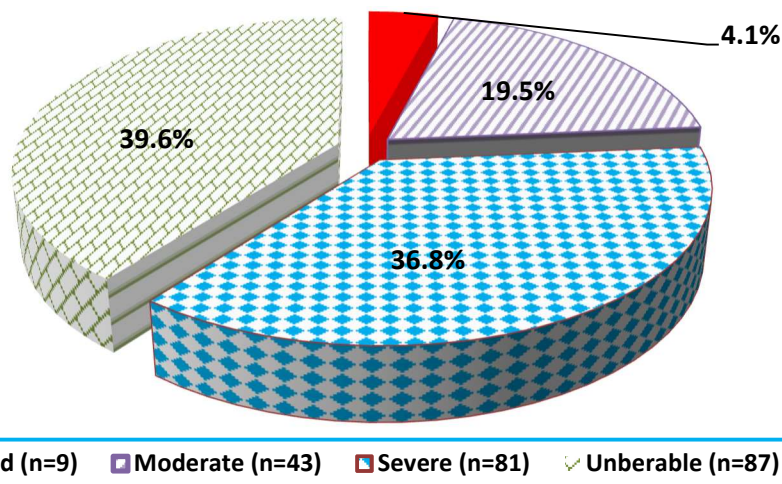
Table (2): Obstetrical history of the studied pregnant women (n=300).

Obstetrical history	The studied pregnant women (n=300)	
	N	%
Gravidity:		
One	67	22.3
Two	82	27.3
Three	81	27.0
More than three	70	23.4
Parity:		
Nulliparous	80	26.7
One	78	26.0
Two	76	25.3
Three and more	66	22.0
History of abortions:		
None	274	91.3
One	15	5.0
Two and more	11	3.7
Type of previous delivery:	(n=220)	
Normal delivery	67	30.5
Cesarean section	153	69.5
Place of previous delivery:	(n=220)	
Home	4	1.8
Governmental hospital	68	30.9
Private hospital	148	67.3
First ANC visit during current pregnancy:		
First trimester	292	97.3
Second trimester	8	2.7
Place of antenatal care (ANC):		
Governmental hospital	6	2.0
Health Insurance hospital	4	1.3
Private hospital/clinic	263	87.7
Maternal and Child Health Center	27	9.0
Reason for current ANC visit:		
Follow up	163	54.3
Receive tetanus toxoid vaccination dose	66	22.0
Registration for delivery	15	5.0
Seek treatment from a complain	6	2.0
know the expected date for delivery	42	14.0
Receive anti RH immunoglobulin injection	3	1.0
Blood transfusion for anemia	5	1.7
Number of ANC visits during current pregnancy:		
Twice	3	1.0
Three times	8	2.7
Four times	32	10.7
More than 4 times	257	85.6
Regular antenatal follow-up visits during current pregnancy:		
Yes	270	90.0
No	30	10.0

Table (3): History of pain experienced during previous labor among the studied pregnant women.

History of pain experienced during previous labor	The studied pregnant women	
	N	%
Pain experienced during previous labor:		
Yes	220	73.3
No	80	26.7
Use of pain relieve methods during previous labor:	(n=220)	
Yes	49	22.3
No	171	77.7
# Pain relieve methods used during previous labor:	(n=49)	
Breathing exercises	6	12.2
Massage	9	18.4
Inhalational analgesia	1	2.0
IM/ IV Pethidine	29	59.2
Epidural analgesia	4	8.2
Patient controlled analgesia (PCA)	5	10.2
Attendance of health education classes regarding pain relieve methods during labor:		
Yes	27	9.0
No	273	91.0
Place of health education classes regarding pain relieve methods during labor:	(n=27)	
Governmental hospital	4	4
Private hospital/clinic	3	3
Maternal and Child Health Center	20	20
Source of health education regarding pain relieve methods during labor:	(n=27)	
Nurse	21	21
Doctor	6	6

More than one answer.

**Figure (1): Distribution of the studied pregnant women according pain intensity experienced during previous labor (according to women's description) (n=220).**

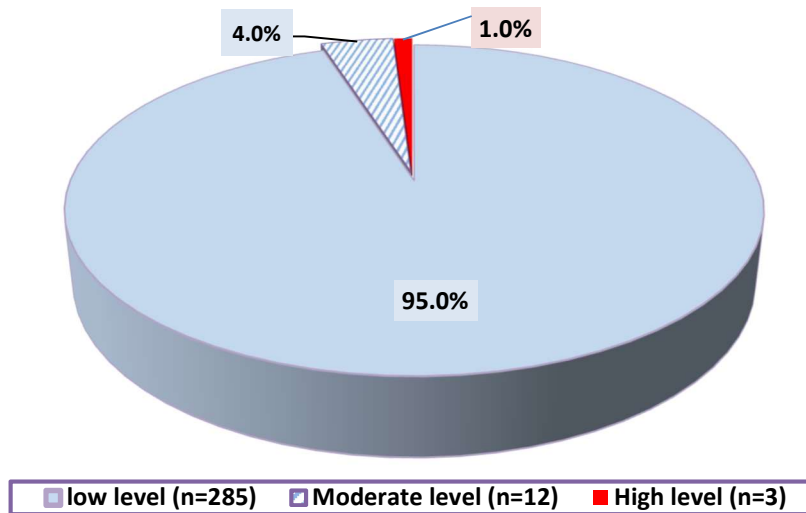


Figure (2): Total score of the studied pregnant women's knowledge regarding painless labor (n=300).

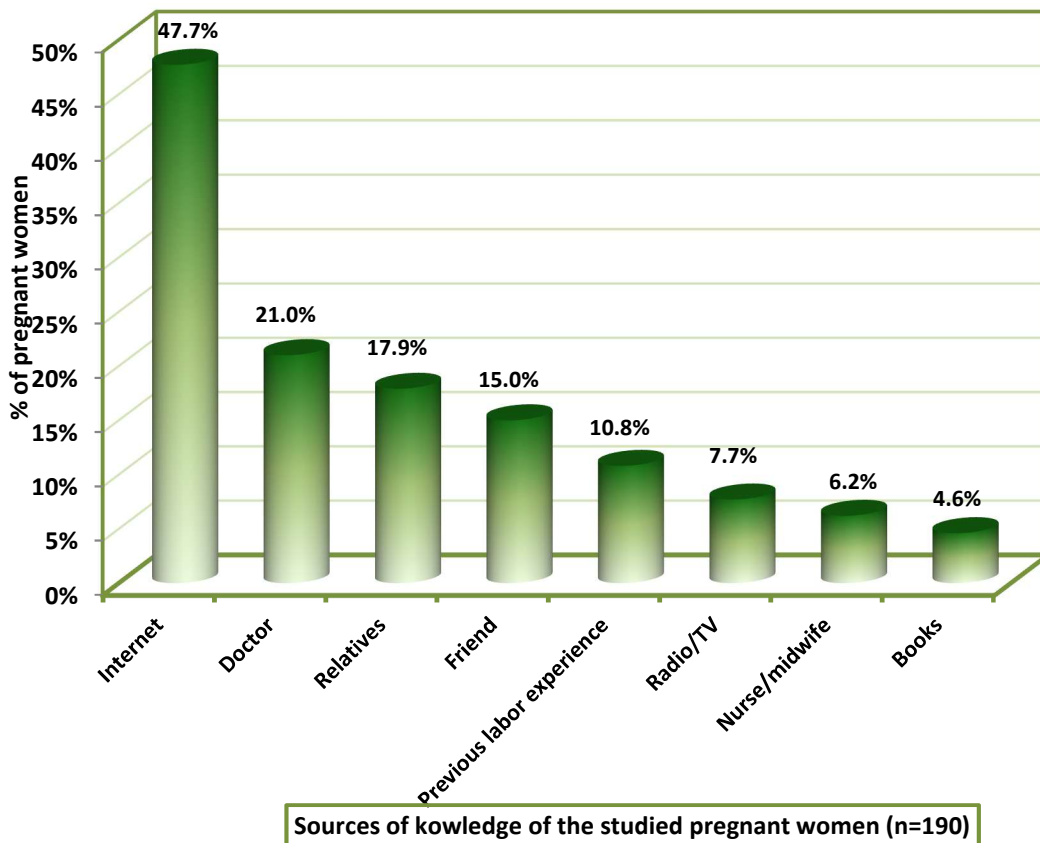


Figure (3): Sources of knowledge regarding painless labor among the studied pregnant women (n=190).

More than one answer.

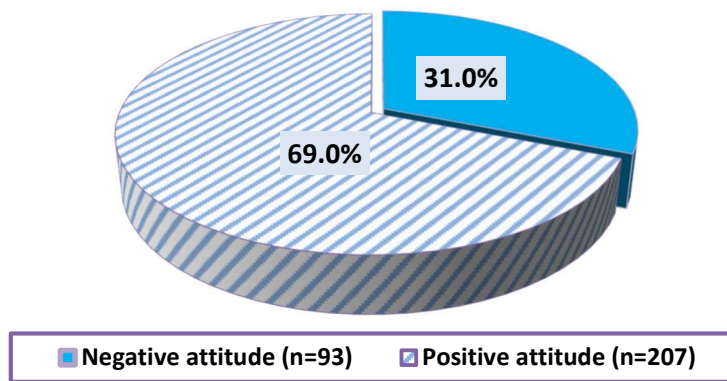


Figure (4): Total score of the studied pregnant women regarding their attitudes towards painless labor (n=300).

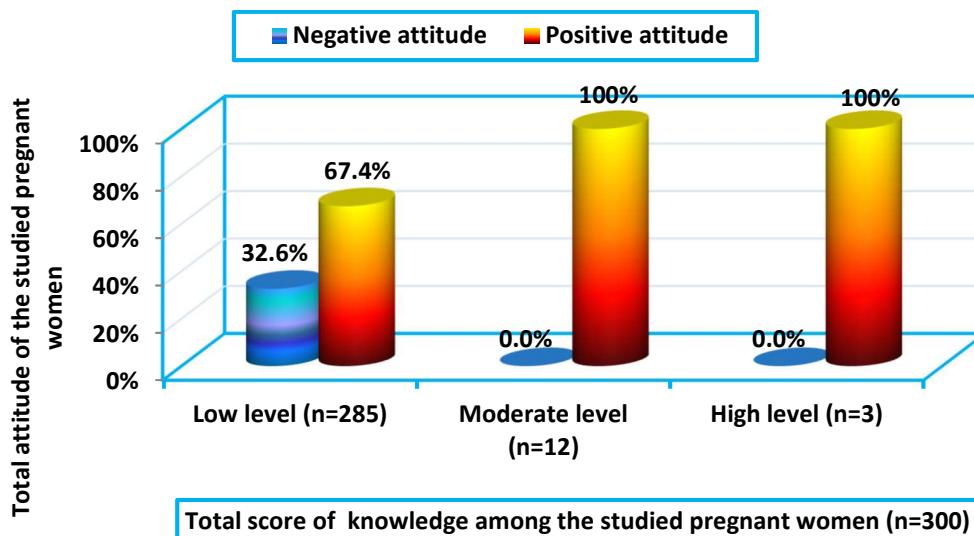


Figure (5): Relationship between total score of knowledge and total score of attitudes regarding painless labor among the studied pregnant women (n=300).

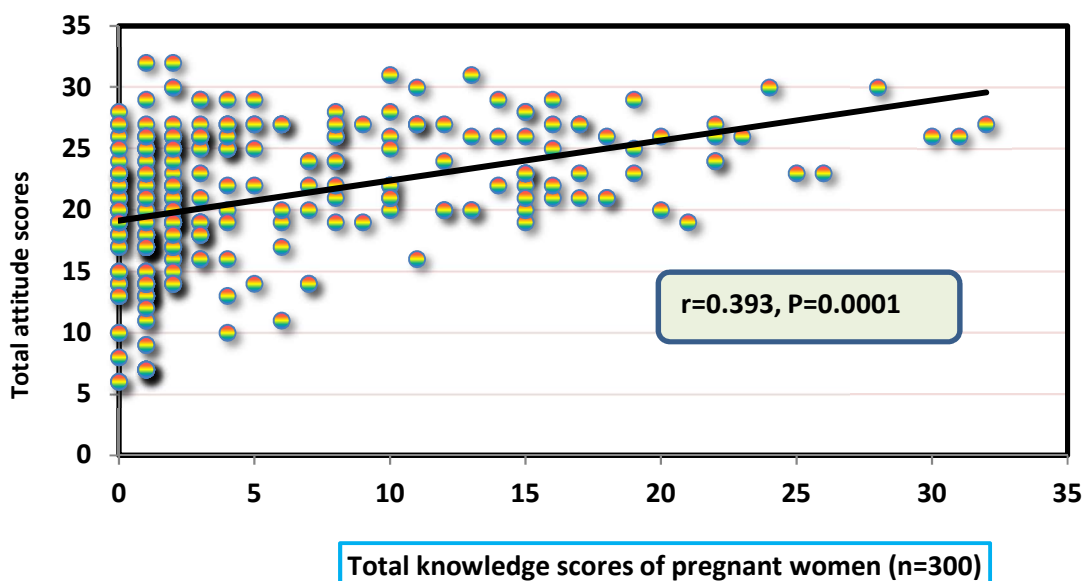


Figure (6): Correlation between total knowledge scores and total attitude scores regarding painless labor among the studied pregnant women (n=300).

Discussion

Painless labor is one of the effective pain management techniques that have been developed and widely used in the recent years and considered as an essential part of maternity nursing care during labor. Provision of painless labor methods remains infrequent due to lack of knowledge and poor attitudes which are considered to be the main obstacles that prevent women from using these methods especially in developing countries such as Egypt. (28,29,30)

Eventually, appraisal of pregnant women's knowledge and attitudes regarding painless labor could be an incentive for policies, guidelines, and practices to enhance good quality of care during labor. (30) Therefore, this study was conducted to assess knowledge and attitudes of pregnant women regarding painless labor.

Concerning the socio-demographic characteristics of the studied pregnant women, more than two-fifths of them were more than 25-30 years old. These findings are in line with **Khan I et al., (2022)** (31) findings. Also, **Abo El-nassr A et al., (2022)** (32) mentioned that more than half of their study subjects were between 25-29 years old. While, **Ageel M et al., (2022)** (33) reported that less than half of the women in their study were between 31-40 years old.

Regarding place of residence, in the current study four fifths the women were from rural areas. This result is strongly in agreement with **Khan I et al., (2022)** (31) finding. On contrast, **Moradi F et al., (2022)** (34) stated that the majority of the women in their study were from urban areas.

Concerning the studied pregnant women's educational level, more than

half of them had university education. This finding matches with **Paul D et al., (2022)** (35), **Alahmari S et al., (2020)** (36) and **Sinha A et al., (2019)** (37) findings. While, this finding is dissimilar to **Abd El-Salam A et al., (2022)** (38) and **Abo El-nassr A et al., (2022)** (32) who showed that less than two-thirds of the women in their study had secondary education.

Pertaining to the women's occupation, in the current study slightly less than three-quarters of the women were housewives while only one quarter of them were working. These findings are consistent with **Hasan M et al., (2016)** (27) finding. While, **Alsharidah D and Alhuzaimi F (2018)** (39) in a study to assess knowledge and attitude of Saudi woman toward painless labor, found that more than half of them were employed. From the researcher's point of view, the result of the present study may be due to the fact that the majority of the women in the current study were from rural areas where lack of employment opportunities are present.

Regarding the type of previous delivery, more than two-thirds of the studied pregnant women delivered by CS. On contrary to this result, several studies demonstrated that the highest percentage of the women in their studies had normal vaginal delivery. (24,31,40-43) From the researcher's point of view, the dissimilarity between the finding of the present study and the above-mentioned studies may stem from to the fact that Egypt had the highest CS delivery rates in the world, as well as among the Arab countries at a rate of 52 percent. Also, many women in Egypt fear from labor pain and the complications of normal vaginal delivery, which in turn leads to increase the demand for CS. (44-46)

Regarding the pain experienced during previous labor according to women's description, less than three-quarters of the studied pregnant women experienced pain during previous labor and it was described as unbearable and severe by less than two-fifths of them, respectively. In the same line, **Khan I et al., (2022)** ⁽³¹⁾, and **Shaaban O et al., (2017)** ⁽⁴³⁾ revealed that more than half of the women in their studies experienced severe labor pain. While, **Delwatta S et al., (2019)** ⁽²⁶⁾, and **GK P and Sameera L (2019)** ⁽⁴⁷⁾ reported that more than half of their studies subjects experienced moderate pain during previous labor.

Regarding the total score of the studied pregnant women's knowledge regarding painless labor, it is evident from the findings of the present study that the vast majority of the women exhibited low level of knowledge regarding painless labor. This finding coincides with **Moradi F et al., (2022)** ⁽³⁴⁾ who studied knowledge, perception, and desire for pain relieve in labor among Iranian pregnant women. They stated that pregnant women in their study have very little knowledge about painless labor. Also, **Workie M et al., (2021)** ⁽⁴⁰⁾ in their assessment of awareness, attitudes, and desire for labor analgesia among pregnant women in Ethiopia, found that the majority of their study subjects were unaware of labor analgesia.

Moreover, **Sinha A et al., (2019)** ⁽³⁷⁾ in a study to assess knowledge and attitudes of painless labor amongst pregnant women, found that more than three-quarters of women in their study had no knowledge about painless labor. This finding also agreed with **Alshahrani M (2019)** ⁽⁴⁸⁾ who

revealed that most of his study subjects were unaware of labor pain relieve.

On the other hand, the results of the present study contradicted with **Alsharidah D and Alhuzaimi F (2018)** ⁽³⁹⁾. They found that the majority of women in Saudi Arabia had good knowledge about pain relieve methods during labor. This finding also disagrees with **Alhommos A and Aldossary M (2018)** ⁽⁴⁹⁾ in their study of Saudi women awareness about pain relieve methods in labor. They reported a moderate level of women's awareness regarding pain relieve methods in labor.

From the researcher's point of view, the result of the present study may be attributed to the fact that the majority of the women in the current study were housewives, from rural areas and didn't attend any childbirth preparation classes during antenatal visit regarding painless labor.

Concerning the sources of knowledge regarding painless labor among the studied pregnant women, nearly half of them mentioned internet as the primary source. This finding is supported by **Moradi F et al., (2022)** ⁽³⁴⁾ and **Heim M and Makuch M (2022)** ⁽⁵⁰⁾ who reported that the main source of knowledge reported by their studies subjects was the internet. From the researcher's point of view, the similarity between the findings of the present study and the above-mentioned studies may be attributed to the fact that the internet is easily accessible to many women and offers a wide variety of information about painless labor methods, including articles, videos, blogs, and forums which enables them to access information from anywhere, at any time, without having to make appointments or travel to a healthcare provider's office.

While, **Ali M et al., (2020)** ⁽⁵¹⁾ who conducted a cross sectional study to assess knowledge, attitudes, and practices of labor analgesia amongst healthcare workers and patients in Pakistan, found that most of their study subjects reported doctors as the main source of their knowledge.

Concerning the total score of the studied pregnant women's attitudes regarding painless labor, more than two-thirds of the women had positive attitudes towards painless labor. From the researcher's point of view, the result of the present study could be justified by more than one reason. First, more than half of the women had a university education which affect their believe and attitudes. It may also stem from the fact that nearly three-quarters of the women experienced unbearable and sever pain during previous labor, which in turn led them to search for information about pain relieve methods and desire using painless labor for their next labor.

This result is supported by **Khan I et al., (2022)** ⁽³¹⁾ who indicated that the majority of the women in their study had positive attitudes towards labor analgesia. Similar finding had been reported by **Sinha A et al., (2019)** ⁽³⁷⁾ who found that most of their study subjects had positive attitudes towards painless labor. Moreover, **Ponnusamy R et al., (2018)** ⁽⁵²⁾ who evaluated knowledge and attitudes about labor analgesia among obstetricians, anesthesiologist and pregnant women, indicated that more than three-quarters of the women had positive attitudes and wished for painless labor.

The finding of the present study is also in line with **Mattamundayil A et al., (2017)** ⁽⁵³⁾ and **Thakur M et al., (2017)** ⁽⁵⁴⁾ findings. In contrast to this study, **Abo El-nassr A et al., (2022)** ⁽³²⁾ in a study to

assess knowledge and attitudes regarding painless labor in Banha, Egypt, reported that more than half of the women in their study had negative attitudes regarding painless labor. Additionally, **Negash T et al., (2021)** ⁽⁵⁵⁾ who assessed knowledge, attitudes and associated factors of labor analgesia among pregnant women, indicated that less than two-thirds of their study subjects had negative attitudes towards epidural analgesia.

From the researcher's point of view, the contradiction between the findings of the current study and above-mentioned studies may be explained by the fact that childbirth is still viewed as a physiological process among some women, as well as labor pain is considered as natural part of this process and the idea of relieving it seems unnecessary or against their traditional values and cultures particularly in some developing countries.

Regarding the relationship between the total scores of knowledge and the total scores of attitudes regarding painless labor among the studied pregnant women, a significant relationship was found between the total score of knowledge and the total score of attitudes regarding painless labor among the studied pregnant women. This result is consistent with **Sinha A et al., (2019)** ⁽³⁷⁾ and **Delwatta S et al., (2019)** ⁽²⁶⁾ findings. Also, **Zaihi Z et al., (2020)** ⁽⁵⁶⁾ found that there was a relationship between knowledge and attitudes of pregnant women regarding epidural anesthesia. From the researcher's point of view, knowledge about painless labor methods can help to shift women's attitudes towards labor process, as a knowledgeable woman may understand that the labor pain leads to birth and view her pain as a positive, good

sign of progress While, a lack of knowledge regarding the labor process can influence woman's attitudes towards painless labor methods, which can result in negative labor experience, and increase the requests to CS. ^(47,57)

As regard to the correlation between the total scores of knowledge and the total scores of attitudes regarding painless labor among the studied pregnant women, there was a strong positive correlation between women's total scores of knowledge and total scores of attitudes regarding painless labor. This finding in accordance with **Abo El-nassr A et al., (2022)** ⁽³²⁾, **Sinha A et al., (2019)** ⁽³⁷⁾ and **Thakur M et al., (2017)**. ⁽⁵⁴⁾ On contrast, **Mattamundayil A et al., (2017)** ⁽⁵³⁾ revealed that there was no correlation between knowledge and attitudes of labor pain relieve techniques among their studied women.

Conclusion

Based on the findings of the present study, it can be concluded that:

- The vast majority of the studied pregnant women had low level of knowledge regarding painless labor, while more than two-thirds of them had positive attitudes.
- A significant relationship and positive correlation were found between the total score of women's knowledge and the total score of women's attitudes regarding painless labor.

Recommendations

Based on the results of the current study, the following recommendations are suggested:

- Planning and developing of antenatal childbirth preparation classes for all pregnant women to improve their compliance regarding painless labor.

- Constant supervision and follow-up of pain management practices in health care facilities to ensure that women are receiving safe and effective pain relieve methods during labor.

References

1. **Fadhil S, Ali R.** Effect of non-pharmacological pain management methods on reduction the duration of labor stages in primigravida women at AL-Elwyia maternity teaching hospital. *Iraqi National Journal of Nursing Specialties.*2019; 32(1): 31-38.
2. **Elsayed S, Omran A, Abd-El-Hakam E, Elmordy Z.** Effect of Back Massage and Breathing Exercises on Labour Outcomes. Published Master Thesis. Faculty of Nursing, Banha University,2021; 1.
3. **Samadi P, Alipour Z, Lamyian M.** The effect of acupressure at spleen 6 acupuncture point on the anxiety level and sedative and analgesics consumption of women during labor: a randomized, single-blind clinical trial. *Iranian Journal of Nursing and Midwifery Research.*2018 ;23(2): 87-92.
4. **Chaurasia A, Sachan N, Singh N.** Epidural analgesia for painless labour and its impact on neonatal outcome. *Indian Journal of OBGYN.*2021; 7(2):186-89.
5. **Sahile E, Yemaneh Y, Alehegn A, Nigussie W, Salahuddin M, Yekoye A, Gebeyehu N.** Practice of labour pain management methods and associated factors among skilled attendants working at general hospitals in Tigray Region, North Ethiopia: hospital based cross-sectional study design. *Health Science Journal.*2017; 11(4):1-7.
6. **Czech I, Fuchs P, Fuchs A, Lorek M,**

- Tobolska-Lorek D, Droszol-Cop A, Sikora J.** Pharmacological and non-pharmacological methods of labour pain relief establishment of effectiveness and comparison. *International Journal of Environmental Research and Public Health.* 2018; 15 (12):1-11.
7. **Fatema K, Ghani T, Paul S, Begum A, Hussain T.** A clinical study of labour and outcome in hundred cases of primigravida in Dhaka medical college and hospital. *Journal of Dhaka Medical College.*2018; 27(1): 9-13.
8. **Pardo M, Miller R.** Basics of Anesthesia E-Book.7th ed., Canada, Elsevier com., 2018; 560.
9. **Akadri A, Odelola O.** Labour pain perception: experiences of Nigerian mothers. *The Pan African Medical Journal.*2018; 30 (1):1-7.
10. **Magowan B, Owen P, Thomson A.** Clinical Obstetrics and Gynaecology E-Book. 4th ed., China, Elsevier com., 2019; 287.
11. **Hussein D., El-Sheikh M, Abd-El Hady R, Araby O.** Usability of virtual reality for alleviating pain and anxiety for primiparity women during 1st stage of labor and its reflection on labor outcomes. *Journal of Nursing Science Benha University.*2022; 3 (1): 416-31.
12. **Thuvarakan K.** A novel technique combining transcutaneous electrical nerve stimulation with external tocography for personalized automated labor pain control. Doctoral Thesis. Aalborg University.2021;19.
13. **McCauley M, Danna V, Mrema D, Broek N.** “We know it’s labour pain, so we don’t do anything”: healthcare provider’s knowledge and attitudes regarding the provision of pain relief during labour and after childbirth. *BMC Pregnancy and Childbirth.* 2018; 18 (1): 1-9.
14. **Zuarez-Easton S, Erez O, Zafran N, Carmeli J, Garmi G, Salim R.** Pharmacological and non-Pharmacological options for pain relief during Labor: an expert review. *American Journal of Obstetrics and Gynecology.* 2023; 228(5): 1246- 59.
15. **Gido R, Yadeta T, Tura A.** Utilization of obstetric analgesia for labor pain management and associated factors among obstetric care providers in public hospitals of Addis Ababa, Ethiopia: a cross-sectional study. *Obstetrics and Gynecology International.* 2021; 2021(1):1-6.
16. **Endalew N, Tawuye H, Melesse D.** Knowledge and attitude towards pain relief in labor among final year midwifery students: a cross-sectional study. *International Journal of Surgery Open.* 2020; 24 (1): 38-42.
17. **Leifer G.** Introduction to Maternity and Pediatric Nursing - E-Book. 9th ed., China, Elsevier com.,2023;125-77.
18. **Tabaghdehi M, Keramat A, Kolahdozan S, Shahhosseini Z, Moosazadeh M, Motaghi Z.** Positive childbirth experience: a qualitative study. *Nursing Open.* 2020; 7(4): 1233-38.
19. **Thomson G, Feeley C, Moran V, Downe S, Oladapo O.** Women’s experiences of pharmacological and non-pharmacological pain relief methods for labour and childbirth: a qualitative systematic review. *Reproductive Health.* 2019; 16 (1): 1-20.
20. **Galvez-Sánchez C, Montoro C.** Chronic pain: clinical updates and

- perspectives. *Journal of Clinical Medicine*. 2022; 11(12): 1-4.
- 21. Mwakawanga D, Mselle L, Chikwala V, Sirili N.** Use of non-pharmacological methods in managing labour pain: experiences of nurse-midwives in two selected districts hospital of Pwani and Dar es Salaam region, Tanzania. *Research Square*. 2021; 1(1): 1-9.
- 22. Hulsbosch L, Nyklíček I, Potharst E, Boekhorst M, Pop V.** Development of the labor pain relief attitude questionnaire for pregnant women (LPRAQ-p). *BMC Pregnancy and Childbirth*. 2020; 20 (1): 1-12.
- 23. Anarado A, Ali E, Nwonu E, Chinweuba A, Ogbolu Y.** Knowledge and willingness of prenatal women in Enugu Southeastern Nigeria to use in labour non-pharmacological pain reliefs. *African Health Sciences*. 2015; 15(2): 568-75.
- 24. Ogunniran A, Oluwatosin O, Rahji F.** Non-pharmacological management of labor pains among women in Moniya general hospital, Ibadan, Oyo state (a pilot study). *African Journal of Health, Nursing and Midwifery*. 2020; 3 (3): 66-75.
- 25. McCauley M, Stewart C, Kebede B.** A survey of healthcare providers' knowledge and attitudes regarding pain relief in labor for women in Ethiopia. *BMC Pregnancy and Childbirth*. 2017; 17(1): 1-6.
- 26. Delwatta S, Kaushalya P, Shehan A, Pilimalawwe C, Prathapan S.** Is knowledge and attitude on epidural analgesia during labour satisfactory among pregnant women attending antenatal clinics in Colombo District? *Sri Lankan Journal of Anaesthesiology*. 2019; 27(1): 21-27.
- 27. Hasan M, Alsaadi Z, Abbas M, Algoraby J.** Awareness and attitude of pregnant women towards labor analgesia in Babil Province. *Medical Journal of Babylon*. 2016; 13(1): 95-104.
- 28. Li X, Wu C, Zhou X, Zhang J, Lu H, Chen S, Xu X, Wu H.** Influence of painless delivery on the maternal and neonatal outcomes under the guidance of new concept of labor. *American Journal of Translational Research*. 2021; 13(11): 12973-79.
- 29. Melesse A, Bayable S, Ashebir Y, Ayene N, Feten M.** Survey on knowledge, attitude and practice of labor analgesia among health care providers at Debre Markos Comprehensive specialized hospital, Ethiopia 2021. a cross-sectional study. *Annals of Medicine and Surgery*. 2022; 74 (1): 1-6.
- 30. Solomon E, Kassie F, Mekonne D, Mihret M, Abate A, Dessie A.** Knowledge, attitude, and practice towards labor pain management and associated factors among skilled birth attendants working at hospitals found in Central, West, and North Gondar zones, Northwest Ethiopia, 2019: a multicenter cross-sectional study. *Pain Research and Management* 2021; 1-9.
- 31. Khan I, Malik N, Mishra R, Tiwari H, Shahi V.** Awareness, attitude and willingness to receive labour analgesia among pregnant women attending maternity hospitals in Eastern UP. *Clinical Epidemiology and Global Health*. 2022; 18 (1): 1-5.
- 32. Abo El-nassr A, Aboud S, Abd El-hakam E, Araby O.** Knowledge and attitudes of pregnant women regarding

- painless labour. *Journal of Nursing Science Benha University*. 2022 ;3 (1): 384-97.
33. **Ageel M, Shbeer A, Dahdoh A, Makrami A, Alhazmi K, Zaeri D, Mutanbak H, Alhazmi A.** Knowledge and practice of and attitude toward epidural analgesia among pregnant women in Jazan region of Saudi Arabia. *Cureus*. 2022; 14(6):1-10.
34. **Moradi F, Hashemian M, Hosseini F, Shafiei S, Alidousti K.** Knowledge, perception, and desire for pain relief in labor among Iranian pregnant women. *Research Square*. 2022:1-10.
35. **Paul D, Gupta C, Patra A, Saurav S, Prasad K.** knowledge, attitude, and practice of labor analgesia in antenatal women in India: an observational study. *Journal of Marine Medical Society*. 2022; 24 (1): 73-78.
36. **Alahmari S, Almetrek M, Alzillae A, Hassan W, Alamry S.** Knowledge, attitude, and practice of childbearing women toward epidural anesthesia during normal vaginal delivery in Alsanayeah primary health care in Khamis Mushait. *Journal of Family Medicine and Primary Care*. 2020; 9 (1): 99-103.
37. **Sinha A, Abhilashi K, Snehkiran D.** Painless labour: attitude and awareness amongst pregnant women. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2019; 8(3): 849-52.
38. **Abd El-Salam A, Abeer D, El-Rahman A, Ayoub G.** Perception of pregnant women toward using analgesia during labor. *Menoufia Nursing Journal*. 2022; 7 (1): 297-306.
39. **Alsharidah D, Alhuzaimi F.** knowledge and attitude of Saudi women toward painless labor, and misconception about the risks and complications. *International Journal of Advanced Research*. 2018; 6 (20):1140-49.
40. **Workie M, Chekol W, Fentie D, Ahmed S, Bizuneh Y.** Assessment of awareness, attitude and desire for labor analgesia and associated factors among pregnant women in Ethiopia: a cross-sectional study. *Pain and Therapy*. 2021; 10 (1): 363-76.
41. **Chandrashekaraiyah M, Koshy L, Hakema S, Ahmed S, Mahammad S, Ibrahim N.** Knowledge and awareness of labor analgesia services available in our tertiary hospital among the pregnant women: a prospective study. *Bali Journal of Anesthesiology*. 2021; 5 (2):78-82.
42. **Sharma M, Dhungel S, Niroula S, Karki M.** Knowledge and acceptance of labour analgesia in pregnant women. *Journal of Nepal Health Research Council*. 2018; 16 (3):302-306.
43. **Shaaban O, Abbas A, Mohamed R, Hafiz H.** Lack of pain relief during labor is blamable for the increase in the women demands towards cesarean delivery: a cross sectional study. *Facts, Views & Vision in ObGyn*. 2017; 9 (4):175-80.
44. **Osman B, El-Adham A, Elrefaey A.** Primigravida women's fear of childbirth and its effect on their decision regarding mode of delivery. *Tanta Scientific Nursing Journal*, 2021; 22 (3): 76-100.
45. **Elnakib S, Abdel-Tawab N, Orbay D, Hassanein N.** Medical and non-medical reasons for cesarean section delivery in Egypt: a hospital-based retrospective study. *BMC pregnancy and childbirth*. 2019 ;19 (1): 1-11.

46. **Abdel-Tawab N, Oraby D, Hassanein N, El-Nakib S.** Cesarean section deliveries in Egypt: trends, practices, perceptions, and cost. *Cairo Population Council.* 2018;2-3.
47. **GK P, Sameera L.** Awareness of labour analgesia among antenatal women in semi urban area. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2019; 5 (8):2612-17.
48. **Alshahrani M.** An evaluation of the different types of labor pain relief, preferred methods of pain relief, and effects of social media on awareness and knowledge among pregnant women: a cross-sectional study in the kingdom of Saudi Arabia. *Saudi Medical Journal.*2019; 40 (9): 914-20.
49. **Alhommos A, Al-Dossary M.** Assessment of Saudi women awareness about pain relief agents in labor in Al – Hasa city of Saudi Arabia. *World Journal of Pharmacological Research.* 2018; 7(3):93-105.
50. **Heim M, Makuch M.** Pregnant women’s knowledge of non-pharmacological techniques for pain relief during childbirth. *European Journal of Midwifery.*2022; 6 (5):1-6.
51. **Ali M, Sultan S, Kumar A, Ghouri N.** Knowledge, attitude and practices of labor analgesia amongst healthcare workers and patients: a single center cross sectional study. *Pakistan Journal of Medical Sciences.* 2020; 36 (1): 4-8.
52. **Ponnusamy R, Reddy H, Murugesan R.** Awareness, knowledge and attitude about labor analgesia among providers and parturient; a survey based study. *Anesthesia, Pain & Intensive Care.* 2018; 22 (1):73-79.
53. **Mattamundayil A, Aranha D, Fernandes M.** A study on the knowledge, attitude and demand of labour pain relief techniques among antenatal women in a selected hospital at Mangaluru with a view to prepare a concept map. *Int J Heal Sci Res.* 2017; 7(11):158-66.
54. **Thakur M, Sagar N, Tandon P.** Knowledge and attitude regarding epidural analgesia among expectant mothers. *Int J Reprod Contracept Obstet Gynecol.* 2017; 6 (5): 1929-31.
55. **Negash T, Sewunet A, Ayele T.** Awareness, attitude and associated factors of labor analgesia among pregnant women attending antenatal care: a cross sectional study. *International Journal of Surgery Open.*2021; 36: 1-5.
56. **Zaihi Z, Harbi L, Jaylan N, Qumiri A, Alsrori Z, Asheeri N, Abudyab F, Othman E, Madkhali A, Ahmed R.** Pregnant women’s knowledge and attitudes toward epidural anesthesia in Saudi Arabia. *International Journal of Life science and Pharma Research.* 2020; 1(1): 11-16.
57. **Hulsbosch L, Nyklíček I, Potharst E, Boekhorst M, Pop V.** Development of the labor pain relief attitude questionnaire for pregnant women (LPRAQ-p). *BMC Pregnancy and Childbirth.*2020; 20 (1): 1-12.