Perception of pregnant Women toward using Analgesia during Labor

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Abstract: Background: labor pain was considered as the most intensive pain in our life and the use of analgesics still not common in our hospitals. A lot of pregnant women are frightened of this labor pain, and they are trying to search for anything to relieve the pain. **The purpose of the study** to assess the perception of antenatal women towards using analgesia during labor. **Method**: A descriptive design. A convenience sample of 500 pregnant women. **Setting**: The current study was conducted at obstetric department of three settings in Menoufia governorate. **Result:** the study reported that there was poor perception of pregnant women toward using analgesics during labor **Conclusion**: majority of the studied women have poor perception. **Recommendation:** increase perception &knowledge of pregnant women regarding analgesics used during labor. and make program for nurses to communicate with pregnant women to give them information about using analgesia during labor.

Keyword: Analgesics, Labor pain, Perception.

Introduction

Childbirth pain is caused by several physiological changes that occur in the body of the woman in labor, such as cervical dilatation, strain of the uterine fibers and the birth canal, traction of the ovaries and peritoneum, and compression of pelvic structures and roots of the lumbar-sacral plexus (Hillmann et al., 2019).

Labor pain is one of the most common and severe forms of suffering that women experience, and it is a well-known cause of dissatisfaction among women in labor. A lot of pregnant women, concerned about the severity of childbirth pain, search and ask for the availability of pain-relieving methods. Some pregnant women prefer to feel the natural process while others may choose any type of analgesics like epidural anesthesia (EA) (Alahmari et al., 2020).

Pain relief management during labor has undergone various advancements since 1847 when Simpson discovered that chloroform could help relieve labor pains.1 Currently, many options exists from; nonpharmacological ones like breathing, posture and relaxation techniques, hypnosis, acupuncture and trans electric nerve stimulation (TENS) to pharmacological ones like opioids (pentazocine, pethidine, fentanyl, remifentanil), inhalational agents

(Entonox) and regional methods (epidural) (Abasiattai et al., 2016). Pharmacological analgesia includes drug-based medical interventions to achieve physical pain relief during childbirth. It includes systemic analgesia, if opioids are used parenterally, or regional analgesia, if a neuraxial blockage is performed (opioids and anesthetic through an epidural or spinal injection). Local anesthesia can also be considered to block the pudendal nerve. The use of inhaled agents is also an option (such as nitrous oxide). The choice of alternatives for anesthetics depends on the women's clinical conditions, the skills of the anesthetist, and the healthcare facility's situation. There is insufficient information regarding the offering, acceptance, and availability of analgesia in low- and middle-income countries (Souza et al., 2021).

Significance of the study

The modern era of childbirth analgesia began in 1847 when Dr James Young Simpson administered ether to a woman in childbirth, and later in the same year, chloroform. Several years later John Snow successfully administered chloroform to Queen Victoria during the birth of her eighth child. DiMascolas, or "twilight sleep," a combination of systemic morphine and scopolamine, was first described in the early twentieth century.1 Regional anesthesia was introduced in 1884 when Carl Koller described the use of cocaine to anesthetize the eye. Descriptions of spinal, lumbar and caudal epidural, paravertebral, and pudendal nerve blocks for obstetrics were published between 1900 and 1930. Continuous neuraxial analgesia, as it is practiced today, had its birth in the mid-twentieth century when Hingson and Edwards published the first report of continuous caudal analgesia for childbirth in 1943

(International Journal of Women's Health 2010).

In many countries today, the availability of regional analgesia for labor is considered a reflection of standard obstetric care. Most of the studies move to assess the knowledge of care giver about using analgesia in labor and neglect the perception of pregnant women toward using analgesia during labor. In Egypt almost 44.9%used nonpharmacological methods, whereas 36.8% used neither pharmacological nor nonpharmacological methods (Mousa et al., 2018). There are no international statistics about using analgesia during labor.

The importance of this study is to assess the perception of antenatal women towards analgesia during labor in hospitals. It is expected that the outcome of this study will provide useful guidelines in optimizing the management of labor pains among parturient in centers and provide satisfactory analgesics services in labor to obstetric population.

Purpose of the study

To assess the perception of pregnant women towards using analgesia during labor.

Research Questions

What is the perception of pregnant women toward using analgesia during labor?

Method

Research design:
A descriptive design will be used in the present study.

Research Settings:

The current study was conducted at obstetric department of three settings in Menoufia governorate: Menoufia University Hospital, Shebin El-Koom

Teaching Hospital and Maternal and child health care center (Kebly).

Sampling:

Sample type: A convenience samples

Sample size: The total sample size is 500 subjects. They will be recruited in the study. This sample size will be distributed proportionally between the three selected settings according to the flow rate as follows: 100 from MCH center in Qebly, 175 women from Shebin Elkom Teaching Hospital, and 175 women from Menoufia University Hospital.

Based on review of past literature (Ezeonu et al., 2017). It was found that about 43.3% of the respondents were aware of the use of epidural analgesia in labor, while only 7.5% had used it. Sample was calculated by the following equation N= $Z_{1-\alpha/2}2P(1-P)/d_2$ at power 80% and confidence level 95%, where P is the prevalence, 1–P (proportion of persons who have not used the procedure), D is allowable error margin which is 5%, Z is a constant for standard normal deviation which is 1.96 at 95% CI. Accordingly, the calculated sample size was 375 subjects applying attrition rate 20% (75) gave a sample 450 which will be increased to 500 to increase the power of the study.

Data Collection Instruments:

Throughout the course of the present study, data were collected using instruments, which were developed by the researcher and revised by qualified experts, then tested for validity and reliability. Two instruments were developed and used for data collection.

Instrument one

A specialized designed self-structured interviewing questionnaire was developed based on the review of currently related literature and used by the researcher to collect the necessary data about the study subjects. It contained:
- **Part 1:** Structured interviewing questionnaire to assess pregnant women socio demographic and obstetric data such as age, educational level, gestation age, type of family, monthly income.
- **Part 2:** Assessment of perception of antenatal women about analgesia during labor it consists of 16 questions developed by the researcher to accommodate the research as women perception about analgesia in labor, source of information, women perception about availability of analgesia in our hospitals and side effect of analgesia in labor

Pilot study:

Pilot study will be carried out before data collection in 10% of sample size (50 of pregnant women) in the obstetric clinics at the previous mentioned settings. This will evaluate the applicability and clarity of instrument. These subjects were not included in the sample to ensure the stability of the study.

Ethical consideration:

Confidentiality was achieved using locked sheets with names of the participating women replaced by numbers. All participating women were informed that the information they provided during the study would be kept confidential and used only for statistical purpose and after finishing the study. The finding would be presented as a group data with no personal participant's information remained. They were also informed that the findings would be presented as a group of data with no personal participant's information remained. After explanations prior to enrollment in the study, A written consent was obtained verbally from all women

related to their acceptance to participate in the study. Each pregnant women was informed that participation in the study was voluntary, and that she could withdraw from the study at any time and each one was given the opportunity to freely refuse participation. They were free to ask any question about the study details.

Procedure

An official letter was taken from Faculty of Nursing Menoufia University Dean and submitted to the directors of the study settings, chairperson of obstetrics and gynecology department of Menoufia University Hospital, Shebin El-Koom Teaching Hospital and Qebly MCH center to carry out the study before starting data collection. An official permission was obtained from the directors of the above-mentioned settings to carry out the study. A full explanation about the rationale of present study was provided to the directors of the study settings.

The data was collected over a period of 3 months from the beginning of September 2021 to the end of November 2021. |The researcher went to Obstetrics clinics in the previous mentioned hospital three days weekly. Each hospital took about one month to collect the required data. In the first two weeks from each month, I attended at 8:30 am till 2:00 pm. During the initial contact, the researcher greeted the pregnant women, introduced herself and explained the purpose of the research to obtain their acceptance to gain their cooperation and each participant was informed that participation in the study was voluntary and she can withdraw from the study at any time. After taking verbal agreement from the women, they were given the instruments to fulfill the data related to socio-demographic and obstetrical data.

Statistical Analysis: -

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program. Quantitative data were presented by mean (X) and standard deviation (SD). It was analyzed using student ttest for comparison between two means, and ANOVA (F) test for comparison between more than two means. Qualitative data were presented in the form of frequency distribution tables, number, and percentage. It was analyzed by chi-square ($\chi2$) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used (if the table was 4 cells), or Likelihood Ratio (LR) test (if the table was more than 4 cells). Level of significance was set as P value <0.05 for all significant tests.

Results

Table (1) show that the majority of studied pregnant women aged between 20 to <25 years (37.3%), with mean of 24.8 ± 5.1 years. The Majority of them had Secondary school or technical diploma (61.6%), while approximately one quarter (24.4%) of them had University education.

Table 2 reveals distribution of studied pregnant women according to their pregnancy and childbirth. The Majority of them were primigravida (33.3%), with no history of abortion before (88.4%), and approximately 40% of them did not deliver before (36.2%). Also, the majority of studied pregnant women were in the second trimester (13-24 weeks) (45.1%).

Table (3) revals that many of the studied mothers hadd wrong answer or didn't know the pain relievers during childbirth. More than half of studied mothers 52%, 53.1%, 62.4%, and 62.7% don't know or showed wrong answer regarding knowledge about

pain relievers during childbirth (birth without pain). The mean total score of studied mothers' knowledge about using analgesia during labor was 4.3 ± 0.8. Which is also low mean knowledge score?

Table (4) highlight the experience of mothers and their relatives about given any pain relievers during childbirth. More than 40% of studied mothers were given pain relievers during labor (42.2%), among them, approximately two thirds administered them through IV injections (57.9%), followed by IM injections (37.1%), while the least percentage was through inhalation or epidural injections (5%). Regarding the time of giving analgesics during labor, majority claimed first stage of childbirth (63.7%), followed by second stage of childbirth (19.8%).

Fig 1. Highlights the sources of information about analgesics during childbirth among women Unfortunately, the nurses had the least percentage (8.8%) to the mass media (35.6%). Quarter of participants had their knowledge from friends and relatives (25%), and one third had their knowledge from the doctors.

Fig. 2 reveals that perception total score groups among studied women. Approximately two thirds of studied women had poor perception about analgesics for. Unfortunately, less than one fifth of them had good perception (18.2%), and as well one quarter of women had fair perception (24.9%). The mean total score of studied mothers' perception about using analgesia during labor was 4.3 ± 0.8

Table (1): Distribution of the studied pregnant women according to the Socio - demographic characteristics

Socio demographic characteristics	N0.	%
Age (Years): <20 years	22	4.9
20 – <25 years	168	37.3
25 – <30 years	40	8.9
30 - <35 years	165	36.7
≥ 35 years	55	12.2
Mean ± SD	24.8 ± 5.1 years	
Educational Level:		
Illiterate/ Basic. Education	29	6.4
Secondary school or technical diploma	277	61.6
University.	110	24.4
Post graduate education.	34	7.6
Residence:		
Rural	332	73.8
Urban	118	26.2
Occupation:		
Work (Employee)	127	28.2
Housewives	323	71.8
Income:		
Not Enough	137	30.5
Enough	298	66.2
Can be saved	15	3.3
Total	450	100

Table (2): Distribution of the studied pregnant women according to their pregnancy and childbirth

Pregnancy and childbirth	N0.	%
Number of previous pregnancies:		
None	150	33.3
Once	146	32.4
Twice	107	23.8
More than twice	47	10.4
Number of abortions: None	398	88.4
Once	29	6.4
Twice	9	2
More than twice	14	3.2
N0. Of Births: None	163	
Once	122	36.2
Twice	123	27.1 27.3
More than twice	42	9.4
Current Gestational age: 0 -12 weeks	78	17.3
13 - 24 weeks	203	45.1
25 – 36 weeks	169	37.6
Total	450	100

Table (3): Perception of *antenatal women about analgesia during labor* among studied pregnant women

Assessment of perception of antenatal women about analgesia during labor	Wrong answer& I don't know		Incomplete correct answer		Complete correct answer	
	No	%	No	%	No	%
knowledge about pain relievers during childbirth (birth without pain)	234	52	134	29.8	82	18.2
Knowledge about painkillers during childbirth	239	53.1	66	14.7	145	32.2
Knowledge of places provide pain- free delivery services	281	62.4	83	18.4	86	19.1
The best painkillers during childbirth	239	53.1	131	29.1	80	17.8
Complications of painkillers	280	62.2	95	21.1	75	16.7
Reasons for not using pain relievers during childbirth.	282	62.7	85	18.9	83	18.4
The person responsible for decision making to use pain relievers during childbirth	5	1.1	36	8	409	90.9
Pain relievers become more prevalent during childbirth	246	54.7	24	5.3	180	40
Mean total perception score towards using analgesia during labor.	**4.3 ± 0.8**					

Table 4: Experience of mothers and their relatives about given any pain relievers during childbirth (N=287)

Using pain relievers during labor among mothers / or her relatives	N0	%
Mothers		
Had any pain relievers for pain during birth before?		
No	166	57.8
Yes	121	42.2
If Yes: Method of administration (N=121):		
IM for pain	45	37.1
IV for pain	70	57.9
Inhalation / epidural	6	5
If Yes: Time of giving analgesics for pain during birth (N=121)		
Immediately after finishing CS	20	16.5
First stage of childbirth	77	63.7
Second stage of childbirth	24	19.8
Awareness about the service of giving analgesics during labor, at the hospital where the mother delivered (N=287):		
Aware	127	44.3
Did not aware	160	55.7
Mother's relatives		
Using of pain relievers during mother's relatives labor before (N=450):		
Yes	98	21.8
No	352	78.2
If yes, any complications (N=98)? No	98	100

Fig. 1: Sources of information about analgesics during childbirth (N=216)
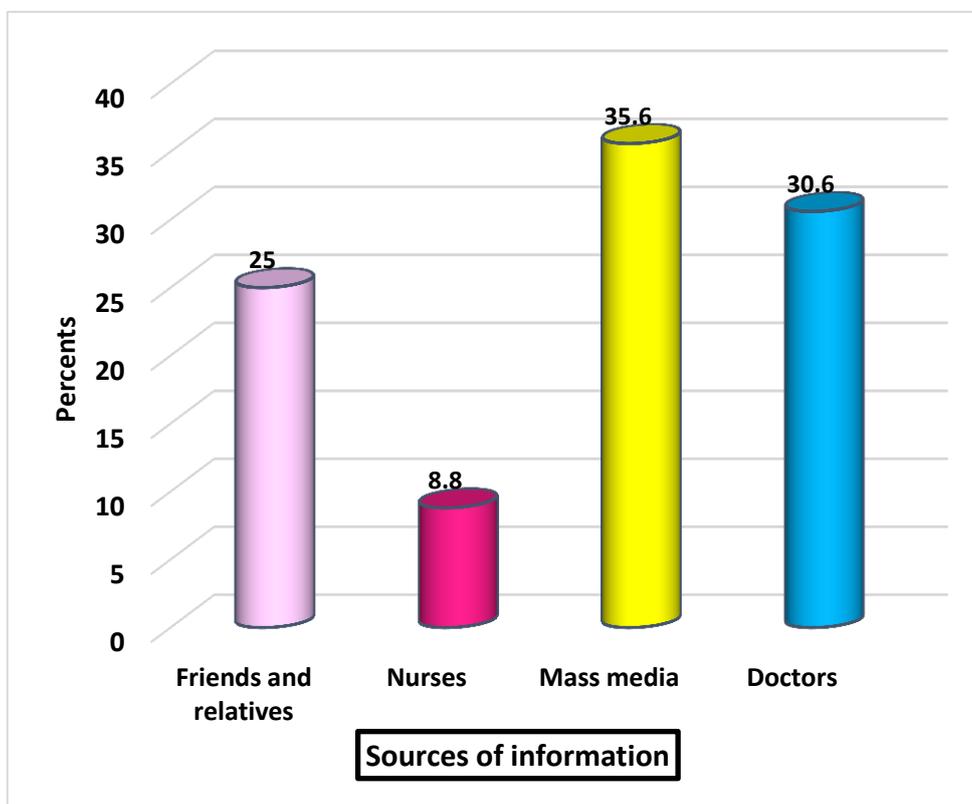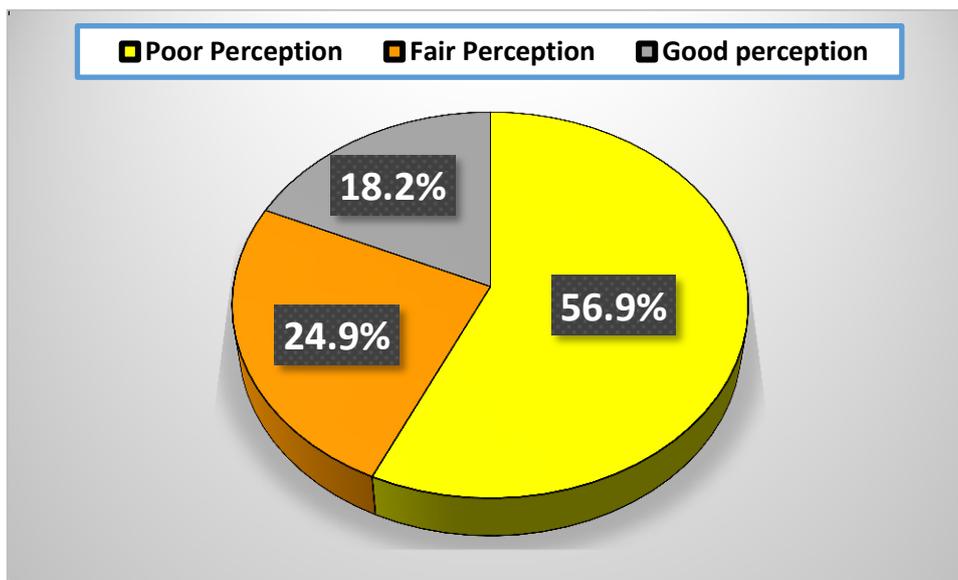
Fig. 2: Distribution of perception groups among studied mothers (N=450)

Discussion

Pain during labor and childbirth is a personal and subjective experience. Pain, or fear of pain, is one of the most common reasons for women requesting a cesarean delivery. Labor pain is influenced by individual characteristics, including sociocultural aspects, Modern and safe obstetric analgesia has transformed the experience of childbirth. However, new challenges arise, with the changes in population characteristics, even in low- and middle-income settings, including increasing rates of maternal obesity and advanced maternal age (Souza et al., 2021).

Delivery is the most painful experience in women's life. McGill pain questionnaire comparing pain scores for women in labor and other painful conditions, shows that labor pain is more severe than cancer pain and it is almost close to the pain experienced due to amputation of digit. On comparing different types of pain, regardless of the psychophysical method used, cancer pain, myocardial infarction pain, renal colic pain, burn pain, and labor pain was considered as the most intensive pain (GK & Sameera, 2019).

Concerning knowledge of antenatal women about pain relievers during child birth the study reveals that More than half of studied mothers had wrong answer regarding knowledge about pain relievers during childbirth (birth without pain), knowledge about painkillers during childbirth, knowledge of places that provide pain-free delivery services, and reasons for not using pain relievers during childbirth This was in agreement with Thomson et al., (2019) Women's experiences of pharmacological and non-pharmacological pain relief methods for labor and childbirth".

In the investigator point of view the cause of lack of knowledge and wrong could be due to the factthat most of them only have technical diploma and were living in rural areas.

Concerning the experience of mothers and their relatives about given any pain relievers during childbirth more than 40% of studied mothers were given

pain relievers during labor, among them, approximately two thirds administered them through IV injections, followed by IM injections, while the least percentage was through epidural injections. This agreed with Karn et al., (2016) "Women's awareness and attitudes towards labor analgesia influencing practice between developed and developing countries. Advances in Reproductive Sciences".

In the researcher point of view, the use of IV injection was the most common followed by IM injection and the least common was inhalation and epidural injection. This could be due to lack of knowledge about epidural injection and its high cost.

Also, when the researcher asked about if the mother was aware of analgesics during labor more than half of them didn't know. This was in agreement with Karn et al., (2016) "Women's awareness and attitudes towards labor analgesia influencing practice between developed and developing countries. Advances in Reproductive Sciences"

In the researcher point of view the studied women didn't know if the service of giving analgesics during labor was available or not in the hospital because the care giver didn't give her any information about the availability of that service.

Concerning the sources of information about analgesics during childbirth among women the nurses were the least percentage as a source of information, compared to the highest percentage to the mass media. Quarter of participants had their knowledge from friends and relatives), and one third had their knowledge from the doctors This was in agreement with Borrelli et al., (2020) "Mixed methods systematic review: Childbearing women's views, experiences, and decision-making related to epidural analgesia in labor".

In the researcher point of view nurses were the least percentage as a source of information to the antenatal women due to lack of nurse's information about labor analgesia and the types of analgesics used due to absence of training &educational program on new trend in obstetric. Also, there were lack of communication and relationship between nurses and women in hospitals and antenatal center.

Concerning perception of studied women. approximately two thirds of studied women had poor perception about analgesics for pain during birth. Unfortunately, less than one fifth of them had good perception, and as well one quarter of women had fair perception. The mean total score of studied mothers' perception about using analgesia during labor was 4.3 ± 0.8. Which is also low mean perception score and this result in agreement with GK & Sameera, (2019) "Awareness of labor analgesia among antenatal women in semi urban area" also in agreement with Ezeonu et al., (2017)."Perceptions and practice of epidural analgesia among women attending antenatal clinic in FETHA".

In the researcher point of view the present study finding is due to low educational level of the studied sample where they are living in rural area and lack of health education from nurses about using analgesia during labor and its type.

Concerning their education, as expected, the highest poor perception percentage was among illiterate. In the researcher point of view that highest poor perception was among illiterate due to their illiteracy and low level of education comparing to postgraduate having good perception because their high educational level helped them to gain information about pain reliever and have much available time to

increase their perception than university and secondary level of education who are busy with their study and lessons.

Conclusions

In the light of the present study result, it can be concluded that most of the women had poor perception about using analgesia during labor. In the study it was also found that there was poor channel of communication between staff nurses and pregnant studied women as a result mass is considered the available sources the studied pregnant women to collect the needed information about pain relief methods.

Recommendations

Based on the finding of present study, the following recommendation are suggested: Increase perception of pregnant women about using analgesics during labor, enhancing nurses' knowledge about analgesics during labor and Engage information about labor analgesia into antenatal health educational session.

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