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Investigate parturient women's self-reported measures compared with nurses' compliance with supportive measures during labour

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Abstract: This study aimed to investigate parturient women's self-reported measures compared with nurses' compliance with supportive measures during labour. ***Setting:*** This study was conducted at labour and delivery units in the Mansoura University Hospitals, Egypt. ***Design:*** A comparative descriptive study. ***Subjects:*** Two sampling were used; 18 nurses that had direct worked with parturient women in labour and delivery unit, sample type was convenient sample and a ninety parturient woman who had given birth in Mansoura university hospital, sample type was a purposive sample. **Tools:** For parturient women, a structured interviewing questionnaire, labour supportive measures questionnaire, and woman's satisfaction questionnaire and tools for nurses were observational checklist of labour support measures and barriers questionnaire sheet. ***Results:*** The study findings showed that based on the parturient women's self-report, the most supportive measures received were physical followed by emotional supportive measures during second, third and fourth stage of labour (64.6 ± 25.21, 60.3 ± 25.67, respectively) and received less emotional and physical support during first stage (38.1 ± 27.92, 32.5 ± 14.16, respectively). The overall total score of labour supportive measures were (46.4 ± 11.16) based on a self-report by parturient women. Also, the majority of nurses did not comply with providing labour supportive measures and the overall total score of labour supportive measures were low (31.1 ± 10.30). Else, there was a highly a statistically significant relation between women's self-reported supportive measures and nurses' compliance with supportive measures in all domains ($P<0.001$) except physical supportive measures during first stage of labour ($P = 0.247$). Too much emergency situation and administrative work were the main barrier that prevents nurses to comply with providing supportive measures. Most of parturient women were unsatisfied with the perceived supportive measures. ***Conclusion:*** The results of the study concluded that there was a highly statistically significant relationship between parturient women's self- reported measures and nurses' compliance with supportive measures in all domains except physical supportive measures during first stage of labour. ***Recommendation:*** Designed and implemented program for enhancing nurses' compliance with supportive measures during labour by woman health and midwifery nursing department staff.

Keywords: Labour support, Parturient women, Satisfaction , supportive measures.

INTRODUCTION

Parturition means birth, is the act of process of bearing or bringing forth offspring **(Mader, 2016).** Also, parturition, the process of childbirth, occurs approximately 38 weeks after fertilization. The process of childbirth consists of four distinct stages of labour. The first stage begins with the onset of regular, true contractions of the uterus and ends with complete dilation of the cervix, the second stage of labour begins with complete dilation of the cervix and ends with the passage of the fetus from the birth canal, the third stage of labour represents the period between delivery of the fetus and expulsion of the placenta and the fourth stage represents two hours after delivery **(Peate & Wild, 2018)**. This event associated with labour pain, uncertainty, anxiety, and fear so that the presence of continuous labour support improves maternal and neonatal outcomes and increases maternal satisfaction during this event **(Hodnett et al., 2013).**

Additionally, events and the interactions occurring during labour have powerful psychological effects, therefore a positive childbirth experience is desirable for the benefit of both the parturient woman and her baby. The memories and experiences of childbirth remain with the woman throughout her life. Clearly, labour has been a stressful event yet the supportive measures and care they receive during this period is critical and played an important role through promoting women emotional aspect. Consequently, labour becomes a happier, a comfort and pleasant experience **(Mohammed, 2016).**

Furthermore, **Hodnett et al. (2002)** stated that labour support is a term used to describe the presence of "an empathic person who offers advice, information, comfort measures, and other forms of tangible assistance to help a woman cope with the stress of labour and birth".

Also, labour support refers to supportive cares to parturient women during her labour and delivery process. The supportive person is an adult individual who provides cognitive, emotional and physical support during labour and delivery process. This may be midwife, doctor, a husband, mother, aunt, sister, friend, or any person the woman feels comfortable with during labour and delivery **(Kabakian et al., 2015).** Additionally**, (Sauls, 2000)** defined labour support provided by intrapartum nurses as the "intentional human interaction between the intrapartum nurse and the parturient woman that assists the woman to cope in a positive manner during the process of giving birth".

Else, labour support has been linked with numerous positive maternal and fetal outcomes. Professional caregivers may not always know what is supportive during labour. Understanding what parturient women perceive as most supportive will permit caregivers to focus their energies on the provision of supportive actions that will promote optimal outcomes **(Najafi et al., 2017).**

Modern obstetric care frequently means women are required to experience institutional routines. These may have adverse effects on the quality, outcomes and experience of care during labour and childbirth. Supportive care during labour may enhance physiological labour processes, as well as women's feelings of control and confidence in their own strength and ability to give birth. This may reduce the need for obstetric intervention and also improve women's experiences. **(Bohren et al., 2017)**.

Furthermore, the supportive measures during labour included emotional support (continuous presence, reassurance and praise) and information about labour progress. Else, information and advice include listening to women's views, instruction on breathing and relaxation, information about routines, procedures and progress **(Bohren et al., 2014 & Leap & Hunter, 2016).** Physical support and comfort measures including environmental control, encouragement of different positions and mobilization, touch, massage, application of hot and cold packs, hygiene, hydrotherapy, promotion of urinary elimination and nourishment and adequate fluid intake and output (**The Royal College of Midwives 2012 & Hodnett et al., 2013 & Leap and Hunter, 2016).**

Parturient women have support needs related to physical, emotional and informational support regardless of their parity. Support needs in the informational and emotional category were more than those in the physical category, which does suggest that the presence of an experienced and empathic care provider is of vital importance **(Panda et al., 2016).**

The intrapartum nurses are responsible for assessing maternal and fetal well-being; administering procedures and monitoring their effectiveness; providing nursing interventions to assist with parturient woman's physical, emotional, and spiritual needs; rendering care related to the birth process, whether vaginal or cesarean; initiating newborn care; and providing care during the early postpartum period **(Adams, 2012)**.

Moreover, nurses don't only have a role to provide physical comfort to the parturient woman to help her cope with labour pain, but also to provide emotional support and necessary information during the process of labour progress. Additional roles of perinatal nurses are advocates and teaching for women during the birth process, communications with health care providers, and documentation **(Panda et al., 2016).**

Significance of the study:

There are many beneficial effects of supportive measures provided by the nurses during labour as decreased the cesarean section rates, shortened the length of labour, reduce the need for analgesics, alleviates fear, perceived pain in labour and incidence of postpartum depression. Also creates a positive attitude towards childbirth and turn the moments of pain into the most memorable moments of a woman's life which consequently lead to happier and comfort labour experience and enhancing parturient woman's satisfaction **(Najafi et al., 2017, Moafee et al., 2013 & Isbir and Sercekus, 2017).**

Moreover, emotional, physical, and informational support is positively affected mother's mental and physical health around the time of childbirth **(Iliadou, 2012**). Provision of support in labour is one of the evidence-based practice standards known to reduce morbidity and mortality **(Ith et al., 2013).** Thus, the potential for the consequent dehumanization of women's birth experiences led to calls for a return to continue support for women during labour in hospital birth settings **(Oboro et al., 2011).**

Also, the supportive care of intrapartum nurses still cannot meet women's expectations **(Dunne et al., 2014)**. Intrapartum nurses work deliberately, however, showing little support and empathy for parturient women **(Mlqvist et al., 2013)**. Nurses in our hospitals did not support parturient women emotional aspects as well as no comfort measures were provided to relieve mother pain and anxiety.There is need for important insights into parturient women's perceptions of the supportive actions provided by professional caregivers. So this study was conducted to understand the actions that parturient women have reported which can guide the practice of those who provide intrapartum care and consequently improve the quality of care.

Aim of the study:

The aim of the study was to investigate parturient women's self -reported measures compared with nurses' compliance with supportive measures during labour.

Research questions:

1. What are the parturient women's self-reported supportive measures provided by nurses?
2. Are nurses complying with supportive measures during labour?
3. What is the relation between parturient women's self-reported supportive measures and nurses' compliance with supportive measures?
4. What are the barriers that prevent nurses to comply with supportive measures during labour?
5. Are parturient women satisfied with nursing supportive measures?

Operational definitions:

- ***Parturient woman****:* It refers to the woman in childbirth process.
- ***Supportive measures****:* It refers to non-medical measures that decrease woman's anxiety, discomfort, loneliness and exhaustion as physical comfort measures, emotional support, information and instruction.
- ***Compliance:*** Adherence to supportive care provided during childbirth.

Subjects and Method:

Study design: A comparative descriptive study design was used.

Study setting: This study was conducted at labour and delivery unit in the Mansoura University Hospitals, Egypt.

Study Subjects: Two sampling were used. The first sample was 18 nurses who were working at labour and delivery unit and had direct contact with women. The nurse sample type was convenient sample. The second sample was a ninety parturient woman who had given birth in Mansoura

university hospital, they were chosen by a purposive sampling according to the following criteria.

- Primipara.
- Single intrauterine fetus with normal lie, position and presentation.
- Normal labour progress.
- Normal vaginal delivery of term fetus without maternal or fetal complications.
- Women without complications as preterm labour, multiple pregnancy, antepartum hemorrhage, severe anemia, breech presentation and infection.

The sample of parturient women was followed by the sample of nurses during four stages of labour.

Sample size:

The number of nurses is (18 nurse) and the researcher observed the nurses five times, so the sample size of the woman is equivalent (18×5=90).

Tools of data collection:

Tools for parturient women

Tool I: ***A Structured Interviewing Questionnaire:*** It designed by the researchers to assess the general characteristics of the parturient women such as age, educational level, residence and occupation.

Tool II: Labour Supportive Measures Questionnaire as self- reported by parturient women:

It was adapted from (**Sleutel, 2002 & Sauls, 2000).** It was modified and translated into Arabic language and measured its validity and reliability**.** It's divided into three parts. The first part included the questions about the physical care which comprised of 15 questions (9 questions related to 1st stage of labour and 6 questions related to 2nd , 3rd and 4th stage of labour). The second part included questions about training and information provided to the women, which comprised of 13 questions (8 questions related to 1st stage of labour and 5 questions related to 2nd , 3rd and 4th stage of labour). The third part included the questions about emotional supports which comprised of 11 questions (7 questions related to 1st stage of labour and 4 questions related to 2nd , 3rd and 4th stage of labour). The women responded to each of the items using yes, or no.

Tool III: Parturient Woman's Satisfaction Questionnaire: It was used to assess parturient woman's satisfaction with the received supportive measures by nurses. It consisted of three statements. The women responded to each of the items using a three point Likert scale: Satisfied (3), uncertain (2) and unsatisfied (1).

Tools for nurses:

Tool I: A Structured Interviewing Questionnaire*:* It designed by the researcher to be filled by the nurses to assess the general characteristics of nurses such as age, educational level, residence and years of experience.

Tool II: Observational checklist of labour support measures*:*

It was adapted from (**Sleutel, 2002 & Sauls, 2000).** It used to assess the compliance of nurses with supportive measures provided for parturient women during labour and delivery. It consisted of 39 items, 15 items related to physical care, 13 items related to information and training and 11 items related to emotional support during labour and delivery. Comply took (1) and not comply took (0).

Tool III: Barriers questionnaire sheet:

It's designed by researchers to assess barriers that prevents nurses to comply with supportive measures during labour. It was consisted of five statements as to much emergency situation and work load, too much administrative work, inadequate number of nurses, not attend a training program about supportive measures and finally supportive measures did not present in the undergraduate curriculum. The nurses responded to each of the statement using yes, or no.

The content validity of the tools:

Tools were reviewed by three specialized university professors. According to their comments, modifications were considered. This modification included changing the wording of the phrases to be easy and understandable.

The reliability of the tool II (Labour Supportive Measures Questionnaire):

Cronbach's alpha was calculated on 10 pregnant women. Its value for was 0.912, while the test re-rest was 0.832.

The reliability of the tool III (Observational checklist of labour support measures):

Reliability value was 0.912 using Cronbach's alpha.

Ethical Considerations:

Approval from the head of woman's health and midwifery department, then approval from an ethics research committee of the faculty of the nursing Mansoura university, else, a letter of approval from the director of labour and delivery unit was taken to implement this study. Informed consent was obtained from each parturient woman and nurses. They have been informed of their rights to refuse to participate or withdraw at any time. The tools did not touch religious, moral or cultural issues, also did not harm the nurses and women's dignity and their rights.

PILOT STUDY

A pilot study was conducted on 9 parturient women and 2 nurses in order to test the applicability and to test the clarity of the tools as well as to estimate the time needed to answer them. According to statistical analysis of pilot study modification was considered. We added and remove some statement to scale to rate to actual nursing supportive measures and matched with female culture aspect. The repeated statements was excluded The scoring system was changed to be yes-no with PW and comply and not comply with the nurse. This pilot was excluded from the study sample.

FIELD WORK

- This study was conducted at the previous mentioned setting in a period from January 2018 to march 2018. The study was conducted through two phases.

Phase one: Preparatory phase:

- The researchers review the relevant literature related to study, then prepared and designed tools for data collection. Then, a pilot study was conducted among 9 parturient women and 2 nurses**.**

Phase two: Implementation phase:

- The researcher introduced herself to each participant in the study and took their personal characteristics.
- Firstly, nurses' compliance with supportive measures (SM) was assessed by using the observational checklist of labour support. Each nurse was observed while providing SM to parturient women throughout the phases of labour. Each day the number of observed nurses was two and the number of parturient women was four per day so each nurse was assessed through observed the provided supportive measures for two women per day. This is repeated until reach sample size. Each nurse was observed five times on five PW.
- Secondly, the nurses were asked about barriers that prevent them to comply with SM during labour and delivery.
- Finally, before discharge each parturient woman was interviewed according to their registration in the delivery room registration book for assessment of self-reported SM till the sample reached the predetermined size. Each parturient woman interviewed individually. An interview consuming twenty minutes. Finally PW satisfaction regarding physical, information, training and emotional SM was assessed using satisfaction sheet.

STATISTICAL ANALYSIS

Collected data were coded, computed and analyzed by using SPSS version 20. Data were presented using descriptive statistics in the form of frequencies & percentages (for categorical variables) and mean ± SD (for continuous quantitative variables). Student's t test were used for comparison of continuous quantitative variables. The difference was considered significant at $P \leq 0.05$.

RESULTS

The results are presented the personal characteristics of the parturient women. It was found that the mean age of the parturient women was 25.7±4.33. About 68.9% had secondary education, most of the them (90%) were housewife and more than three quarters of them (77.8%) were from rural area.

Also, the results show that the age of nurses were ranged from 20 years to 35 years with a mean of (26.22 ± 5.62) years. More than a half of them had a certificate from the technical institute of nursing and years of experience ranged from one to five years. The majority (88.9%) of them from urban area.

Table (1): Frequency distribution concerning parturient women's self- reported physical supportive measures

Items	no (90)	%
Physical support during first stage		
1. Provide counter pressure and abdominal massage during uterine contraction.	24	26.7
2. Encourage the parturient woman to walk early in the 1st stage.	39	43.3
3. Changing parturient woman clothes and bed linen when wet.	20	22.2
4. Make good ventilation of the labour room.	21	23.3
5. Perform perineal washing before each vaginal examination.	11	12.2
6. Encourage the parturient woman to lie in left side position.	67	74.4
7. Periodically encourage parturient woman to defecate and void frequently.	59	65.6
8. Provide physical comfort through the use of hot/cold compresses.	13	14.4
9. Provide ice chips sips of water when the mouth is dry.	9	10.0
Physical support during second, third and fourth stage		
10. Avoid funds pressing.	43	47.8
11. Encourage the parturient woman to push down during delivery.	68	75.6
12. Encourage the parturient woman to relax and breathe during delivery.	62	68.9
13. Put parturient woman in a comfortable position after delivery.	59	65.6
14. Provide genital hygiene immediate postpartum.	65	72.2
15. Encourage the parturient woman for immediate suckling.	52	57.8

Table (1) shows that encourage parturient woman to push down during delivery, encourage parturient woman to lie in left side position, provide genital hygiene immediate postpartum, encourage parturient woman to relax and breathe during delivery and periodically encourage them to defecate and void (75.6%, 74.4%, 72.2%, 68.9%, 65.6%, respectively) were the highest physical supportive measures as self- reported by the parturient women during labour. While, provide ice chips sips of water when the mouth is dry, perform perineal washing each vaginal examination, provide physical comfort through the use of hot/cold compresses**,** changed mother cloths and bed linen when wet (10.0%,12.2%,14.4%, 22.2%, respectively) were the lowest physical supportive measures.

Table (2): Frequency distribution concerning parturient women's self- reported information and training supportive measures

Items	no (90)	%
Information and training provided during the first stage of labour		
1. Introduce nurse to the parturient woman.	15	16.7
2. Orient the parturient woman about labour department as place of bathroom, nurse's office, nurses and physician name.	12	13.3
3. Explain each procedure before conducting.	34	37.5
4. Informed parturient woman about progress of labour and fetal heart rate continuously.	52	57.8
5. Encourage the parturient woman to obtain liquid fluid and avoid solid food.	60	66.7
6. Explained breathing and relaxation techniques during labour.	49	54.4
7. Informed parturient woman about suitable position during the first stages of labour.	50	55.6
8. Instruct the parturient woman to be relax during vaginal examination.	58	64.0
Information and training provided during second, third and fourth stage		
9. Instruct the parturient woman about the technique and the importance of perineal care.	11	12.2
10. Informed the parturient woman about the baby health immediately after birth.	55	61.1
11. Informed the parturient woman about the baby's sex immediately after birth.	56	62.2
12. Informed the parturient woman when the physician repair the episiotomy repair.	48	53.3
13. Discuss with the parturient woman importance of breastfeeding, nutrition,care of episiotomy, immunization, warning signs and importance of postpartum follow up and family planning.	58	64.4

Table (2) demonstrates that encourage parturient woman to obtain liquid fluid and avoid solid food, discuss with PW importance of breastfeeding, nutrition, care of episiotomy, immunization, warning signs and follow up postpartum, instruct the parturient woman to be relax during vaginal examination, informed PW about the baby's sex immediately after birth (66.7%, 64.4%, 64% 62.2%,respectively) were the highest provided training and information. While instruction about perineal care, orient PW about the labour department as place of bathroom, nurse's office, nurses and physician name, introduce nurse to them (12.2%, 13.3%, 16.7% respectively) were the lowest training and information supportive measures.

Table (3): Frequency distribution concerning parturient women's self- reported emotional supportive measures

Items	no (90)	%
Emotional support during the first stage of labour		
1. Welcome the parturient woman on the admission to labour unit.	12	13.3
2. Allowed the parturient woman to touch her hands when feels a uterine contraction .	22	24.4
3. Always answered woman questions patiently.	25	27.7
4. Listening carefully to woman.	48	53.3
5. Spoke with a calm and warm tone.	32	35.6
6. Maintains eye to eye contact with the woman during conversations.	40	44.4
7. Provides reassurance as: Informed woman that labour is normal.	61	67.8
Emotional support during second, third and fourth stage		
8. Encourage the parturient woman during delivery, such as "that's very good.".	56	62.2
9. Reassure the parturient woman about infant health and the delivery process.	36	40.0
10. Encourage the parturient woman to breastfeed her baby.	66	73.3
11. Encourage the parturient woman to hold her baby to her chest after birth.	59	56.6

Table (3) shows that the encouragement of woman to breastfeed her baby, provides reassurance, encourage the PW during the labour process, encourage woman to hold her baby to her chest after birth (73.3, 67.8%, 62.2%, 56.6%, respectively) were the highest emotional supportive measures. While, welcome them on the admission, labour unit, allowed them to touch their hands when feel uterine contraction, always answered PW questions patiently (13.3%, 24.4%, 27.7%, respectively) were the lowest emotional supportive measures.

Table (4): Frequency distribution concerning nurses' compliance with supportive measures during labour

Items	Comply (n=90) no (%)	Not Comply no (%)
Physical support during the first stage of labour		
1. Provide counter pressure and abdominal massage during uterine contraction.	13 (14.4%)	77 (85.6%)
2. Encourage the parturient woman to walk early in the 1st stage.	18 (20%)	72 (80%)
3. Changing parturient woman clothes and bed linen when wet.	29 (32.2%)	61 (67.8%)
4. Make good ventilation of the labour room.	24 (26.7)	66 (73.3)
5. Perform perineal washing before each vaginal examination.	15 (16.7%)	75 (83.3%)
6. Encourage the parturient woman to lie in left side position.	65 (72.2%)	25 (27.8%)
7. Periodically encourage parturient woman to defecate and void frequently.	64 (71.1%)	26 (28.9%)
8. Provide physical comfort through the use of hot/cold compresses	0 (0%)	90 (100%)
9. Provide ice chips sips of water when the mouth is dry	11 (12.2%)	79 (87.8%)
Physical support during second, third and fourth stage		
10. Avoid funds pressing.	18 (20%)	72 (80%)
11. Encourage the parturient woman to push down during delivery.	44 (48.9%)	46 (51.1%)
12. Encourage the parturient woman to relax and breathe during delivery	45 (50%)	45 (50%)
13. Put the parturient woman in a comfortable position after delivery	53 (58.9%)	37 (41.1%)
14. Provide genital hygiene immediate postpartum	50 (55.5%)	40 (44.5%)
15. Encourage the parturient woman for immediate suckling	50 (55.5%)	40 (44.5%)
Information and training provided during the first stage of labour		
16. Introduce nurse to the parturient woman.	8 (8.9%)	82 (91.1%)
17. Orient the parturient woman about labour department as place of bathroom, nurse's office, nurses and physician name.	0 (0%)	90 (100%)
18. Explain each procedure before conducting.	30 (33.3%)	60 (66.7%)
19. Informed parturient woman about progress of labour and fetal heart rate continuously.	31 (34.4%)	59 (65.6%)
20. Encourage the parturient woman to obtain liquid fluid and avoid solid food.	36 (40%)	54 (60%)
21. Explained breathing and relaxation techniques during labour.	38 (42.2%)	52 (57.8%)
22. Informed parturient woman about suitable position during the first stage of labour.	45 (50%)	45 (50%)
23. Instruct the parturient woman to be relax during vaginal examination.	17 (18.9%)	73 (81.1%)
Information and training provided during second, third and fourth stage		
24. Instruct the parturient woman about technique and the importance of perineal care.	8 (8.2%)	82 (91.1%)
25. Informed the parturient woman about the baby health immediately after birth.	23 (25.6%)	67 (74.4%)
26. Informed the parturient woman about the baby's sex immediately after birth.	42 (46.7%)	48 (53.3%)
27. Informed the parturient woman when the physician repair the episiotomy repair.	44 (48.9%)	46 (51.1%)
28. Discuss with the parturient woman importance of breastfeeding, nutrition, care of episiotomy, immunization, warning signs and importance of postpartum follow up and family planning.	15 (16.7%)	75 (83.3%)
Emotional supportive during the first stage of labour		
29. Welcome the parturient woman on the admission to labour unit	0 (0%)	90 (100%)
30. Allowed the parturient woman to touch her hands when feels uterine contraction .	0 (0%)	90 (100%)
31. Always answered woman questions patiently.	26 (28.9%)	64 (71.1%)
32. Listening carefully to woman.	9 (10%)	81 (90%)
33. Spoke with a calm and warm tone.	50 (55.6%)	40 (44.4%)
34. Maintains eye to eye contact with the woman during conversations.	9 (10%)	81 (90%)
35. Provides reassurance as: informed woman that labour is normal	19 (21.1%)	71 (78.9%)
Emotional supportive during second, third and fourth stage		
36. Encourage the parturient woman during the delivery, such as "that's very good.".	37 (41.1%)	53 (58.9%)
37. Reassure the parturient woman about infant health and the delivery process.	43 (47.8%)	47 (52.2%)
38. Encourage the parturient woman to breastfeed her baby.	37 (41.1%)	53 (58.9%)
39. Encourage woman to hold her baby to her chest after birth.	22 (24.4%)	68 (75.6%)

Table (4) shows that the majority of nurses did not comply with subitems of physical supportive measures like use of hot/cold compresses, provide ice chips sips of water and provide counter pressure and abdominal massage during uterine contraction (100%, 87.8%, 85.6% respectively). Also the majority of nurses did not comply with subitems of informational supportive measures like orientation of department, introduce themselves and instruction about perineal care (100%, 91.1%, 91.1% respectively). Additionally, the majority of nurses did not comply with subitems of emotional supportive measures like welcome PW on the admission to labour unit, allowed them to touch her hands when feels uterine contraction and listening carefully to woman (100%, 100%, 90% respectively).

Table (5): Average percent scores of parturient women's self- reported measures compared with nurses' compliance with supportive measures

Elements of supportive measures	Women Mean ± SD Percent score	Nurses (total observation) Mean ± SD Percent score
Physical supportive measures during the first stage of labour	32.5±14.16	29.5 ± 18.93
Physical supportive measures during second, third and fourth stage	64.6±25.21	48.2 ± 16.84
Training and providing required information during first stage	45.5±18.17	28.5 ± 22.09
Training and providing required information during second, third and fourth stage	50.7±20.16	29.3 ± 22.48
Emotional support measures during the first stage of labour	38.1±27.92	17.9 ± 12.41
Emotional support measures during second, third and fourth stage	60.3±25.67	32.5 ± 19.27
Total Score	46.4 ±11.16	31.1 ± 10.30

Table (5): Shows that the higher percent score was physical followed by emotional supportive measures during second, third and fourth stage (64.6 ± 25.21, 60.3 ± 25.67 respectively) and lower percent score was emotional and physical support measures during the first stage of labour (38.1 ± 27.92, 32.5 ± 14.16, respectively). Overall the total score of labour supportive measures was (46.4 ± 11.16). Also, it shows average percent scores of different elements of providing supportive measures during labour through observation of nurses. The higher percent score was physical followed by emotional supportive measures during second, third and fourth stage (48.2 ± 16.84, 32.5 ± 19.27 respectively) and lower percent score was emotional supportive measures and providing information during the first stage (17.9 ± 12.41, 28.5 ± 22.09, respectively). Overall the total score of labour support measures were (31.1± 10.30).

Table (6): The relationship between women's self- reported supportive measures and nurses' compliance with supportive measures

Elements of supportive measures	Women Mean ± SD	Nurses (total observation) Mean ± SD	Significance test
Physical supportive measures during the first stage of labour	2.92 ± 1.27	2.66 ± 1.70	t=1.17 P 0.247
Physical supportive measures during second, third and fourth stage of labour	3.88 ± 1.51	2.89 ± 1.01	t=5.52 P<0.001**
Training and providing required information during the first stage of labour	3.67 ± 1.45	2.28 ± 1.77	t=5.99 P<0.001**
Training and providing required information during second, third and fourth stage of labour	2.53 ± 1.01	1.47 ± 1.12	t=7.08 P<0.001**
Emotional support measures during the first stage of labour	2.67 ± 1.95	1.26 ± 0.87	t=6.02 P<0.001**
Emotional support measures during second, third and fourth stage of labour	2.41 ± 1.03	1.30 ± 0.77	t=8.09 P<0.001**
Total Score	18.07 ± 4.35	11.84 ± 4.19	t=10.41 P<0.001**

Table (6) shows that there was highly a statistically significant relationship between women's self-reported supportive measures and nurses' compliance with supportive measures in all domains except physical supportive measures during first stage.

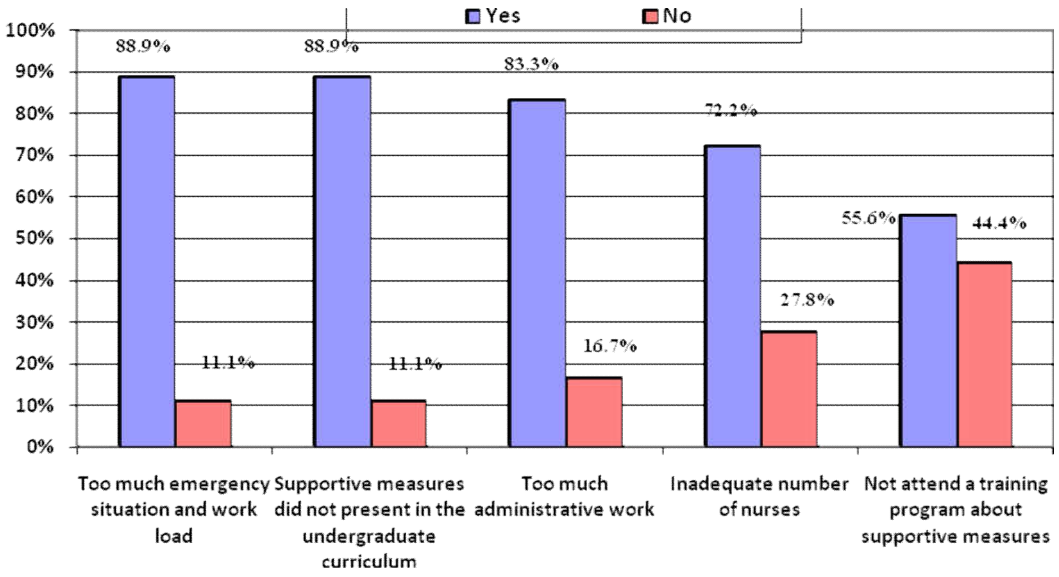

Figure (1): Frequency distribution concerning barriers that prevent nurses' compliance with supportive measures during labour

Figure (1) shows that the majority of parturient women reported that too much emergency situation and work load followed by supportive measures did not present in undergraduate curriculum, then too much administrative work were the main barriers that prevent them to comply with SM during labour (88.9%, 88.9%, 83.3% respectively).

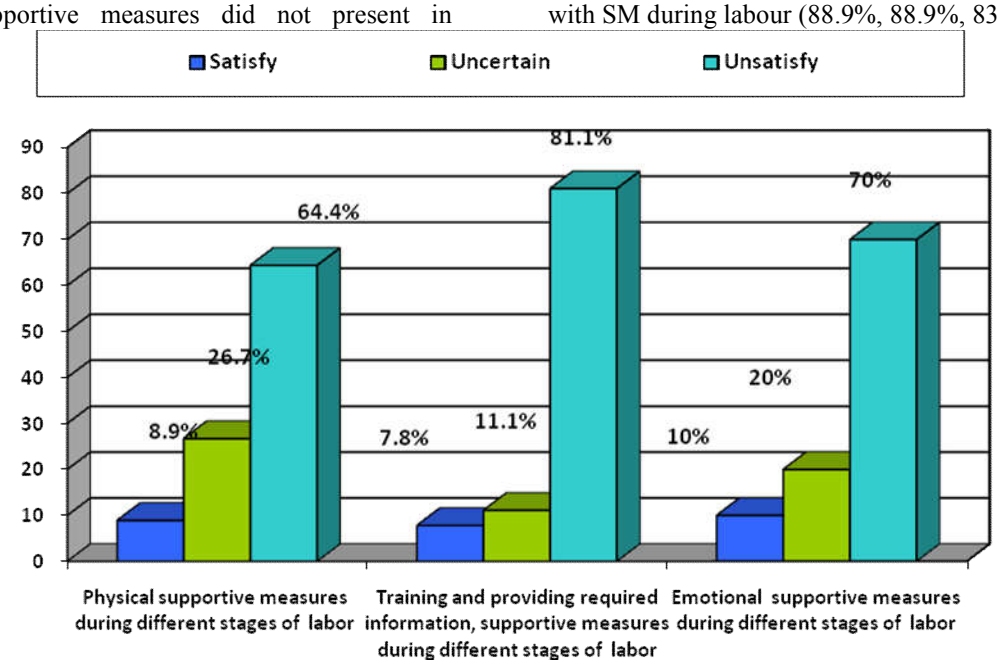

Figure (2): Frequency distribution according to parturient woman's satisfaction concerning nurse complied with supportive measures during labour

Figure (2) shows that most of parturient women were unsatisfied regarding informational, emotional and physical supportive measures (81.1%, 70%, 64.4% respectively).

DISCUSSION

The aim of the study was to investigate parturient women's self- reported measures compared with nurses' compliance with supportive measures during labour. This aim was significantly achieved within the framework of the present study findings, the first research question was: what are the parturient women's self-reported supportive measures provided by nurses. This question was significantly answered through the present study findings because the most prominent provided nursing supportive measures as self-reported by PW were physical supportive measures, emotional support and informational support during second, third and fourth stage of labour and few parturient women's self- reported that they received emotional support, physical supportive measures and information during the first stage of labour.

In the same line with the study of **Naghizadeh et al., (2013)** who concluded that the level of women's supportive measures with midwives' performance in the labour stage in terms of emotional and moral support along with providing them information was significantly lower than during the delivery. Moreover, the present study finding was agreed to study done by **Bahri et al., (2014)** who reported that physical support and information during delivery had been evaluated as fine. In a similar study done by **Simbar et al., (2009)** in Kurdistan, about the quality of midwifery care in labour and delivery wards, the results demonstrated that the emotional supports in the first stage of labour had the lowest quality while emotional support in the second stage of labour, third stage of labour, and 2 hours postpartum had been reported to be moderate.

While the current study, findings were in disagreement with **Cornally et al., (2014)** who exploring women's experiences of care in labour in Irland and found that the majority of women being provided with accurate information on what to expect during labour. Also the study results were in contrast with **Ross-Davie et al., (2013)** study findings among parturient women which showed that emotional support behavior was the most important category of support. Moreover, **Omidvar et al., (2003**) conducted a similar study in Mashhad hospitals and reported that physical supports were moderate. The observed difference in the results may be attributed to the differences in culture, care giving and different nurses level of education.

Concerning to the physical supportive measures during labour and delivery, the present study illustrated that, about three quarters of parturient women reported that they were encouraged to push down during delivery and lie in left side position during labour. Additionally, more than two third of them reported that they received genital hygiene immediate postpartum, encouragement for relaxation and breathing exercise during delivery and periodically encouragement defecate and void. While less than half of them were encouraged to walk during labour and less than quarter of them reported that provide ice chips sips of water when the mouth is dry, perform perineal washing each vaginal examination, provide physical comfort through the use of hot/cold compresses and changing cloths and bed linen when wet were the least provided nursing supportive measures.

In agreement with **Naghizadeh et al., (2013)** study results among women during labour and delivery care in Tabriz, who reported that less than one quarter of the sample reported changing the clothes and bed linen when wet and dirty and less than half reported that allowed them to walk . While this study was in disagreement with the present study results who reported that less than a quarter of women reported that advised them in times of need to urinate. Moreover, only five percent received encouragement regarding pushing down and breathing exercise during delivery. Furthermore, the current study results were in disagreement with the study done by **Medeiros et al., (2016)** who reported that the majority of parturient women were encouraged to walk**.** The difference between study findings and these studies may be related to the different culture and the type of service provided in different countries. Also it may be due to real difference in the quality of services provided and type of health facilities or a combination of them.

Concerning to the provided information during labour as reported by parturient women, two third of parturient women reported that encourage them to obtain liquid fluid and avoid solid food, discuss the importance of breastfeeding, nutrition, care of episiotomy, immunization, warning signs and follow up postpartum and more than half of them were informed about the progress of labour were the most prominent received information. While, only more than a tenth of them mentioned that instruct them about perineal care, orient them about the labour department as place of bathroom, nurse's office, nurses and physician name, introduce nurse to the woman were the least received information.

The results of the current study were in the same line with the study done by **Lucas et al., (2015)** who reported that the supply of liquids was a common among more than half of cases. Moreover, the results of the present study were consistent with **Naghizadeh et al., (2013)** who found that the most of women reported lack of introducing different caretakers and lack of explaining their duties. In agreement **Bahri et al., (2014)** study results about quality of labour support during labour found that more than half of women reported being given explanation regarding labour progress.

Regarding to the second research question which was (are nurses complying with supportive measures during labour) the present study finding had revealed that the majority of nurses were not comply with SM during labour and total mean of perceived labour supportive measures was low. In the same line **Larkin et al., (2012)** stated that intrapartum nurses were not comply with SM during labour and overall, labour support by them was lacking or insufficient.

In contrast with the study conducted in Vietnam about factors affecting labour support behavior among intrapartum nurse by **Thi Hoa et al., (2015)** who stated that the total mean scores of labour supportive behaviors were a moderate level. The difference may be due to this research was self-report data collection strategies, but the present study used an observational checklist to assess compliance of nurses.

Regarding to the third research question which was (What is the relation between parturient women's self-reported supportive measures and nurses' compliance with supportive measures during labour?); it was evident from the present study findings that there were statistically significantly relation between parturient women's self-reported supportive measures and nurses' compliance with supportive measure concerning emotional, providing information and physical support during second, third and fourth stage of labour except physical support during first stage of labour. This may be due to the majority of PW from rural area and physical care like massage, back rub and counter pressure, etc didn't have importance among rural women. Also they did not recognize the role of nurses as a supportive person during labour.

In agree with **Ross-Davie et al., (2013)** who mentioned that highly significant correlations between women's views of support and those of the observers and there was a significant inverse correlation with the assessment of the midwifery support by women and observers. The previously mentioned finding had revealed that high awareness and interest among Egyptian women related supportive measures during labour, which was reflected upon their satisfaction.

Regarding to the fourth research question which was (what are the barriers that prevent nurses to comply with supportive measures during labour), the present study findings had revealed that the majority among nurses reported that the barriers were due to emergency situation, work loaded and administrative work. In same line **Aschenbrenner (2013)** study about labour support attitude and behavior among intrapartum nurses stated that the most prominent barriers to provide labour support among more than half of nurses was paperwork. Also, physicians were barriers to labour support, primarily related to the use of high technology to manage or manipulate labour and the physicians' lack of appreciation for nurses' roles in labour support.
The previously motioned study finding had pointed out, our attention that the main barrier was too much workload and administrative work so the hospital administrative must play a role to be avoided. As well as nurses must devote her time to provide supportive measures to parturient women instead of providing administrative work.

Regarding to the fifth research question which was (are parturient women satisfied with nursing supportive measures during labour?); the present study finding illustrated that the most of PW were unsatisfied with nurses' compliance with supportive measures during labour concerning physical, emotional and information. This agreed with **Naghizadeh et al., (2011**), a study of the ethical aspects of labour support in Tabriz, who concluded that the majority of parturient women were dissatisfied with the nurses' compliance of supportive measures during labour. Also, these results were supported by a study done by **Kifle et al., (2017)** who showed that only 20.8% of women were satisfied with intrapartum service.

While the present study results were in disagreement with **Bahri et al., (2014)** study finding who had revealed that

about three quarters of women evaluated the emotional support as well, the majority of the women had reported that they were satisfied with physical support, had expressed that they were content with the instructions/information provided by the personnel and overall satisfaction from the quality of labour support had been acceptable. The observed difference in the results may be attributed to the differences in culture, the different care providers and the level of expectations of women in these cities.

So the present study finding is directing our attention toward importance of the job training of nurses about supportive measures provided to parturient women, which consequently had reflected upon woman satisfaction and may lead to a better labour outcome, making happier and pleasant labour experience among PW. Additionally, maternity hospital administrators must pay their attention toward eliminating barrier that prevent nurses' compliance with SM during labour.

CONCLUSION

The current study results concluded that there was a highly statistically significant relation between parturient women's self-reported measures and nurses' compliance with supportive measures in all domains. While there was no relationship with physical supportive measures during the first stage of labour. There were many barriers that hinder nurses to comply with providing supportive measures to parturient women like too much emergency situation, work load and administrative work. Additionally, the most of parturient women were dissatisfied with supportive measures providing by nurses during labour.

RECOMMENDATIONS

- Designed and implemented program for enhancing nurses' compliance with supportive measures during labour by woman health and midwifery nursing department staff.
- Integrate supportive measures during labour in the undergraduate curriculum in the faculty of the Nursing Mansoura University.
- Design brochure and guideline about supportive measures for nurses must be available in the labour and delivery unit.
- Design and develop an evaluation system to monitor nurse compliance with supportive measures during labour.

Further research: Replicate the present study in another setting and on a large sample size.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare that there is no conflict of interest.

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