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Research Article

Effectiveness of Video Assisted Teaching Regarding Labour Process on Anxiety and Pain Perception Among Primiparturient Mothers

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ABSTRACT

Background: Pain during labor is caused by contractions of the muscles of the uterus and by pressure on the cervix. This pain can be felt as strong cramping in the abdomen, groin, and back, as well as an achy feeling. Fear, Stress and Anxiety all have marked effects on labor progression and pain perception. Aim: The present study aims to assess the effectiveness of video assisted teaching regarding labour process on anxiety and pain perception among primi parturient mothers. Methods: The study was conducted at Government general hospital, Kancheepuram district. Research design adopted for this study was True Experimental Pre-test – post test design. The sample size for the study was 60 primi parturient mothers, out of which, 30 of them were allotted to study group and 30 to control group. Simple random sampling technique was followed to obtain the samples for the study. Structured questionnaire was used to elicit demographic variables of primi parturient mothers . Standardized Zung self rated anxiety scale was adopted to assess the anxiety level of primi parturient mothers. Visual analogue categorical numerical pain scale was used to assess the pain perception of primi parturient mothers. Results: The present study results showed that, there was statistically significant difference found in post test level of anxiety and pain perception among primiparturient mothers between study and control group at p=0.001 level. Conclusion: The results conclude that the video assisted teaching was effective in reducing the anxiety and pain perception of the primiparturient mothers in study group. Nurses should create awareness and motivate others in the team to teach regarding labour process in reducing the anxiety and pain perception among primiparturient mothers.

Keywords: Labour process, anxiety, pain perception, primiparturient mothers.

INTRODUCTION

Motherhood the only act that manifest in human form the cosmic wonder of creation. A life is growing within the women, nurtured with human blood, and then the wonder of all, this vague motion within the womb turns into two tiny hands, reaching out of the mother. She is an important person for her family. She nourishes her fetus and gives birth to child. Health of mother is tender and unwanted component of fetal care and cannot be neglected because of the fact that the mother is healthy, the children will be healthy which in turn affect nations health. So mother's mental, physical and psychological health affects the health of the family and the nation[1].

Labour, the culmination of pregnancy is an event with great psychological, social and emotional meaning for the mother and her family. The women may experience stress and physical plan and danger may lurk around the corner. For most women, labour begins with the first uterine contraction, continues with hours of hard work during cervical dilation till birth. Normal labour requires that the powers be sufficient to expel the fetus that the passage must be in adequate size to allow descent and expulsion of the fetus and that the passenger should allow negotiation of the passage during labour[2].

Fear, Stress and Anxiety all have marked effects on labor progression and pain perception. When people are frightened or stressed the body will activate the flight or flight response. This causes an increased production of catecholamine and adrenaline. The heart begins to beat faster, breathing becomes more rapid, muscles tense, blood pressure rises and blood is diverted from the periphery to vital organs. During labor there can be some signs that show that a mother is not coping well with childbirth, and has begun to panic and become stressed or anxious about the event. This could be restlessness, panic, high pitched vocalizations, increased pain perception due to a decrease in endorphin production, slowing of contractions due to drops in Oxytocin production, and fetal distress. When a mother has measurable levels of stress and anxiety during her pregnancy, especially in the last months leading up to childbirth, there is an increased chance that it will intensify during childbirth and an increased chance that the mother will need medical interventions such as Pitocin to speed contraction or epidural to help with pain[3].

Aral I et al conducted a study to investigate the effect of anxiety during late pregnancy periods and during labour on the duration of delivery in patients giving birth vaginally. They included 50 nulliparous and 35 multiparous patients who were at or above the 28th gestational age and followed-up and admitted for birth at the present hospital. Anxiety levels of patients were detected by performing the Spielberger State-Trait Anxiety Inventory. The duration of

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Table 1: Comparison of pre test level of anxiety among primi parturient mothers in study and control groups.

N = 60

	Study Group		Control Group		Unpaired 't' test
Pre test level of anxiety	Mean	Standard Deviation	Mean	Standard Deviation	t=1.931
	61.37	12.23	56.63	12.64	p=0.001
					Not significant

Table 2: Comparison of pre test level of pain perception among primiparturient mothers in study and control groups.

N = 60

	Study Group		Control Group		Unpaired 't' test
Pre test level of pain perception	Mean	Standard Deviation	Mean	Standard Deviation	t=1.942
	4.20	1.54	4.28	1.64	p=0.001
					Not significant

Table 3: Frequency and percentage distribution of post test level of anxiety among primiparturient mothers in study and control group.

N = 60

Level of Anxiety	Study Group (n=30)		Control Group (n=30)	
	Frequency	Percentage distribution	Frequency	Percentage distribution
Normal	12	40	5	16.7
Mild to moderate	7	23.3	12	40
Marked to Severe	11	36.7	10	33.3
Extreme	0	0	3	10

the labour stages of pregnant women were recorded and these durations and maternal state-trait anxiety levels were compared. The trait anxiety of patients both during the third trimester and labour was similar, while during labour state anxiety was seen to be increased. Statistically, the levels of the trait anxiety of multiparous patients were significantly higher. There was a statistically significant correlation between state anxiety for both periods in nulliparous patients and latent and active phases, the first and the second stages, and total duration of the labour. In addition, there was a significant relationship between trait anxiety levels for both period and total duration of the labour. For multiparous patients, only positive significant correlation was detected with the level of state anxiety during labour[4].

Pain during labor is caused by contractions of the muscles of the uterus and by pressure on the cervix. This pain can be felt as strong cramping in the abdomen, groin, and back, as well as an achy feeling. Some women experience pain in their sides or thighs as well. Other causes of pain during labor include pressure on the bladder and bowels by the baby's head and the stretching of the birth canal and vagina. Pain during labor is different for every woman. Although labor is often thought of as one of the more painful events in human experience, it ranges widely from woman to woman and even from pregnancy to pregnancy. Women experience labor pain differently, for some, it resembles menstrual cramps; for others, severe pressure; and for others, extremely strong waves that feel like diarrheal cramps. It's often not the pain of each contraction on its own that women find the hardest, but the fact that the contractions keep coming and that as labor progresses, there is less and less time between contractions to relax[5].

Manizheh Pirdel, and Leila Pirdel conducted a study to explore selected aspects of labor stress and specifically study the relationship between environmental factors and pain perception among parturient women. In this study, 300 primiparous and 300 multiparous women who were candidates for vaginal delivery, were randomly selected and interviewed. The data were collected by a questionnaire and the intensity of pain was determined by Visual Analogue Scale (VAS). Significant positive correlations were found between pain and tension from environmental factors in primiparous ($r=0.16$, $p<0.01$) and in multiparous ($r=0.22$, $p<0.05$) women. Furthermore, primiparous women believed that a crowded delivery room (70%) and restriction of movement and mobility (67%) contributed to their environmental stresses. Multiparas women believed that noise in the delivery ward (84%) and restrict of fluid intake (78%) increased their stresses. Performance of routine diagnostic tests in hospitalized pregnant woman, provision of invasive medical care during labor process and a noisy and crowded environment all influence the mother's experience and perception of pain. Therefore, the medical staffs seem to play a great role in alleviating labor pain by reducing stressors, especially the objective ones that are more stressful[6].

Soumya SR, Bindu CG conducted a study to determine the effect of Supportive Education Intervention Package on pain and anxiety during labour among sixty primigravida mothers. The subjects selected by purposive sampling of their 36th week of gestation from OPD and OBG ward of Government Taluk hospital, Nedumangadu, Thiruvananthapuram district. Data were collected by using socio demographic proforma, Numerical Pain Rating Scale and Beck Anxiety Inventory. Thirty subjects in the experimental group received Supportive Education Intervention Package in two sessions at their 36th and 37th week of gestation and thirty subjects in the control group received routine care. At 36th week, antenatal mothers

Table 4 : Comparison of post test level of anxiety among primiparturient mothers between study and control group.

N = 60

	Study group		Control group		Unpaired 't' test
Post test level of anxiety	Mean	Standard Deviation	Mean	Standard Deviation	t=11.6
	53.83	13.14	56.10	12.39	p=0.001 Significant

Table 5: Frequency and percentage distribution of post test level of pain perception among primiparturient mothers in study and control group.

N = 60

Level of Pain perception	Study group (n=60)		Control Group (n=60)	
	Frequency	Percentage distribution	Frequency	Percentage distribution
No pain	0	0	0	0
Mild pain	10	33.3	2	6.7
Moderate pain	17	56.7	19	63.3
Severe pain	3	10	9	30
Worse pain	0	0	0	0

were given video teaching on breathing exercise, bearing down techniques and different positions in labour; lecture on pain relieving measures and medical and nursing management in labour. Posttest was conducted within one hour after delivery for both control and experimental groups. The result showed that the pain and anxiety in the experimental group were less than that of control group at ($p<0.01$). The findings showed that this non – invasive technique can be effectively used to decrease the pain and anxiety during labour and encourage mothers for normal vaginal delivery[7].

Pregnancy is a normal and natural experience of life, but there are so many reasons why a mother may be experiencing any degree of stress and anxiety in the months leading up to and during childbirth which includes First time mothers who fear the unknown, Fear of pain, Previous traumatic birth experience, Relationship problems, Health problems, Pregnancy complications, Work Stress & Lack of mental preparation[3].

The present study aims to assess the effectiveness of video assisted teaching regarding labour process on anxiety and pain perception among primi parturient mothers.

METHODOLOGY

The study was conducted at Government general hospital, Kancheepuram district. Research design adopted for this study was True Experimental Pre-test – post test design. The sample size for the study was 60 primi parturient mothers, out of which, 30 of them were allotted to study group and 30 to control group. Simple random sampling technique was followed to obtain the samples for the study. The Inclusion Criteria includes a. Primiparturient mothers between 37-42 weeks of gestation, b. Primiparturient mothers who were in the first stage of labour with 3-5cm of cervical dilatation, & c. Primiparturient mothers who were willing to participate in the study. The exclusion Criteria were a. Mothers who had narcotics in past 8 hrs, b. Mothers with complications of pregnancy such as preterm rupture of membranes, pregnancy induced hypertension, and gestational diabetes mellitus etc.

Tool for Data Collection

The tool consists of three sections. Section A consisted of structured questionnaire to elicit demographic variables of primi parturient mothers such as age, religion, education, occupation, type of work and residence & obstetrical variables such as gestational age, gravity and cervical dilation.

Section B pertained to assess the anxiety of primiparturient mothers by Standardized Zung self rated anxiety scale. The scale has 20 questions which are used to assess the level of anxiety among primiparturient mothers. The total score was 80.

The scores were interpreted as follows:

25% - 55% - Normal Range
56% - 74% - Mild to Moderate Anxiety Levels
75% - 92% - Marked to Severe Anxiety Levels
93% - 100% - Extreme Anxiety Levels.

Section C comprised of visual analogue categorical numerical pain scale which was used to assess the pain perception of primi parturient mothers. The mothers were asked to touch the area on the scale representing to the amount of pain they experienced. The scores were interpreted as no pain (0%), Mild pain(1% - 25%) , Moderate pain (26% - 50%) , Severe pain(51% - 75%) and Worst possible pain (76% - 100%) .

Ethical Consideration

The research proposal was approved by the dissertation committee of S.R.M College of Nursing, S.R.M University, Kattankulathur, Kancheepuram district. Permission was obtained from the Medical officer, in charge, Government General Hospital, Kancheepuram were the study was conducted. Informed consent was obtained from the study participants, after explaining the nature and duration of the study. Assurance was given to the individuals that each individual report will be maintained confidentially.

RESULTS

The data collected was arranged and tabulated to interpret the findings of the study. The data was analyzed by using both descriptive and inferential statistical methods.

Table 6: Comparison of post test level of pain perception among primiparturient mothers between study and control group.

N = 60

	Study group		Control group		Unpaired 't' test
Post test level of pain perception	Mean 3.45	Standard Deviation 1.56	Mean 4.83	Standard Deviation 1.44	t=8.32 p=0.001 Significant

The demographic variables of primi parturient mothers in study group showed that, maximum 15(50%) mothers were in between (18-22) and only 1(3.4%) mother age was above 32 years. Considering the religion, maximum 16(53.3%) mothers were Hindu and 5(16.7%) were Muslims. With respect to the educational qualification, maximum 9 (30%) mothers had primary school education and only 1(3.4%) mother had higher secondary school. Regarding occupation, maximum 12(40%) were self employed and 3(10%) were Government servants. With regard to the type of work, maximum 14(46.7%) mothers were moderate workers and 4(13.4%) mothers were heavy workers. Considering the residence, 16(53.3%) mothers were in rural area and 3(10%) mothers were in urban area. With respect to the gestational age of primiparturient mothers, maximum 13(43.3%) mothers were in 39 weeks of gestation and only 4(13.4%) mothers were in 37 weeks of gestation. Regarding the gravid status of the primiparturient mother, maximum 18(60%) mothers belonged to gravida 1, and 3(10%) mothers belonged to >2 gravida. Considering the cervical dilatation, maximum 11(36.7%) had 3cm dilatation, and only 8(26.6%) had 5cm dilatation.

The demographic variables of control group revealed that, maximum 14(46.7%) was in between (18-22), and 2(6.7%) mothers age was above 32 years. Considering the religion, maximum 17(56.7%) mothers were Hindus and 4(16.7%) mothers were Muslims. With respect to the educational qualification, maximum 13(43.3%) mothers had primary school and only 1(3.4%) mother had higher secondary school. Regarding occupation, maximum 12(40%) mothers were homemakers, and 3(10%) were Government servants. With regard to the type of work, maximum 15(50%) mothers were sedentary workers and 4(13.4%) mothers were heavy workers. Considering the residence of primiparturient mothers, maximum 19(63.3%) was in rural area and 3(10%) mothers were in urban area. With respect to the gestational age, maximum 10(33.3%) mothers were in 38 weeks of gestation, and only 4(13.4%) mothers were in 37 weeks of gestation. Regarding the gravid status of the mother, maximum 25(83.3%) were gravida 1 and 3(10%) mothers were gravida 2.Considering the cervical dilatation, maximum 10(33.3%) had 3 cm dilatation and 8(26.7%) had 5cm dilatation.

With respect to the pre test level of anxiety of primiparturient mothers in study group, 3(10%) of them were normal, 9(30%) had mild to moderate level of anxiety, 13(43.3%) had marked to severe level of anxiety and 5(16.7%) had extreme level of anxiety. Considering the control group, 6(20%) were normal; 11(36.7%) had mild to moderate level of anxiety 11(36.7%) had marked to severe level of anxiety and 2(6.7%) had extreme level of anxiety.

The analysis revealed that, the mean value of 61.37 with SD 12.23 of study group compared with the mean value of 56.63 with SD 12.64 of control group projects 't' value as 1.931 which was not statistically significant.

Regarding the pre test level of pain perception in study group, none of them had no pain; 4(13.3%) had mild pain; 20(66.7%) had moderate pain and 6(20%) had severe pain. None of them had worse pain. Considering the control group, none them had no pain; 3(10%) mothers had mild pain; 18(66.7%) had moderate pain, 8(26.7%) mothers had severe pain and one had worse pain.

The analysis revealed that, the mean value of 4.20 with SD 1.54 of study group compared with the mean value of 4.28 with SD 1.64 of control group projects 't' value as 1.942 which was not statistically significant.

The analysis depicted that, regarding the post test level of anxiety of primiparturient mothers in study group, 12(40%) of them were normal; 7(23.3%) mothers had mild to moderate anxiety; 11(36.7%) had marked to severe anxiety and none of them had extreme anxiety. Considering the control group, 5(16.7%) mothers were normal; 12(40%) had mild to moderate anxiety; 101(33.3%) had marked to severe anxiety and 3(10%) had extreme anxiety.

The analysis depicted that, the mean value of 53.83 with SD 13.14 in post test level of anxiety in study group compared with the mean value of 56.10 with SD 12.39 in control group projects 't' value as 11.6 which was statistically significant at p=0.001. The results shown that the video assisted teaching was effective in reducing the anxiety level of the primiparturient mothers in study group.

The analysis depicted that, regarding the post test level of pain perception of primiparturient mothers in study group, none of them had no pain, 10(33.3%) had mild pain, 17(56.7%) had moderate pain, 3(10%) had severe pain and none of them had worse pain. Considering the control group, none of them had no pain; 2(6.7%) had mild pain, 19(63.3%) had moderate pain and 9(30%) had worse pain, none of them had extreme pain.

The analysis depicted that, the mean value of 3.45 with SD 1.54 in post test level of pain perception in study group compared with the mean value of 4.25 with SD 1.44 in control group projects 't' value as 8.32 which was statistically significant. The results shown that the video assisted teaching was effective in reducing the pain perception of the primiparturient mothers in study group.

The results showed that, there was a positive correlation found between the post test level of anxiety and pain perception of primiparturient mothers in study group. It shows that, when the primiparturient mothers had less

Table 7: Correlation of the post test level of anxiety and pain perception among primi parturient mothers in study group and in control group.

	Anxiety		Pain perception		Correlation
Group	Mean	SD	Mean	SD	
Study group	53.83	13.14	3.45	1.56	r = 0.34 p =0.01
Control group	56.10	12.39	4.83	1.44	r = 0.22 p =0.01

anxiety, their pain perception also reduced to greater extent. In the control group, there was a positive correlation found between the post test level of anxiety and pain perception of primiparturient mothers in control group. It showed that when the primiparturient mothers had more anxiety, their pain perception was also high.

Regarding the association of post test level of anxiety and pain perception of primi parturient mothers in study group with demographic variables showed that, there was significant association found between the post test level of anxiety with religion and occupation, pain perception of primiparturient with cervical dilation , where as other demographic variables are not associated. The results revealed that, there was no significant association found between the post test level of anxiety and pain perception of primiparturient mothers in control group with their demographic variables such as age, religion, education, occupation, type of work, residence, gestational age, gravida and cervical dilation.

DISCUSSION

Health of the child is in the hands of their parents, family members and the society, especially with mother. Unless the mothers are healthy they can't produce a healthy baby. It can happen when they receive proper care and regular teaching during pregnancy in turn to make them to deliver a full term healthy baby. Maternal expectation regarding child birth may vary from individual to individual during labour, women mainly undergo anxiety regarding the experience of child birth which has greater impact on child is recognized largely as unknown which provokes fear and anxiety it may be expressed in the form of loss of control, self injury and injury to fetal health and other adverse reactions by them[8].

In the current study, the comparison of post test level of anxiety and pain perception among primiparturient mothers between study and control group showed that, there was statistically significant difference found at p=0.001 level. The results shown that the video assisted teaching was effective in reducing the anxiety and pain perception of the primiparturient mothers in study group.

Quasi experimental study was conducted to assess the effect of video on breathing exercises during labour on pain perception and duration of labour among the primigravida mothers admitted in tertiary care hospital, India. Mothers were randomly allocated 20 each into experimental and control group. The experimental group participants were shown a video on 'breathing exercises during labour', before onset of labour and performance of exercises during labour was assessed through the checklist. The pain score during first stage of labour was recorded as per numeric pain rating scale. The assessment of pain perception at the latent, early and late active phases of first stage of labour showed statistical significant difference among experimental and control group ($p<0.01$). Statistical significant difference($p<0.01$) was also observed in the duration of first stage of labour with mean duration(8 hours 48 minutes) in experimental group as compared to control group (9 hours 48 minutes). The mean duration of second stage of labour was also significantly less ($p<0.01$) i.e. 24 minutes in experimental group as compared to 32 minutes in control group. The study concluded that the practice of breathing exercises during labour help to reduce pain perception & duration of first and second stage of labour[9].

The present study results showed that, there was a positive correlation found between the post test level of anxiety and pain perception of primiparturient mothers in study group. It shows that, when the primiparturient mothers had less anxiety, their pain perception also reduced to greater extent.

F W Nigai (2009) conducted a quasi experimental study on effects of a childbirth education using videos. The study was conducted in two regional public hospitals in Hong Knong that provided routine childbirth education programs with similar content and structure. One hospital was being randomly selected as experimental hospital. A convenience sample of 184 Chinese pregnant women attending the child birth education. The experimental group received the childbirth education using videos. The comparison group received the routine child birth education alone. The result showed that, the childbirth education using videos appears to be a very promising intervention for promoting learned resourcefulness and minimizing the risk of anxiety[10].

CONCLUSION

The present study results conclude that, there was statistically significant difference found in post test level of anxiety and pain perception among primiparturient mothers between study and control group at p=0.001 level. The results shown that the video assisted teaching was effective in reducing the anxiety and pain perception of the primiparturient mothers in study group. Nurses should create awareness and motivate others in the team to teach regarding labour process in reducing the anxiety and pain perception among primiparturient mothers.

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