

Impact of Self-Efficacy Enhanced Individualized Teaching on Labour Pain Management among Parturient Women

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ABSTRACT

Introduction: Labour pain can be effectively managed through pharmacological and non-pharmacological measures. Paced breathing technique is an effective non-pharmacological measure used for the labour pain management. Therefore the present study was conducted to assess the impact of self-efficacy enhanced individualized teaching on labour pain management among parturient women admitted in labour ward of selected hospital, Bangalore.

Methods: The study used a quasi-experimental pre-test post-test control group design. Thirty parturient women were selected using convenient sampling. The data was collected using demographic proforma, structured knowledge questionnaire and numerical pain rating scale. The experimental group received individualised teaching on labour pain management and was encouraged to paced breathing exercises during latent phase of first stage of labour whereas control group received routine care. Pre-test knowledge level was assessed during the time of admission and post test knowledge level was assessed after the labour. Pain level was assessed during latent phase of first stage of labour.

Results and conclusion: Data collected was analysed based on the objectives and hypotheses of the study. The present study reveals that overall mean difference between the pre- test and post-test knowledge level in the experimental group is 7.6 with $SD \pm 1.87$, which indicates that there is significant difference in the pre-test and post-test knowledge level. The overall mean difference between the pre-test and post-test pain level in the experimental group is 0.73 with $SD \pm 0.59$ which indicates that there is significant difference in the pre-test and post-test pain level. The post-test mean knowledge level in the experimental group and control group is 15 and 7.86 respectively and the $SD \pm 1.435$. Hence there is significant increase in the post-test knowledge level of experimental group. The post-test mean level of pain in the experimental group and control group is 6.64 and 7.33 respectively and the $SD \pm 2.519$. Hence there is significant difference in the post-test pain level in the experimental group and control group

Key words: Self-Efficacy enhanced individualized teaching, Labour pain management, Knowledge, Parturient women.

INTRODUCTION

Labour process is the series of events by which expulsion of the foetus and placenta occurs due to uterine contractions and abdominal pressure. ⁽¹⁾ Labour pain is caused by tissue ischemia, cervical dilatation, pressure of the baby on the cervix and pulling on pelvic structures and

distension of the vagina and perineum. ^(2,3)

Non-pharmacological approach to labour pain management includes a wide variety of techniques such as relaxation, cutaneous stimulation, mental stimulation and breathing exercises. ^(4,5) These techniques address not only the physical sensation of pain but also attempt to prevent suffering of

woman on labour. ⁽⁵⁾ Individualized teaching can be given to pregnant women regarding these techniques to improve posture, muscle tone & flexibility for preparing the women physically and mentally to participate in labor. ⁽⁶⁾ Breathing exercise is one of the most effective complimentary therapies which are proven to be beneficial for labour management. ⁽⁷⁾ The breathing exercises helps a woman focus on her breathing rather than the discomfort of the labour and to increase the oxygen consumption hence helps in reducing pain. ⁽⁸⁾ The major factor contributing to a positive and favorable overall education of childbirth is the women's perception of being able to maintain control during labor and delivery that is control of pain perception, control over emotion and actions and most frequently control in being an active participant. ^(8,9)

MATERIALS AND METHODS

The conceptual framework of the study was based on the concept of Albert Bandura's self-efficacy theory. ⁽¹⁰⁾ The study adopted an evaluative approach with quasi-experimental pre-test post-test control group design. The study was conducted among parturient women admitted for labour in the labour ward of ESI hospital, Ulsoor. Thirty parturient women who met the inclusion criteria were selected as samples by using non probability purposive sampling technique with 15 women each in experimental group and control group. Formal administrative permission and ethical clearance was obtained. After explaining details regarding the study, signature was taken on the informed consent from the study participants. Data was collected using demographic proforma, structured knowledge questionnaire (0.94) and numerical pain rating scale (0.84). Content and language validity was done. An average of 2-3 samples was selected per day. The pain level was assessed during the latent phase of first stage of labour. On the day of admission the pre-test knowledge level on labour pain management was

assessed for the samples. The post-test knowledge level was assessed after the delivery. The pain level was assessed during the latent phase of first stage of labour. For the experimental group individualized teaching on labour pain management was given followed by assessment of pre-test knowledge level and during the latent phase of first stage of labour, women were asked to perform paced breathing exercises. The degree of labour pain perception was assessed before and after intervention. Control group received routine hospital care. Post test knowledge level was assessed after the labour. The data is gathered, analysed and interpreted.

Statistical analysis

The collected data were organized, tabulated and analyzed based on the descriptive and inferential statistics. The baseline characteristics of the women were described in terms of frequency and percentage. The significant difference between the pre- test and post-test knowledge level and pain level of participants in the experimental group was found using Paired 't' test. The significant difference in the post-test knowledge level and pain level of participants in the experimental group and control group was done by Unpaired 't' test. The significant association of demographic variables with the pre-test knowledge level and pain level of participants in both the experimental group and control group was found by chi square test

RESULTS

Description of sample baseline characteristics

Frequency and percentage distribution according to demographic variables

The maximum number of women participated in the study belongs to 20-23yrs both in the experimental group 8 (53.3%) and in the control group 11 (73.3%). According to the religion, out of 15 participants from the experimental group most of the women 9 (60%) were Hindu. On

the same way in the control group also out of 15 participants most of them 8 (53.3%) were Hindu. According to the educational qualification, from the experimental group majority of the parturient women 12 (80%) had secondary education. In the control group also majority of them 13 (86.7%) had secondary education. According to the family income, from the experimental group most of the participants 10 (66.7%) had income below 5000. Again in the control group also most of the samples 8 (53.3%) had family income below 5000. Most of the parturient women, that is 9 (60%) in the experimental group and 10 (66.7%) in the control group are non-working.

Frequency and percentage distribution according to obstetrical variables

Both in the experimental group and control group majority of the women 8 (53.3%) were primi para. Regarding the type of onset of pain, in the experimental group, for majority of the women 9 (60%) the type of onset was induced. In the control

group, the type of onset was induced for 8 (53.3%) parturient women. The result depicts that from the experimental group majority 6 (40%) of parturient women got baby of weight above 3 kg. In the control group 7 (46.7%) women got baby of weight below 2.5-2.9kg and other 7 got baby of weight above 3 kg.

Frequency and percentage distribution of participants according to pre-test post-test knowledge level and pain level in the experimental group (n=15) and control group (n=15)

In experimental group pre-test knowledge level of participants is poor in 12 (80%) and average in 3 (20%) of the samples. The post test knowledge level is good in 9 (60%) of the samples and average in 6 (40%). In control group pre-test knowledge level is poor in 14 (93.3%) and average in 1(6.7%). The post test knowledge level is poor in 15(100%)

(Figure 1)

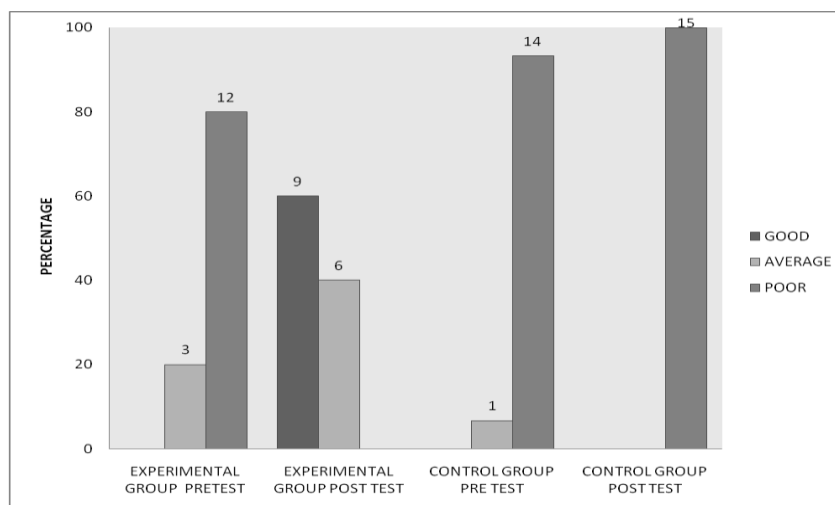


Figure 1 Frequency and percentage distribution of participants according to pre-test and post-test knowledge level and pain level in the experimental group (n=15) and control group (n=15)

Frequency and percentage distribution of pain level of participants in the experimental group (n=15) and the control group (n=15)

In experimental group pre-test pain level of participants is moderate in 2 (13.3%) and severe in 13 (86.7%) of the

samples. The post-test pain level is moderate in 7 (46.7%) of the samples and severe in 8 (53.3%). In control group pre-test pain level is moderate in 3 (20%) and severe in 12(80%). The post-test pain level is moderate in 3 (20%) and severe in 12 (80%) (Figure 2)

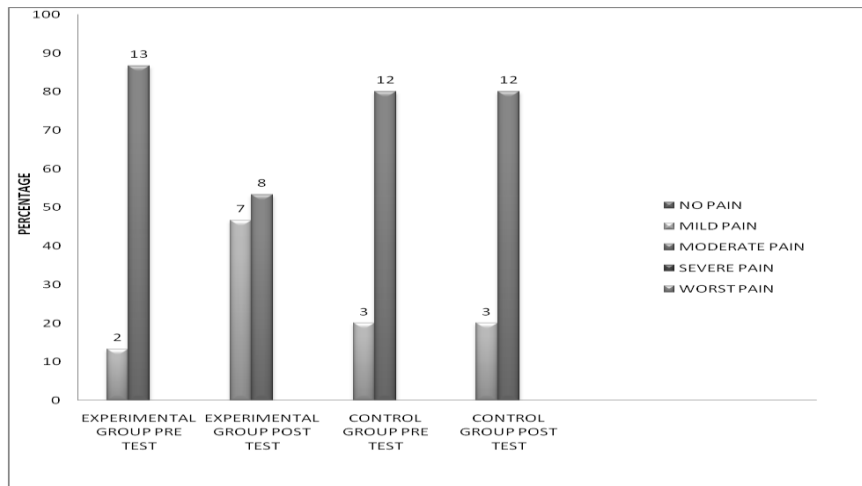


Figure 2: Frequency and percentage distribution of pain score of participants in the experimental group (n=15) and the control group (n=15)

Comparison of pre-test and post-test knowledge level of participants in experimental group

The mean difference between the pre-test and post-test knowledge level of participants in the experimental group is 7.06 and the SD is 1.87. The calculated ‘t’

value is 14.62. Hence there is significant difference in the pre-test and post test knowledge level since the calculated value is more than the table value in the degree of freedom 14 at 0.05 level of significance. (Table 1)

Table 1: Mean Difference, Standard Deviation, ‘t’ value, df, p value and level of significance of pre- test and post-test knowledge level of women in the experimental group

GROUP	MD	SD	‘t’ value	df	p value	Level of significance
Experimental group	7.06	1.87	14.62	14	p>0.05	S*

Comparison of pre-test and post-test pain level of participants in experimental group

The mean difference between the pre test and post test pain level of participants in the experimental group is 0.73 and the SD is 0.59. The calculated ‘t’ value is 4.76. There

is significant difference in the pre-test and post-test pain level since the calculated value is more than the table value in the degree of freedom 14 at 0.05 level of significance. (Table 2)

Table 2: Mean Difference, Standard Deviation, ‘t’ value, df, p value and level of significance of pre- test and post-test pain level of women in the experimental group (n=15)

GROUP	MD	SD	‘t’ value	df	p value	Level of significance
Experimental group	0.73	0.59	4.76	14	p>0.05	S*

Comparison of knowledge level of participants in experimental group and control group

The pre-test mean knowledge level in the experimental group and control group is 7.9 and the SD is 1.625, the ‘t’ value using the unpaired ‘t’ test is 0 and the degree of freedom is 28. The calculated chi square value is less than the table value at 0.05 level of significance. Hence there is no significant difference in the pre-test

knowledge level of control group. The post test mean knowledge level in the experimental group and control group is 15 and 7.86 respectively and the SD is 1.435, the ‘t’ value using the unpaired ‘t’ test is 13.64 and the degree of freedom is 28. The calculated chi square value is more than the table value at 0.05 level of significance. Hence there is significant increase in the post-test knowledge level of experimental group. (Table 3)

Table 3: Mean, SD, 't' value, df, p value and level of significance of the pre-test and post-test knowledge level of women in the experimental group (n=15) and control group (n=15)

	Experimental group Mean	Control group Mean	SD	't' value	df	p value	Level of significance
Pre-test	7.9	7.9	1.625	0	28	p<0.05	NS
Post test	15	7.86	1.435	13.64	28	p>0.05	S*

Comparison of pain level of participants in experimental group and control group

The pre-test mean level of pain in the experimental group and control group is 7.2 and 6.4 respectively and the SD is 2.105, the 't' value using the unpaired 't' test is 0.966 and the degree of freedom is 28. The calculated chi square value is less than the table value at 0.05 level of significance hence there is no significant difference in the pre-test pain score of experimental

group and control group. The post test mean level of pain in the experimental group and control group is 6.64 and 7.33 respectively and the SD is 2.519, the 't' value using the unpaired 't' test is 2.519 and the degree of freedom is 28. The calculated 't' value is more than the table value at 0.05 level of significance hence there is significant decrease in the post-test pain level of experimental group and control group.

Table 4: Mean, SD, 't' value, df, p value and level of significance of the pre-test and post-test knowledge score of women in the experimental group (n=15) and control group (n=15)

	Experimental group mean	Control group mean	SD	't' value	df	p value	level of significance
Pre-test	7.2	6.4	2.105	0.966	28	p<0.05	NS
Post test	6.64	7.33	0.947	2.519	28	p>0.05	S*

Association of baseline variables of participants with knowledge level and pain level in experimental group and control group

The chi-square test show no significant association between knowledge level and pain level to selected baseline variables, at 0.05 level of significance.

DISCUSSION

The results of the present study reveal that there was significant increase in the post-test knowledge level of the experimental group who received individualized teaching on labour pain management. Vyas, Parihar and Sharma at Gulbarga done a study on the effectiveness of a planned teaching programme on knowledge regarding non pharmacological techniques of relieving labour pain reports that, among 60 primigravida mothers who were selected through simple random sampling technique 83.9 % women had improved their knowledge after the planned teaching programme. (11) This supports the present study.

The current study shows there was significant decrease in the post-test pain

level of parturient women in the experimental group who performed paced breathing exercises which supports a study conducted by Patterson at USA to examine the relationship between patterned paced breathing and level of fatigue among 56 mothers in the first stage of labour. Numerical pain rating scale and observation checklist were used to rate the pain and fatigue level of the samples. Findings revealed that women using patterned paced breathing 39 (69.6%) have reduction in pain and fatigue level. (12) Similar study findings were seen in Turkey by Yildirim & Sahin on the effects of breathing and skin stimulation techniques on labour pain perception among 40 Turkish women. The study revealed that nursing support and patient-directed education concerning labour and non-pharmacological pain control methods such as breathing and cutaneous stimulation techniques were effective in reducing the perception of pain by pregnant women when provided before delivery, leading to a more satisfactory birth experience. (13)

The findings of the study can be used by the nurses and midwives to enhance reduction of labour pain perception by

motivating the nurse midwives to have an in-depth knowledge on physiological changes during labour, understand the importance of reduction of pain perception during labour, and develop skill in providing efficient nursing care for effective pain management during labour. This study also helps to educate the students about various complementary and alternative therapies for pain management in labour and encourage them for effective utilisation of research-based practice.

However, further studies can be replicated on large sample to identify the beneficial findings and comparative study can be carried out to identify the effectiveness of various methods such as music therapy, warm water bath, acupuncture and acupressure that helps in relieving the labour pain.

CONCLUSION

The study findings concluded that the individualised teaching on labour pain management is effective since there is significant increase in the knowledge level and decrease in the pain level of parturient women in the experimental group and there is significant difference in the post-test knowledge level and pain level of parturient women in the experimental group and control group. Nurses should encourage parturient women to practice non pharmacological measures especially paced breathing exercises to improve their confidence, reduce the pain during labour and make the labour a wonderful experience in life.

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