e - ISSN – 2349-0691

AMERICAN JOURNAL OF ADVANCES IN NURSING RESEARCH

Journal homepage: www.mcmed.us/journal/ajanr

A STUDY TO ASSESS THE EFFECTIVENESS OF HOT APPLICATION ON DIMPLE OF VENOUS ON REDUCTION OF INTENSITY OF LABOUR PAIN AMONG PRIMIGRAVID MOTHERS

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Article Info

Received 25/10/2020
Revised 15/11/2020
Accepted 02/12/2020

Key word:
Effectiveness, hot application on dimple of venous, labour pain, primigravid mothers.

ABSTRACT

Pain during labour is different for every woman. Although labour is often thought of as one of the painful events in human experience, it ranges widely from woman to woman and from pregnancy to pregnancy and heat therapy benefits by helping to relieve muscle spasms, increases circulation of blood lymph which benefits cellular nutrition, oxygenation and detoxification and has a sedating and relaxing effect. The quantitative study aims to evaluate the intensity of labour pain, effectiveness of hot application on labour pain among primigravid mothers and to find out association between the pre test mean score of labour pain with selected demographic variables. The study was conducted at Government Victoria Hospital, Kollam using pre test post test control group design. The data was obtained using interview schedule and numerical pain scale from 60 samples, 30 each in experimental and control group, analysed and interpreted considering the objectives and hypothesis of the study using descriptive and inferential statistics. Among experimental group 16.67% had moderate pain and 83.33% had severe pain whereas in control group 26.67% had moderate pain and 73.33% had severe pain. However after the post test 60% of experimental group had moderate pain and 40% had severe pain. Meanwhile in control group 6.67% had moderate pain and 93.33% had severe pain. This shows that there is decrease in intensity of labour pain after the hot application on dimple of venous. The calculated paired 't' value for post test was 6.22** which is greater than the table value 2.00 at 0.05 level of significance. This shows that hot application on dimple of venous was effective in reduction of intensity of labour pain. The chi-square values related to time of conception after marriage and type of family showed significant association between pre test scores of labour pain with selected demographic variables.

INTRODUCTION

Every woman's birth experience is personal to her. But most women agree that the contractions feel stronger as labour progresses. The pain which we feel when we get hurt is our body's way of warning us that something's wrong. The pain of contractions is usually a sign that the body is doing the right thing.[1] Wide arrays of non pharmacological pain relief measures, as well as pharmacological interventions, are presently available to women in labour. Relaxation, breathing techniques, positioning/movement, massage, hydrotherapy, hot/cold therapy, music, guided imagery, acupressure, and aromatherapy are some self-help comfort measures women may initiate during labour to achieve an effective

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coping level for their labour experience. Women are encouraged to employ a variety of simple, non pharmacologic techniques to reduce or modify labour pain with no purpose of causing harmful effects to the mother or infant.[2]

A quasi experimental study conducted by Nasira Y. Mathakiya et. al. (2016) on effectiveness of sacral massage versus hot application in sacral area to reduce back pain among primi mothers in first stage of labour. Using non probability purposive sampling technique 50 samples selected, 25 in sacral massage group and 25 in hot application. Sacral massage and hot application were given for 10 minutes duration for 3 times at 20 minutes intervals in both group and assessed the level of pain by using numerical pain assessment scale. The findings of the study revealed that hot application is more effective to reduce back pain among primi mother in first stage of labour than the sacral massage. [3]

Sukhwinder Kaur (2013) conducted a study on application of "heat therapy" on intensity of labour pain and duration of first stage labour among primigravida mothers admitted in labour room of PGIMER, Chandigarh, India. 60 subjects were enrolled using purposive sampling technique 30 each in experimental and control groups. In experimental group, mothers were given heat therapy over the lower back 3 times after a gap of 1 hour during the active phase of labour. In the control group routine care was provided. Pre and post intervention assessment of labour pain was done with numeric rating scale. Result of the study revealed that the subjects in experimental group had statistically significant lower labour pain level than those in control group at p value <0.001. Heat therapy acted as a distraction as well as has a therapeutic effect on pain and provided comfort and relaxation to the mother.[4]

STATEMENT OF PROBLEM

A study to assess the effectiveness of hot application on dimple of venous on reduction of intensity of labour pain among primigravid mothers in a selected hospital at Kollam.

OBJECTIVES

1. To assess the intensity of labour pain among primigravid mothers in experimental and control group during the first stage of labour.
2. To evaluate the effectiveness of hot application on dimple of venous during first stage of labour among primigravid mothers by comparing with experimental and control group.
3. To find out the association between the pre test scores of labour pain with selected demographic variables of experimental and control group.

HYPOTHESES

H1–There will be significant reduction in intensity of labour pain after the hot application on dimple of venous among primigravid mothers in experimental group.

H2–The mean post test score of labour pain in experimental group is significantly lower than that of mean post test score of labour pain in control group.

H3 –There will be significant association between pre test scores of labour pain and selected demographic variables in experimental and control group among primigravid mothers.

MATERIALS AND METHODS

Research approach used was quantitative approach. Research design was Pre test post test control group design. The study was conducted at Govt. Victoria Hospital, Kollam among 60 primigravid women having gestational age >38 weeks and cervical dilatation 4-6cm, 30 samples each in experimental and control group. Application of heat was given to the experimental group through hot water bag filled with hot water (115-120□F), wrapped in a towel and applied on dimple of venous (directly superficial to the two sacroiliac joints, the sites where the sacrum attaches to the ilium of the pelvis.[5]) from the beginning to the end of contraction and routine care given to the control group. Non probability consecutive sampling technique was used. The pilot study was conducted among 10 samples.

TOOLS AND TECHNIQUES

In this study the data collection instruments are

1. Demographic proforma such as age, education, religion, marital status, time of conception, type of family, area of residence, occupation, family income, diet, regular antenatal visits.
2. Structured numerical pain scale.

Scoring Method

The scale ranges from 0 – 10. Zero indicates “no pain” 1-3 indicates mild pain, 4-6 indicates moderate pain and 7-10 indicates severe pain.

Data collection process

After getting the permission from Government Victoria Hospital, the investigator visited the labour room, met the participants and selected the samples according to inclusion and exclusion criteria. The experimental group were given the instructions regarding the effect of hot application on labour process, clarified their doubts and consent was taken. They were given hot application. Then pain intensity was assessed by numerical pain scale prior to the intervention and after the sixth contraction after intervention. Control group was

selected and consent was obtained. Following this, pre test and post test pain scores were obtained before the routine care and after the sixth contraction by using numerical pain scale.

ANALYSIS AND INTERPRETATION

The data obtained using both descriptive and inferential statistics. Statistical significance of effect of hot application on reduction of intensity of labour pain was analysed using paired 't' test and association between pre test scores of labour pain with selected demographic variables were analysed using Chi square test.

RESULTS

Data presented in table 1 describes about the demographic variables that is, majority of the sample in the experimental group (56.6%) are in the age group of 21-25 years and ≤ 20 years (53.3%) are in the control group. Whereas 36.7% are in the age group ≤20 years in the experimental group and 43.3% in 21- 25 years are in the control group. Majority of the sample in experimental group (36.6%) had been educated upto Plus two and (33.3%) in control group had been educated upto SSLC. Minority of the sample (13.3%) in the experimental group and (16.7%) in the control group had professional education. Majority of the sample (90%) are unemployed and only (10%) are employed both in experimental and control group. Majority of the sample (83.3%) in experimental and (90%) in control group conceived within 1 year after marriage and only (16.7%) in the experimental and (10%) in the control group conceived in 1-2 years. Majority of the sample (56.7%) in the experimental and (53.3%) in the control group belonged to nuclear family and about (43.3%) in experimental and (46.7%) in control group belonged to joint family. Majority of sample (73.3%) in experimental and (80%) in control group believes that presence of family members reduce the intensity of pain and only (26.7%) in experimental and (20%) in control group believes that presence of family members do not reduce the intensity of pain. Majority of the sample (93.3%) in experimental and (90%) in control group believed that prior education regarding pain management does not reduce the intensity of pain and only (6.7%) in experimental and (10%) in control group believed that prior education regarding pain management reduce the intensity of pain.

Figure 1 shows that pretest pain score of experimental group 16.67% and 26.67% in control group had moderate pain and 83.33% in experimental and 73.33% in control group had severe pain. Post test pain score of experimental group (60%) and (6.67%) in control group had moderate pain and 40% in experimental and 93.33% in control group had severe pain. Hence H1 is accepted that is there is a significant reduction in intensity of labour pain after the hot application on dimple of venous among primigravid mothers in experimental group.

The finding in table 2 shows that the mean post test pain score of experimental group (6.2) is less as compared with control group (7.8). Hence the research hypothesis H2 is accepted.

Hence it is concluded that the hot application on dimple of venous is effective in reduction of intensity of labour pain among primi gravid mothers in experimental group.

Data presented in table 3 reveals that all the chi-square values related to type of family are greater than that of table value at 0.05 level of significance. Therefore, the researcher accepts the research hypothesis H3. Thus, it can be concluded that there is significant association between pre-test scores of labour pain and selected demographic variables.

Table 1. Distribution of demographic variables based on group

Age	Experimental		Control		Total	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
≤ 20	11	36.7	16	53.3	27	45.0
21 to 25	17	56.7	13	43.3	30	5.0
26 to 30	2	6.7	1	3.3	3	5.0
Education						
Graduate	4	13.3	5	16.7	9	15.0
Plus Two	11	36.7	8	26.7	19	31.7
SSLC	8	26.7	10	33.3	18	30.0
< SSLC	7	23.3	7	23.3	14	23.3
Occupation						
Employed	3	10.0	3	10.0	6	10.0
Unemployed	27	90.0	27	90.0	54	90.0

Time of conception after marriage						
Within 1 year after marriage	25	83.3	27	90.0	52	86.7
1 - 2 year	5	16.7	3	10.0	8	13.3
Type of family						
Nuclear family	17	56.7	16	53.3	33	55.0
Joint family	13	43.3	14	46.7	27	45.0
Presence of family members reduces intensity of pain						
Yes	22	73.3	24	80	46	76.6
No	8	26.7	6	20	14	23.3
Prior education regarding labour pain reduces intensity of labour pain						
Yes	22	73.3	24	80	46	76.6
No	8	26.7	6	20	14	23.3

Table 2. Effectiveness of hot application in experimental group by comparing with control group (n=60)

Observation	Group	Mean	SD	t	p
Pre test	Experimental	7.6	1.0	0.87	0.386
	Control	7.4	1.1		
Post test	Experimental	6.2	1.1	6.22*	0.000
	Control	7.8	0.9		

*:- significant at 0.05 level

Table 3. Assessment of association between the pre test pain scores with selected demographic variables (n=60)

Demographic variables		Moderate		Severe		χ^2	P
		Count	Percentage (%)	Count	Percentage (%)		
Age	<= 20	5	18.5	22	81.5	0.29	0.592
	21 – 30	8	24.2	25	75.8		
Education	Above Plus Two	5	17.9	23	82.1	0.45	0.503
	SSLC and Below	8	25.0	24	75.0		
Time of conception after marriage	Within 1 year after marriage	12	23.1	40	76.9	0.46	0.499
	1 - 2 year	1	12.5	7	87.5		
Type of family	Nuclear family	5	15.2	28	84.8	1.83	0.176
	Joint family	8	29.6	19	70.4		

*:- significant at 0.05 level

Figure 1. Comparison of labour pain score based on group

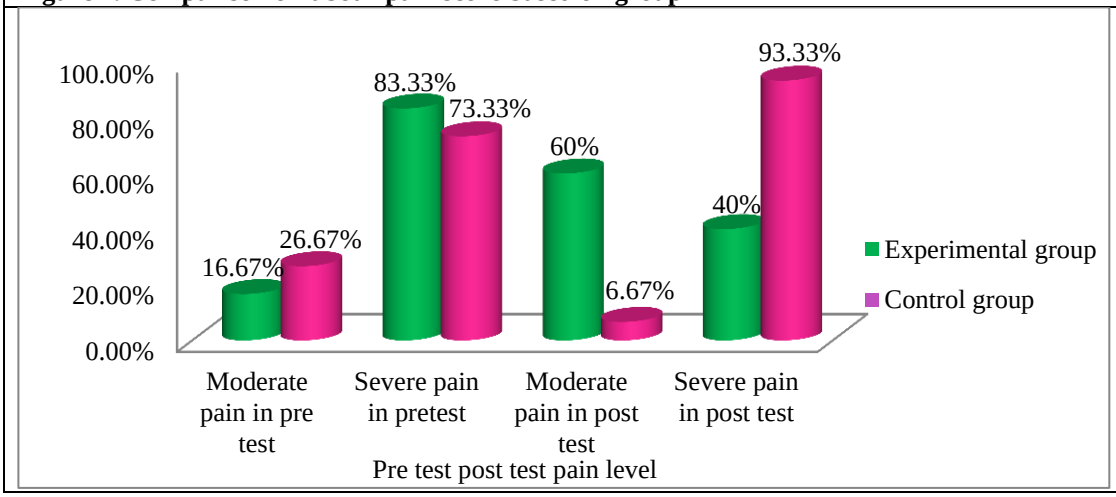
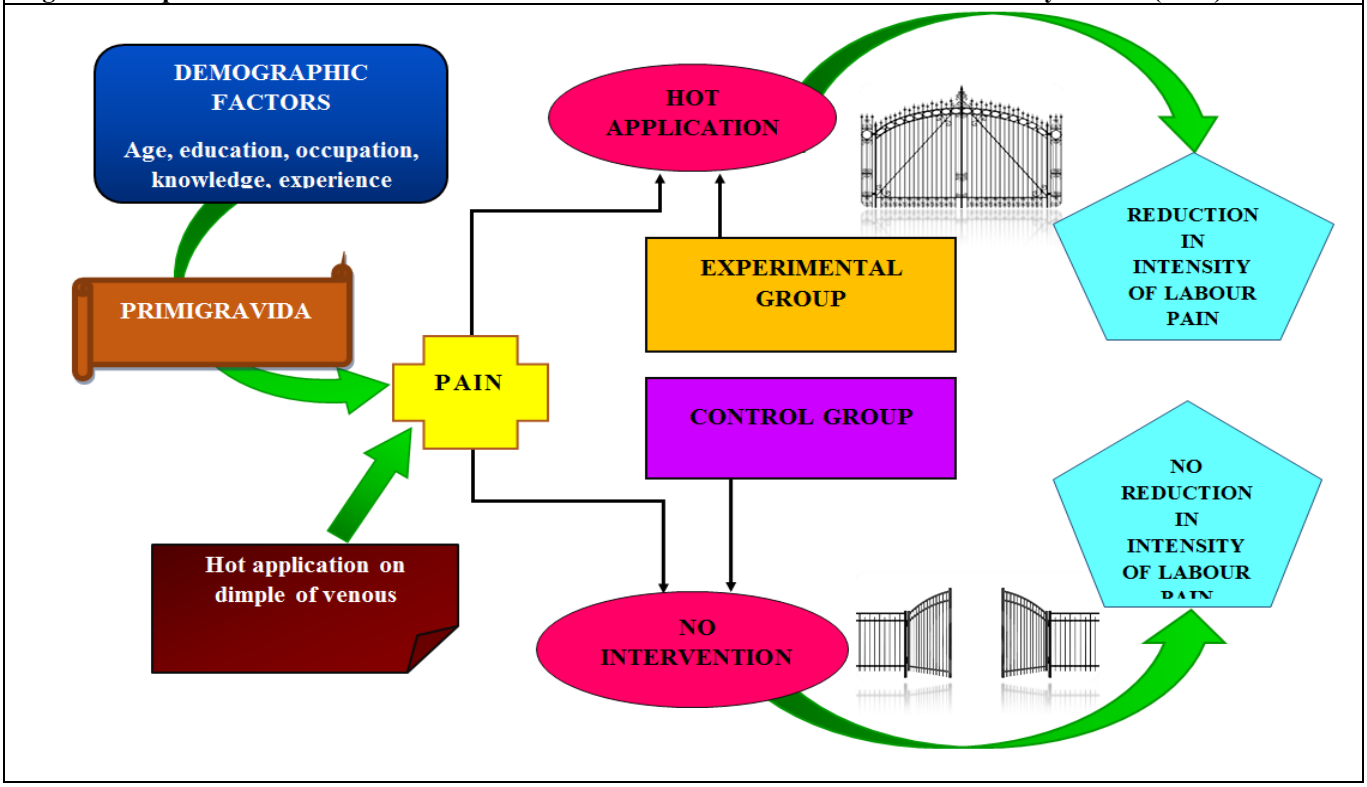


Fig 2: Conceptual frame work based on Melzack and Wall's Gate Control Modified Theory of Pain (1999)



DISCUSSION

In the present study, quantitative approach with consecutive sampling technique was used. The mean post test score of experimental group was 6.2 and in control group 7.8 and it is greater than the table value 2.00 at 0.05 level of significance. This shows that hot application on dimple of venous was effective in reduction of intensity of labour pain [5].

The study result was supported with a research conducted by Fariba Fahami E et al (2011) to assess the effect of heat therapy on labour pain severity and delivery outcome in parturient women. 64 nulliparous women were randomly divided into two groups (heat therapy and routine care group). The result revealed that the mean of the pain severity in the first labour stage in the heat therapy and control groups was (8.14±0.99) and (8.88±1.02), respectively ($p<0.001$). Hence according to the results of this study, it seems that heat affects the intensity of pain in the first and second stages of labour and shortens the first and third stages of labour.[6]

CONCLUSION

On the basis of the findings of the study the following conclusions are drawn.

The present study assessed the effectiveness of hot application on dimple of venous on reduction of intensity of labour pain among primigravid mothers. The researcher gave hot application to the intervention group (30) and routine care group(30) and found that there was significant reduction in mean pain score.

The investigator also assessed the association between the pre test pain scores with the demographic variables and found that there was association between time of conception and type of family.

NURSING IMPLICATION

NURSING PRACTICE

Nurse can inspire and help mothers and their family to use hot application as it plays a vital role in pain management during labour and birth as it is simple, effective, non-invasive and cost effective method having no side effects on mother and infant.

NURSING EDUCATION

Nurse educators should consider inclusion of complementary and alternative therapies in nursing curricula encouraging the students which in turn motivate public enthusiasm for the use of these therapies.

NURSING ADMINISTRATION

Nurse Managers should give support for in service education programmes, training programmes and necessary facilities for clinical practice on hot application on dimple of venous.

NURSING RESEARCH

Limited studies have been conducted on effect of complementary and alternative therapies on labour so far, so more researches should be conducted which helps in less use of pain medication, lowers rates of caesarean section and increases the overall satisfaction of women with their birth experiences which proves complementary therapies (like hot application) gives more satisfaction.

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