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Research article

A study to assess the effectiveness of paced breathing versus back massage for labour pain among antenatal mothers during labour process

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ABSTRACT

Introduction

Labour pain is unique and induces a type of acute pain. Pain associated with labour was accepted as a necessary part of child birth. The concept of painless childbirth gave rise to many scientific discoveries and researches. As a result, different non-pharmacologic techniques were tried out to relieve labour pain. There are a number of non-pharmacological methods which can help women to relax during contractions. The breathing techniques, massage, simple back rubbing and positioning are also widely used as an active way of handling the discomfort during labour.

Aim

The aim of the study is to determine the effectiveness of paced breathing and back massage in labor pain management.

The following objectives were set for the study

- To assess the demographic variables of the antenatal mothers.
- To determine the effectiveness of paced breathing in Group I.
- To determine the effectiveness of back massage in Group II.
- To compare the effectiveness of paced breathing with back massage.

Methodology

The conceptual frame work of the study was based on the Wiedenbach's prescriptive theory. The study made use of quasi experimental design with 2 groups. Purposive sampling method was used to select the samples. The total number of samples was 200 in which 100 samples for each group for the study. The first obtained 100 samples were allotted for group I and the second obtained 100 samples were allotted for group II. The tool used in this study was visual analogue scale for pain assessment. The paced breathing was implied for Group I and back massage was implied for Group II for one hour each. The level of pain was assessed by using visual analogue scale for both group I and group II respectively. The gathered data was analyzed by using descriptive and inferential statistics.

The results of the study were

There was significant difference between pre assessment and post assessment level of pain (t 'value=16.066) in Group I. There was significant difference between pre assessment and post assessment level of pain (t 'value=12.961) in Group II. There was no major difference between post assessment level of pain in Group I and Group II. The post assessment mean score of pain in Group II (3.58) was lower than the post assessment mean score of pain in Group I (3.78), the independent t ' value was 0.5.

Conclusion

Labour pain is the natural process among the labouring mothers. It is the responsibility of the nurse to reduce the level of pain as much as possible by various nonpharmacological measures. In this aspect, measures like paced breathing and back massage have proven to be one of the effective nonpharmacological measures. So the investigator recommends that the nurse can use these measures in the labour ward.

Keywords: Antenatal, Back massage, Paced breathing, Active phase of labour, Labour pain

INTRODUCTION

Nothing compares with the miracle and magic of pregnancy. Pregnancy is a condition, not an illness; a pregnant woman is not sick. However, women will experience major changes during the course of her pregnancy.

Most women expect and experience pain in labour and childbirth. Pain is a subjective experience, and it is whatever the women say it is for her. Labour pain is often described as the most intense pain ever experienced, and in many cases, it is the aspect of childbirth most feared by the expected mother.

Labour pain is unique and induces a type of acute pain. Pain associated with labour was accepted as a necessary part of child birth. The concept of painless childbirth gave rise to many scientific discoveries and researches. As a result, different non-pharmacologic techniques were tried out to relieve labour pain. There are a number of non-pharmacological methods which can help women to relax during contractions. The breathing techniques, massage, simple back rubbing and positioning are also widely used as an active way of handling the discomfort during labour. Paced breathing has been used to promote the parturient outcome during labour. It also reduces the negative feelings such as fear of anxiety. It is a non-pharmacological method with favorable effects in reducing the pain perception during the labour. Massage is a common and ancient body work technique for relieving pain. Massage gets pregnant women comfortable with and aware of their own bodies. It creates a relaxed atmosphere for the person and is a nurturing, caring kind of experience – something pregnant women and new mothers both really need.

AIM

The aim of the study is to determine the effectiveness of paced breathing and back massage in labor pain management.

OBJECTIVES

- To assess the demographic variables of the antenatal mothers.
- To determine the effectiveness of paced breathing in Group I.
- To determine the effectiveness of back massage in Group II.
- To compare the effectiveness of paced breathing with back massage.

HYPOTHESIS: H₁

There will not be significant difference between the mean post assessment score of group I paced breathing and mean post assessment score of group II back massage during labour process among antenatal mothers.

Methodology

An evaluative and comparative approach is selected for this study. **Quasi experimental design** with 2 groups was adopted for as research design. The study was conducted in Orotta National Referral Maternity Hospital, Asmara, Eritrea. A sample of 200 antenatal mothers who met the inclusive criteria was selected for the study. Purposive sampling technique was used to select the samples. The first obtained 100 samples were allotted to the Group I and after that the next 100 samples were allotted to Group II. Visual analogue scale was used to measure the level of pain perception during labour process. The pilot study was conducted in Orotta National Referral Maternity Hospital for a period of two week. The sample size for the pilot study was totally 20. There were 10 samples for each group. After the pilot study, it revealed that the study was considered to be feasible and practicable. Data collection was done in the period of five months. The first obtained 100 samples were included in group I and the second obtained 100 samples were included in group II. Data pertaining to the demographic variables were collected by interview

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method. The investigator assessed the pain level by using visual analogue scale. Immediately after doing the pre assessment, the investigator demonstrated the paced breathing technique and the labouring mother were advised to follow the same technique of paced breathing for group I. The time taken for demonstration of paced

breathing technique was twenty minutes and they are advised to do this paced breathing for one hour during the time of contraction. Back massage was done for group II mothers by the investigator for the duration of one hour. After these procedures, post assessment was done using visual analogue scale to assess the level of pain.

DATA ANALYSIS AND RESULTS

Frequency and percentage distribution of demographic variables of antenatal mothers in Group I and Group II.

N=200

Demographic variables		Group I & Group II			
		Paced Breathing		Back Massage	
		F	%	F	%
Age	15 – 25 yrs	39	39	44	44
	26 – 35 yrs	41	41	46	46
	36 – 45 yrs	20	20	10	10
Education	Illiterate	13	13	19	19
	Secondary education	20	20	32	32
	Higher secondary education	47	47	39	39
	College education	20	20	10	10
Occupation	Government job	44	44	35	35
	Private job	22	22	28	28
	Home maker	34	34	37	37
Type of family	Nuclear	72	72	69	69
	Joint	28	28	31	31
Religion	Christian	56	56	62	62
	Muslim	44	44	38	38

Table – 2: Frequency and percentage distribution of pre assessment level of pain in group I and group II.

N=200

S.No	Level of pain	Group I		Group II	
		Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
1	No pain	-	-	-	-
2	Mild pain	-	-	-	-
3	Moderate pain	45	45	39	39
4	Severe pain	37	37	42	42
5	Worst pain	18	18	19	19
Total		100	100	100	100

Table 2:- shows that in pre assessment, among 200 antenatal mothers 45 (45%) in group I and 39(39%) in group II had moderate pain, 37(37%) of mothers from group I and 42(42%) of mothers

from group II had severe pain and 18(18%) mothers from group I and 19(19%) mothers from group II had worst pain.

Table 3: Mean standard deviation of pre assessment level of pain in Group I and Group II. N=200

Variables	Group I		Group II	
	Mean	SD	Mean	SD
Pain	6.42	2.065	6.65	1.960

Table – 4: Frequency and percentage distribution of post assessment level of pain in Group I and Group II. N=200

S.No	Level of pain	Group I		Group II	
		Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
1	No pain	-	-	-	-
2	Mild pain	47	47	50	50
3	Moderate pain	31	31	32	32
4	Severe pain	22	22	18	18
5	Worst pain	-	-	-	-
Total		100	100	100	100

Table (4) shows that in post assessment level of pain among 200 antenatal mothers who are in active phase of labour in group I, 47(47%) had mild pain and 31(31%) had moderate pain and 22(22%) had severe pain. In group II, half of the

mothers 50(50%) had mild pain and 32(32%) had moderate pain and 18(18%) had severe pain. It shows that both massage and paced breathing helps in reducing the severity of labour pain.

Table 5: Mean standard deviation of post assessment level of pain in Group I and Group II. N=200

Variables	Group I		Group II	
	Mean	SD	Mean	SD
Pain	3.78	2.451	3.58	2.400

Frequency and percentage distribution of pre and post assessment level of pain in Group I.

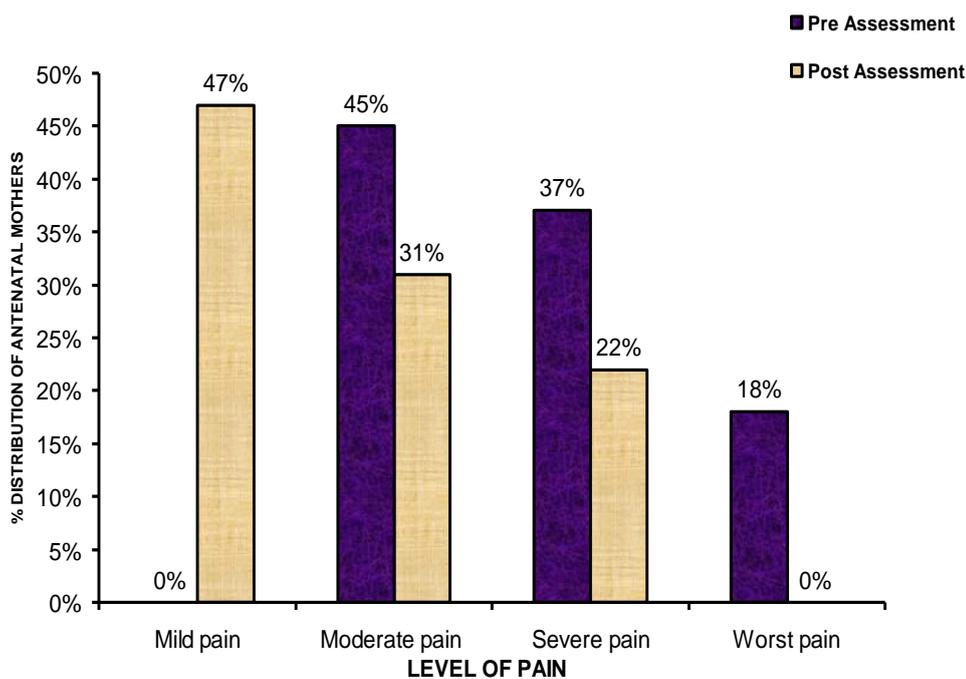


Fig 14:- Percentage distribution of pre and post assessment level of pain in Group I

Table 6: Comparison of Mean, Standard deviation and paired ‘t’ value scores of pain in pre and post assessment among mothers in labour in Group I.

N=100

S. No	Variables	Mean	SD	Paired ‘t’ Value
1.	Pre assessment	6.42	2.065	16.066
2.	Post assessment	3.78	2.451	

d.f =99

(p>0.05)

Frequency and percentage distribution of pre and post assessment level of pain in Group II.

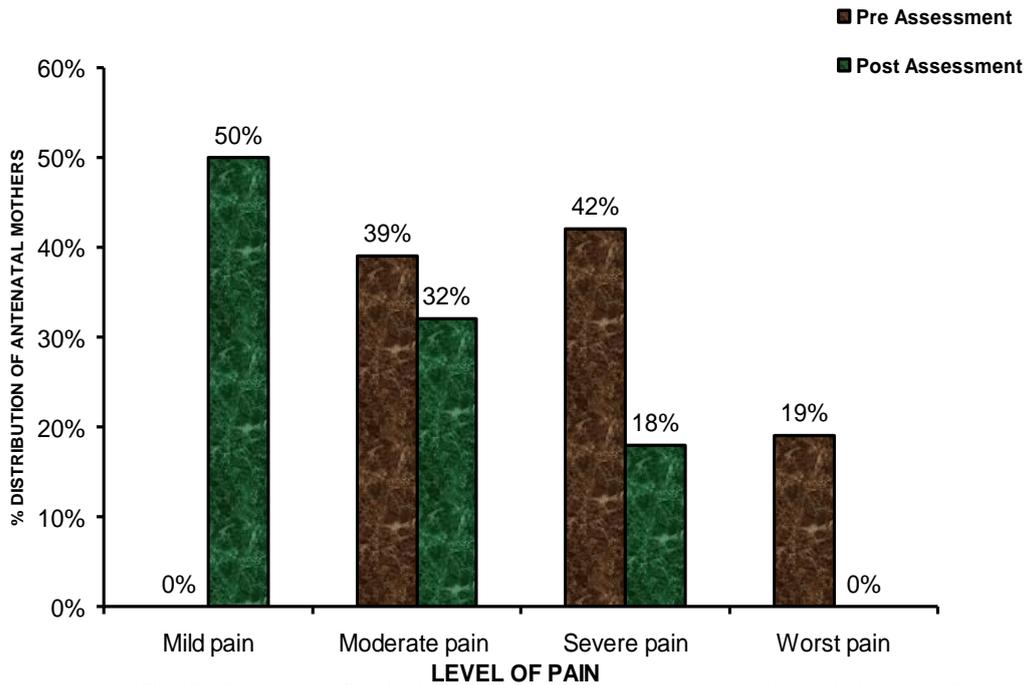


Fig 15:- Percentage distribution of pre and post assessment level of pain in Group II

Table 7: Comparison of Mean, Standard deviation and independent ‘t’ value of pain between Group I and Group II.

S. No	Group	Level of pain		Independent ‘t’ value	Table Value
		Mean	SD		
1.	Group I	3.78	2.451	0.5	2.576
2.	Group II	3.58	2.400		

N = 200

d.f =99

(p< 0.05 = 2.576)

Table (10) shows that the mean score of post assessment level of pain among antenatal mothers with labour pain in Group I and Group II were respectively 3.78 (SD =2.451) and 3.58 (SD= 2.400). Post assessment mean score of pain in

Group II is slightly lower than that of post assessment mean score in Group I. The independent ‘t’ value was 0.5. It is not significant at 0.05 level.

DISCUSSION

Determine the effectiveness of paced breathing in Group I

The mean, and standard deviation value of pre and post assessment level of pain in group I was 6.42 (SD=2.065), 3.78 (SD=2.451) respectively and paired 't' value was 16.066. The decreased mean value was 3.78 (SD = 2.451) and paired 't' value was 16.066 for post assessment of labour pain. It indicates that there was significant difference in pre assessment level of labour pain with that of the post assessment level of labour pain.

Determine the effectiveness of back massage in Group II

It was found that the mean, and Standard deviation value of pre and post assessment levels of labour pain was 6.5(SD=1.960), 3.58 (SD=2.4) respectively and 't' value was 12.961. The decreased mean value was 3.58 (SD = 2.4) and paired 't' value was 12.961 for labour pain. It indicates that there were significant differences in pre assessment level of labour pain with that of the post assessment level of labour pain.

Compare the effectiveness of paced breathing with back massage

The mean, and Standard deviation value of post assessment level of labour pain in Group I and Group II were 3.78(SD=2.451) and 3.58 (SD=2.4) respectively and independent 't' value was 0.5. It shows that both paced breathing and back massage were found to be effective in reducing the labour pain. Hence H_1 : There is no major significant difference between the mean post assessment score of paced breathing and mean post assessment score

of back massage on labour pain and hypothesis is accepted.

CONCLUSION

The study findings revealed that there was a significant decrease in level of pain among labouring mothers followed by paced breathing and back massage. Paced breathing was given for group I and back massage was given for group II during the time of active phase of labour. There was no major significant difference between the mean post assessment score of paced breathing and mean post assessment score of back massage on labour pain, both paced breathing and back massage were found effective in reducing the labour pain.

RECOMMENDATIONS

- This similar study can be conducted in the hospital set up at large scale.
- A comparative study can be conducted between primi and multi antenatal mothers
- A comparative study can also be done between the effectiveness of various non-pharmacological measures for labour pain.
- The effect of paced breathing technique and back massage techniques can be assessed in combination with other relaxation procedures like meditation, music therapy, and progressive relaxation procedures for the good parturient outcome.
- This similar study can be replicated on large sample there by findings can be generalized for a large population.

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