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Effectiveness of a video assisted labour process teaching on anxiety and intrapartum behaviour among primiparturients during active labour

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Abstract

Midwives are the best agents responsible for making labour event as a joyful and cheerful experience to cherish throughout women's life. Reducing anxiety and gaining confidence by enhancing knowledge about childbirth can be considered an important factor in influencing a primiparturient's intrapartum behaviour and birthing experience. Educating the women regarding labour events, roles to be performed during labour process reduces anxiety and facilitates effective intrapartum coping behaviour.

Methodology: An experimental study was conducted to assess the effectiveness of a video assisted labour process teaching on anxiety and intrapartum behaviour among primiparturients during active labour in selected maternity units of tertiary care hospitals of Western Maharashtra. Total 88 primiparturients having singleton pregnancy at and above 37 weeks of gestation were selected through purposive sampling technique followed by random allocation into experimental(n=44) and control group(n=44) by chit method. Tools used were Beck Anxiety Inventory (BAI) for assessing anxiety and Intrapartum Behavioural Observation Rating Scale for assessing intrapartum behaviour. Pre intervention anxiety was assessed during latent labour followed by administration of video assisted labour process teaching in experimental group and routine care in control group. Post intervention anxiety level and intrapartum behaviour among primiparturients were assessed during active labour.

Results: The difference of mean anxiety score during latent and active labour revealed anxiety score 10.2 ± 6.85 in experimental group as compared to anxiety score 11.02 ± 4.526 in control group ($z=7.92$; $p<0.0001$). The study revealed that there was a moderate positive correlation ($r=0.59$) and strong positive correlation ($r=0.88$) between anxiety during latent phase and active labour in experimental group and control group respectively which was highly significant at level of significance $p<0.0001$. The mean intra-partum behaviour score increased from 28.45 ± 19.756 in control group to 68.55 ± 21.521 in experimental group ($p<0.0001$). Also, there is a strong negative correlation between anxiety and intrapartum behaviour during active labour in experimental group ($r = -0.795$, $P<0.0001$).

Conclusion: Study revealed that video assisted labour process teaching as an effective method of reducing anxiety and promoting effective intrapartum behaviour among primiparturients during active labour. Also, it is a cost effective method and can be used by midwives independently to develop maternal confidence and effective intrapartum coping strategies during labour.

Keywords: Primiparturients, Anxiety, Intrapartum behaviour and Video assisted labour process teaching

Introduction

Nothing brings more joy to a family than the birth of a child^[1]. Birth is as ancient as itself and as natural as the process of breathing. Pregnancy, childbirth and Motherhood are times when a woman undergoes a vast change in her body and it can be termed as an entirely new birth for woman or as a time of rebirth^[2].

Pregnancy is described as the most captivating and ground breaking chapter of a woman's life, especially, the time of first pregnancy where it said to be the most crucial or momentous transition period - A woman's transition to motherhood^[3]. Experience of childbirth is always linked with the emotional feelings and expectations. Inappropriate mental and physical preparation specially among primiparturients regarding the birthing process can leave her in state of anxiety, dilemma and fear of the unknown.

Midwives are the guardian of eutocia and stimulates the physiological evolution of the pregnancy, birth and postpartum^[4].

Midwives are in a unique position to develop a trusting insightful relationship with the women they encounter by providing clear, evidence based information, reassurance, and one to one support. If a mother is truly informed on childbirth, she approaches labour with confidence, she is armed with coping strategies and therefore it gives her a satisfying approach, rather finding themselves going into it with full of anxiety, fear and apprehensions.

A positive birthing experience can have long lasting benefits such as improving the bonding between mother and baby, development of parent's well-being, self-confidence and the quality life. A midwife accompanies and take care of parturients in an autonomous and holistic way.

Problem Statement

An experimental study to assess the effectiveness of a video assisted labour process teaching on anxiety and intrapartum behaviour among primiparturients during active labour in selected maternity units of tertiary care hospitals of Western Maharashtra.

Objectives of the Study

Primary Objectives

1. To assess the anxiety level during latent phase and active labour in experimental and control group.
2. To compare the pre and post anxiety level during latent and active labour in experimental and control group.
3. To compare the difference in the pre and post anxiety level during latent and active labour in experimental and control group.
4. To assess the intrapartum behaviour during active labour in experimental and control group.
5. To compare the intrapartum behaviour between experimental and control group.
6. To relate between anxiety and intrapartum behaviour during active labour in both experimental and control group.

Secondary Objectives

1. To assess the association between anxiety and selected

demographic variables in both experimental and control group.

2. To assess the association between intrapartum behaviour during active labour with selected demographic variables in both experimental and control group.

Hypothesis

Primary Hypothesis

H0(1): There is no difference in anxiety during active labour among experimental and control group.

H0(2): There is no correlation between anxiety during latent phase and active labour in experimental and control group

H0(3): There is no difference in intrapartum behaviour during active labour among experimental and control group

H0(4): There is no relation between anxiety and intrapartum behaviour among primiparturients during active labour in experimental and control group

Secondary Hypothesis

H0(5): There is no association between anxiety during active labour among primiparturients with selected demographic variables in both experimental and control group

H0(6): There is no association between intrapartum behaviour during active labour among primiparturients with selected demographic variables in both experimental and control group.

Conceptual Framework

The conceptual framework set up for this study is based on "King's Goal Attainment Model". The framework selected provides a way of understanding and providing throughout the concepts of perception, judgement, action, reaction, interaction, transaction and feedback between the nurse and primiparturient.

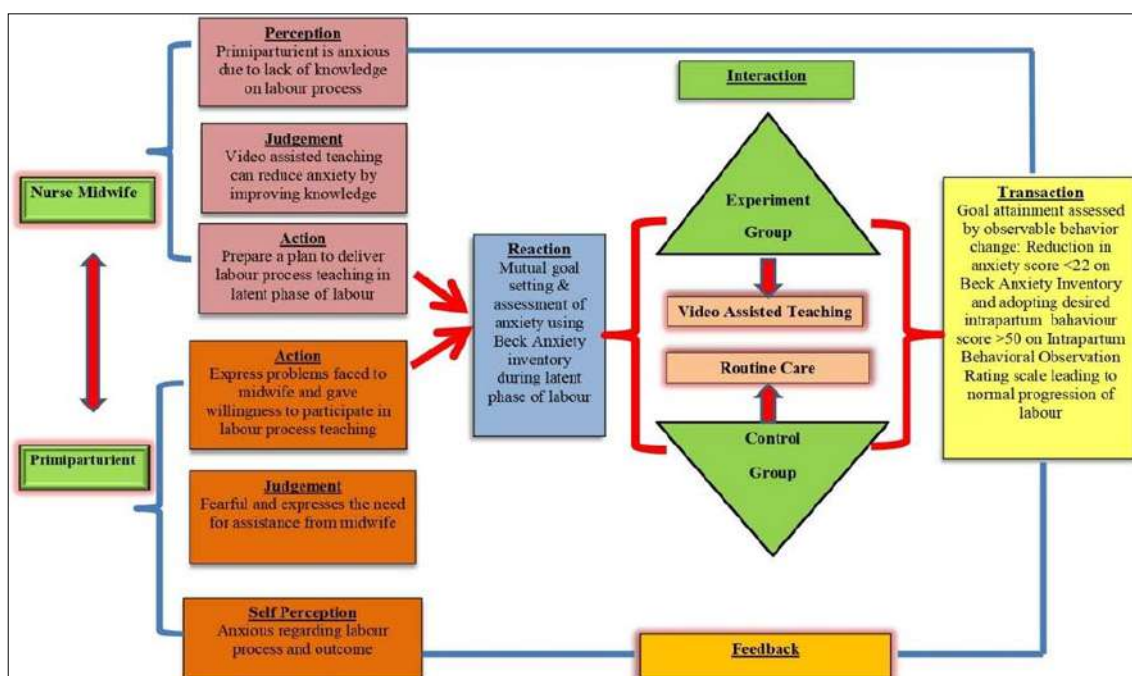


Fig 1: Conceptual Framework Adapted from Goal Attainment Theory

Inclusion Criteria

1. Primiparturients age >18 years
2. Primiparturient at & above 37 weeks POG
3. willing to participate in the study
4. Primiparturients women in latent phase of labour

Exclusion Criteria

1. All high risk primiparturients with diagnosed risk – Medical/Surgical/Obstetric/gynaecological complications
2. conceived after infertility treatment (ART)
3. Diagnosed case of anxiety disorders

Ethical Aspects

1. Ethical committee approval obtained

2. Informed consent taken

3. Followed ICMR ethical guidelines throughout the study

Methodology

The research approach selected was Quantitative and the design applied was Experimental in order to attain the objectives. Pre test post test control group design for measuring anxiety during latent phase and active labour among primiparturients. Post test only control group design for measuring intrapartum behaviour during active labour among primiparturients. Purposive sampling technique was used by the researcher to enroll the subjects as most appropriate and suitable for the study. Sample size consisted of 88 primiparturients (44 in experimental and 44 in control group) fulfilling the inclusion and exclusion criteria.

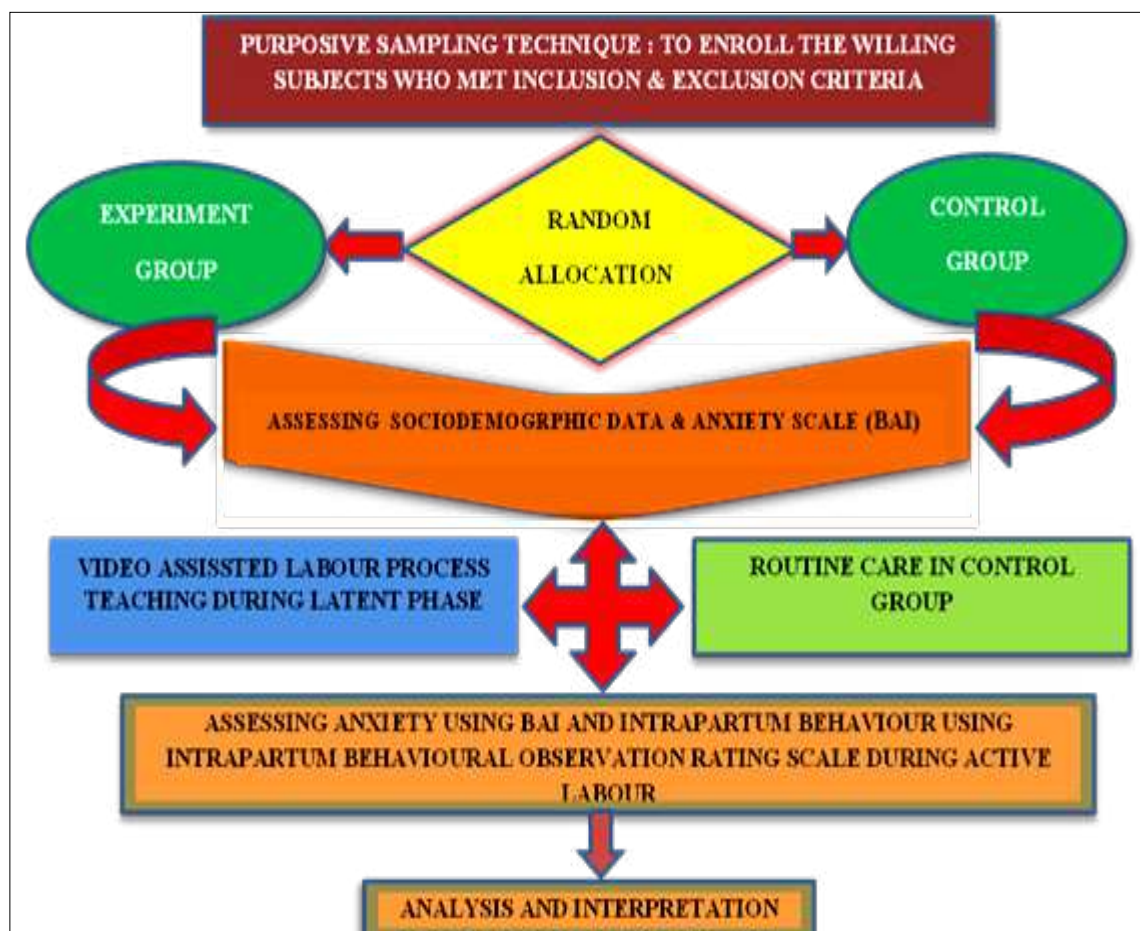


Fig 2: Schematic representation of research methodology

Instruments Used in the study

The researcher used Beck Anxiety Inventory (Standardized Tool) for assessing anxiety during latent and active labour among primiparturients in the study. Intrapartum behaviour was assessed using self-structured Intrapartum Behavioural Observation Rating Scale during active labour among primiparturients. Based on the calculation of Content Validity Index (CVI) of each item by the experts the item was accepted, rejected and modified before the final preparation of the tool. Equivalence was established by the

inter-rater reliability test for Intrapartum Behavioural Observation Rating Scale. The calculated Cohen's Kappa value for Intrapartum Behavioural Observation Rating Scale is 0.737 which represents substantial agreement among raters. Video assisted labour process teaching was administered during latent phase of the labour by the nursing officer in charge of the labour. The duration of video teaching is 6min with the voice over by the researcher. The video has been validated by the experts of Obstetrical and Gynaecological Department.

Table 1: Description of the tool

Section	Content	Item No	Score
Section A	Socio demographic and obstetric characteristics	1 – 7
Section B	Beck Anxiety Inventory	1-21	Total Score = 63 0-21=low anxiety 22-35=moderate anxiety 36 and above=potentially concerning level of anxiety
Section C	Intrapartum Behavioural Observation Rating Scale	50	Total Score = 100
	• First stage of Labour	1-26	>75=Excellent Behaviour
	• Second stage of Labour	27-42	50-75=Good Behaviour
	• Third stage of Labour	43-46	25-50=Average Behaviour
	• Fourth stage of Labour	46-50	<25=Poor Behaviour

Results

In order to find the relationship, the data was tabulated, analyzed and interpreted by using descriptive and inferential statistics.

Section I: Description of socio demographic variables in frequency and percentage

Section II: Anxiety scores in experimental and control group

Section III: Intrapartum behaviour score in experimental

and control group

Section IV: Correlation of anxiety and intrapartum behaviour in experimental and control group

Section V: Association of selected demographic variable with anxiety in experimental and control group.

Section VI: Association of selected demographic variable with intrapartum behaviour in experimental and control group.

Table 2: Description of socio demographic variables in frequency and percentage

.Socio- Demographic Variable	Parameter	Experimental (n=44) Frequency (%)	Control (n= 44) Frequency (%)
Age (Years)	18 – 23	18 (40.9)	30 (68.2)
	24 – 29	21 (47.7)	11 (25)
	30 – 35	3 (6.8)	3 (6.8)
	>35	2 (4.5)	0
Level of education	Secondary	16 (36.4)	11 (25)
	Higher secondary	9 (20.5)	27 (61.4)
	Graduate & above	19 (43.2)	6 (13.6)
Occupation	House wife	37 (84.1)	35 (79.5)
	Govt. employee	0	3 (6.8)
	Private employee	7 (15.9)	6 (13.6)
Type of family	Nuclear	11 (25)	13 (29.5)
	Joint	33 (75)	31 (70.5)
No of antenatal visits	<4	2 (4.5)	4 (9.1)
	>4	42 (95.5)	40 (90.9)
Period of Gestation incompleting weeks	38	5 (11.4)	7 (15.9)
	39	18 (40.9)	28 (63.6)
	40	14 (31.8)	9 (20.5)
	>40	7 (15.9)	0
Any prior information regarding labourprocess	Yes	25 (56.8)	27 (61.4)
	No	19 (43.2)	17 (38.6)
Sources of information	Family members	18 (40.9)	12 (44.4)
	Antenatal visit	0	1 (3.7)
	Online antenatal training programmes	7 (15.9)	14 (31.8)
	No	19 (43.2)	17 (38.6)

Anxiety scores in experimental and control group

The anxiety as per Beck Anxiety Inventory during latent phase among primiparturients in experimental group revealed 6(13.6%) had low anxiety, 29(65.9%) had moderate anxiety and 9(20.5%) had potentially concerning anxiety. With respect to anxiety score during active labour in experimental group, 36(81.8%) had low anxiety, 4(9.1%)

had moderate anxiety and 4(9.1%) had potentially concerning anxiety. Comparison of anxiety between latent phase and active labour in experimental group shows the reduction in mean anxiety score from 28.45 ± 7.33 during latent phase to mean anxiety score of 18.14 ± 7.67 during active labour. The percentage change in the mean anxiety score is 35.24%.

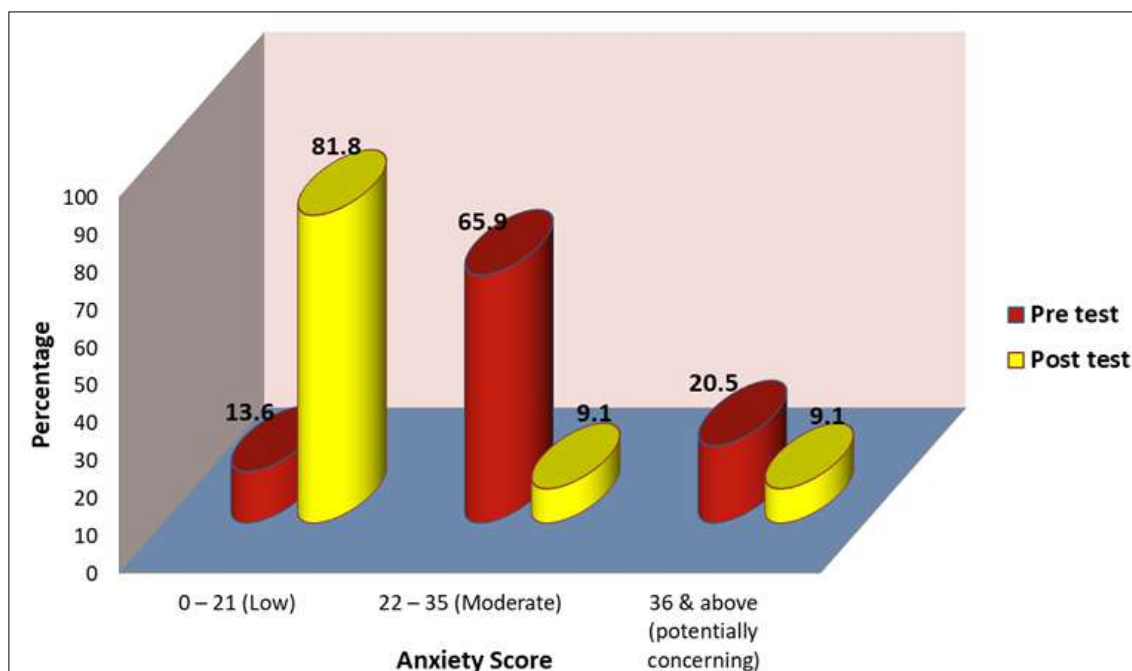


Fig 3: Anxiety level during latent phase and active labour in experimental group

The anxiety during latent phase in control group among primiparturients revealed that 9 had low anxiety, 34 had moderate anxiety and only 1 had potentially concerning anxiety. During active labour, majority 31(70.5%) had potentially concerning anxiety, 11(25%) had moderate

anxiety and only 2(4.5%) had low anxiety. Comparison of anxiety between latent phase and active labour in control group reveals that mean anxiety score during latent phase 27.55 ± 7.88 increases to 38.57 ± 9.47 during active labour in control group.

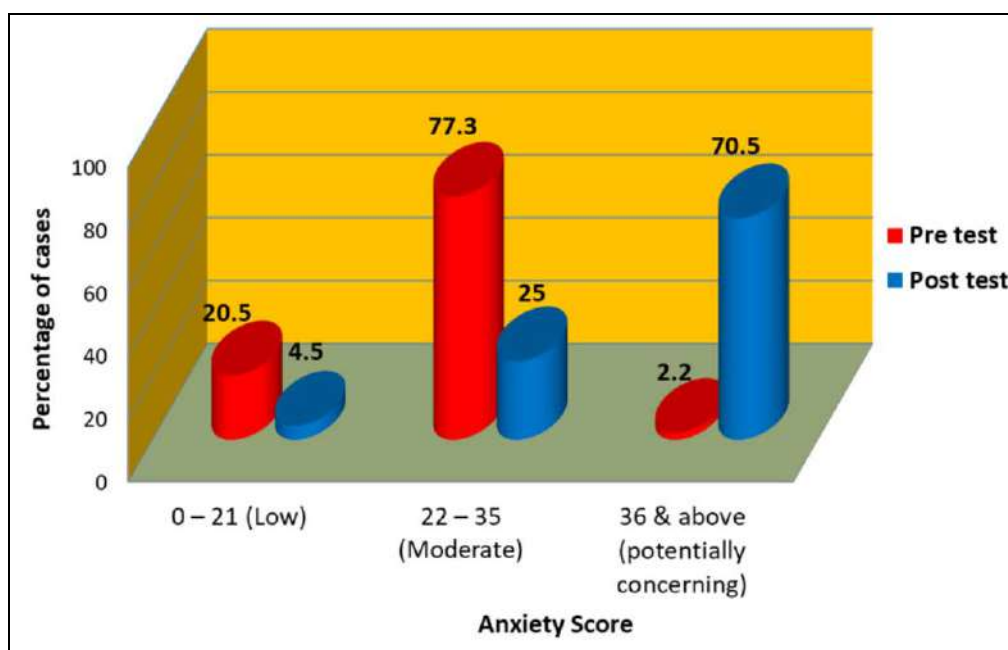


Fig 4: Anxiety level during latent phase and active labour in control group

- The comparison of anxiety during latent phase of labour reveals that in experimental group mean anxiety score

was 28.45 ± 7.33 whereas in control group mean anxiety score was 27.55

± 7.88 respectively projecting Z value 0.00 at level of significance $p=1.00$. Hence there is no difference in pre mean anxiety scores of experimental and control group. In comparison to anxiety during active labour in experimental

and control group, the mean anxiety score was 18.14 ± 7.67 and 38.57 ± 9.47 respectively projecting Z value 7.07 which was statistically significant at level of significance $P<0.0001$.

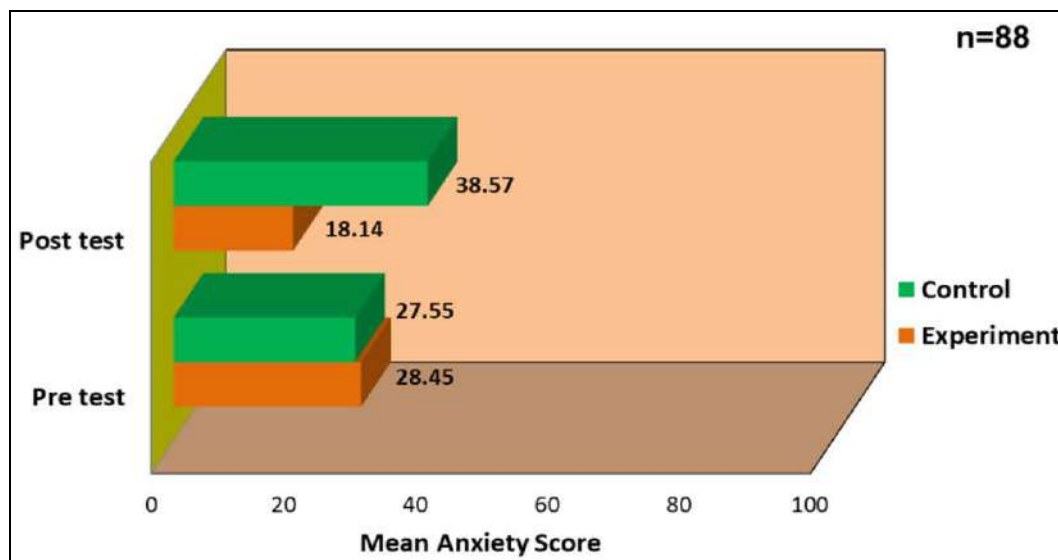


Fig 5: Comparison of pre and post anxiety level in experiment and control group

- When the mean difference of anxiety between latent phase and active labour was compared among primiparturients, it revealed mean difference anxiety score of 10.2 with SD 6.85 in experimental group as

compared to mean difference anxiety score of -11.02 with SD 4.52 in control group projecting Z value 7.92 which was highly significant at level of significance $p<0.0001$.

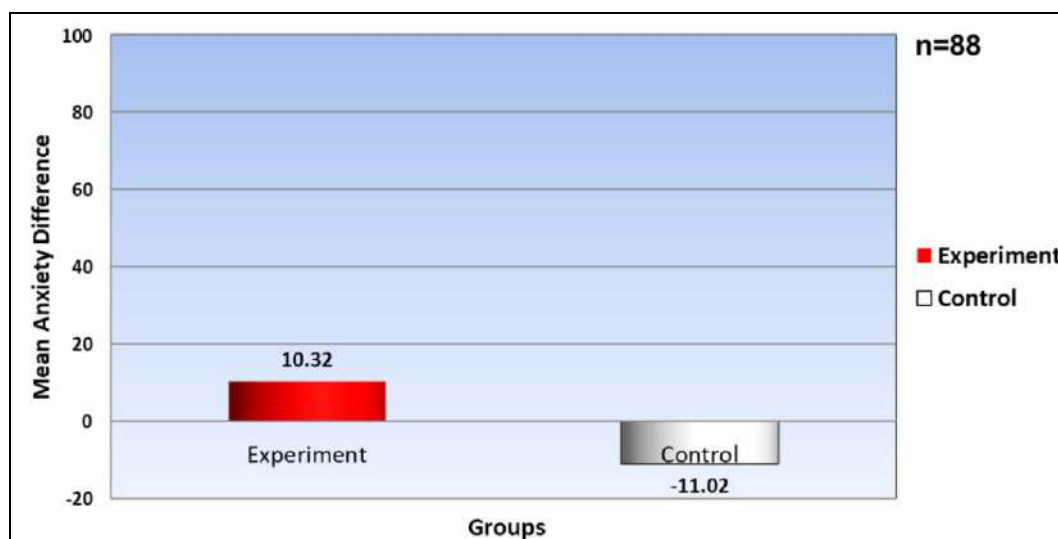


Fig 6: Comparison of mean difference in pre and post anxiety level in experiment and control group

- There was a moderate positive correlation between anxiety during latent phase and active labour in experimental group projecting value of $r=0.59$ which was highly significant at $p<0.0001$ whereas in control group it revealed strong positive correlation between anxiety during latent phase and active labour projecting value of $r=0.88$ which was highly significant at level of significance $p<0.0001$.

Intrapartum behaviour score in experimental and control group

- Intra-partum behaviour score during active labour in experimental group shows that 40.9% obtained

excellent, 36.4% good, 15.9% average and 6.8% obtained poor intrapartum behaviour score. Intrapartum behaviour score during active labour among primiparturients in control group revealed that 59.1% had scored below 25, 29.5% had scored between 26-50, 6.8% scored in between 51-75 and only 4.6% scored above 75 intrapartum behaviour score.

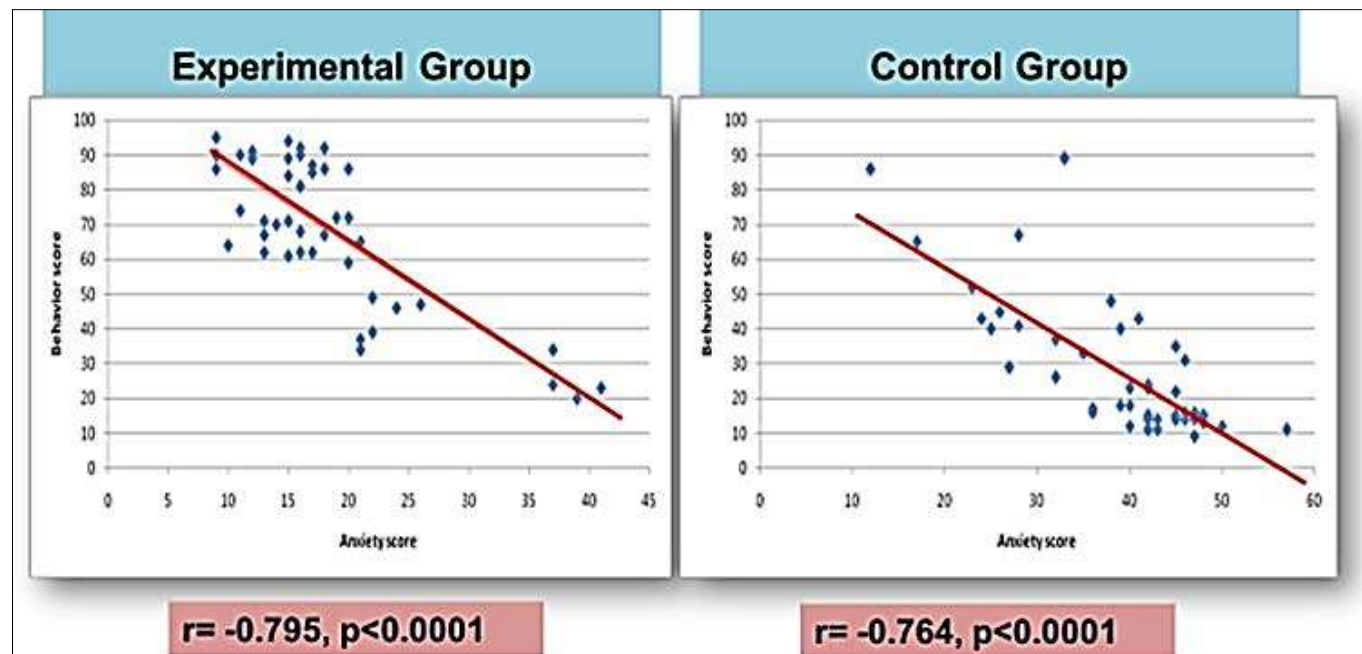
- Comparison of intra-partum behaviour in experimental and control group revealed that mean behaviour score is 68.55 with SD 21.521 in experimental group whereas the mean behaviour score in control group is 28.45 with SD 19.756 which proves the effectiveness of video assisted labour process teaching in promoting the effective intrapartum behaviour in experimental group.

Table 3: Comparison of intrapartum behaviour during active labour in experimental and control group

Parameter	Experimental Group (N=44)		Control Group (n=44)		Mw test Z value	P value
	Mean	SD	Mean	SD		
Behavior Score	68.55	21.521	24.45	19.756	6.50	<0.0001

Correlation of anxiety and intrapartum behaviour in experimental and control group

- Relationship between anxiety and intra-partum behaviour during active labour in experimental group shows that there is a strong negative correlation between anxiety and intrapartum behaviour during active labour in experimental group among primiparturients with r value -0.795 at level of significance $p < 0.0001$.
- Relationship between anxiety and intra-partum behaviour during active labour in control group revealed that there is a strong negative correlation between anxiety and intrapartum behaviour during active labour in control group among primiparturients with r value -0.764 at level of significance $p < 0.0001$. This score shows that as the anxiety increases there is decrease in the effective intrapartum behaviour among primiparturients.

**Fig 7:** Relationship between anxiety and intra-partum behaviour during active labour

Association of selected demographic variable with anxiety in experimental and control group.

In majority there was no association between socio-demographic variables of the study with anxiety in experimental and control group.

Association of selected demographic variable with intrapartum behaviour in experimental and control group.

In majority there was no association between socio-demographic variables of the study with intrapartum behaviour in experimental and control group.

Discussion

Certain levels of fear and anxiety about childbirth are expected, especially among first-time mothers. However, problems arise when these feelings negatively impact a woman's decisions and perceptions about the birth process [5]. Educating the women regarding labour events, roles to be performed during labour process reduces anxiety and facilitates effective intrapartum coping behaviour.

In a descriptive study by Walia N *et al.* 100 primigravida were selected by purposive sampling technique to assess the level of anxiety related to labour process in selected hospitals of Punjab and Haryana. Assessment of anxiety by

the Hamilton anxiety scale shows that majority of the primigravida i.e. 79% had moderate level of anxiety, 14% of primigravida had mild level of anxiety and 7% of them had severe level of anxiety. The findings were similar to the present study which revealed that majority of primiparturients (65.9% in experimental group and 77.3% in control group) had moderate anxiety level followed by low anxiety and potentially concerning anxiety among primiparturients [6].

The findings were contrary to the study conducted by Devi S *et al.* to assess the level of anxiety towards childbirth among primigravida and multigravida mothers in selected hospitals of Pune city. The study revealed that 68.70% of the sample in multigravida mothers were found to have severe anxiety score towards childbirth as compared to 47.30% primigravida mothers. The study showed that multigravida were more anxious than primigravida regarding labour process [7].

An experimental study was conducted by Devilata T to assess the effectiveness of pre delivery preparation on anxiety among primigravida. The results showed that in the experimental group post assessment mean anxiety value 46.233 (SD=8.156) was lower than pre assessment mean anxiety value 71.767 (SD=10.782). The obtained t value was 19.023 which was significant at 0.01 level. This clearly

shows that there was a significant difference in the anxiety level among experimental primigravida mothers before and after implementation of pre delivery preparation. Hence, it proved that pre delivery preparation programme was effective in reducing anxiety among primigravida mothers. The findings were comparable to present study^[8].

The findings are in concurrence with the study conducted by Podder L to assess the effectiveness of video assisted child birth education programme on knowledge, intra-partum behaviour, maternal and foetal outcome among 350 primigravida mothers and associate the findings with demographic variables. The analysis revealed that average intra-partum behaviour score of experimental group was 98 and 79.8 for control group. Z-value for this comparison was 12.7 which was statistically significant at the level of significance $p = 0.000$, which was less than 0.05. Therefore proving that video assisted child birth education program was helpful in improving the intra-partum behaviour of the primigravida mothers in experimental group significantly^[9]. Similar findings were reported by Anu S Kuruvilla *et al.* in 2020 which showed that childbirth preparation enables the women to have a satisfactory experience by reducing their anxiety and enabling them to build confidence in undergoing the process the process of childbirth. Thus, childbirth preparation was effective in reducing anxiety and enhancing self efficacy of primigravid women^[10].

Another study showing concordance with the present study is a research article by Jayasankari S which shows that level of anxiety among antenatal mothers had negative correlation with level of coping ($r = -0.918$). Thus, proving that utilization of video assisted teaching was effective in reducing the anxiety and promoting effective intrapartum behaviour during active labour among primiparturients in many studies^[11].

P. Kalaiyarasi conducted an experimental study to assess the effectiveness of video assisted teaching on knowledge regarding birth process among antenatal mothers in primary health centre at Poovanthi. The post test mean scores were high (25.41) than the pre test mean scores (13.31) with SD 3.73 which was highly significant and proved the effectiveness of video assisted teaching in improving the knowledge of antenatal mothers regarding labour process^[12].

The 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^[12]. The findings were concordant with the results of the present study which revealed video assisted labour process teaching was effective in reducing the anxiety and promoting effective intrapartum behaviour during active labour at level of significance $p < 0.0001$.

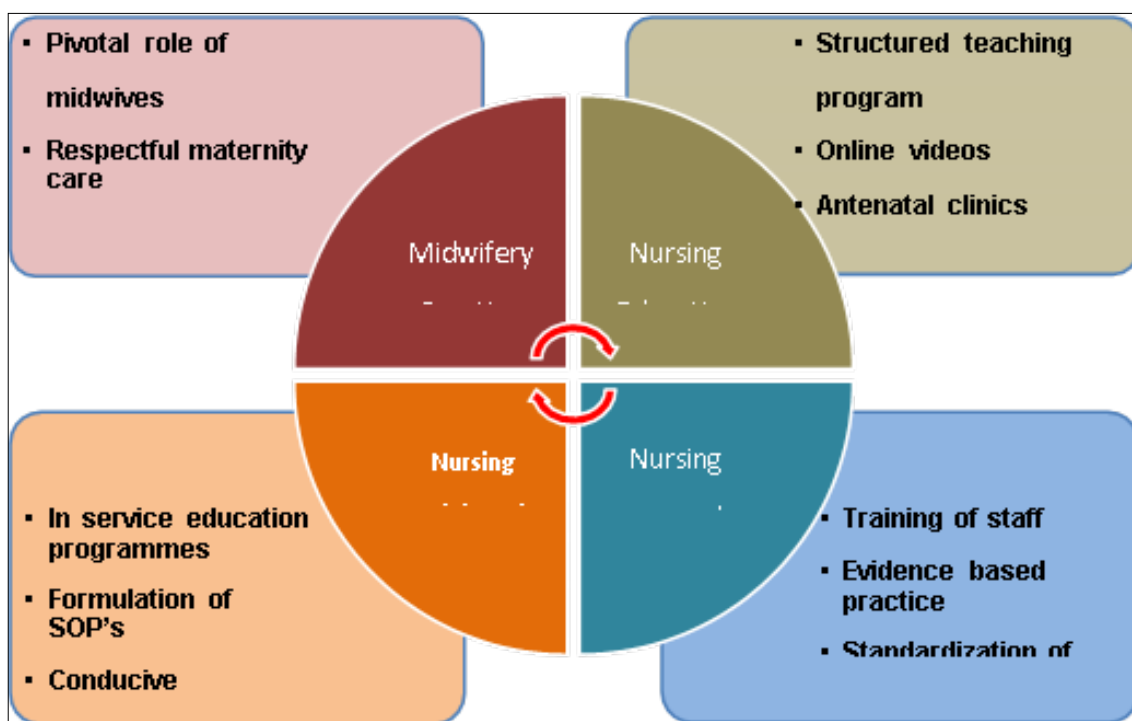


Fig 8: Implications of the study

Strength of the study

- Double blinded study to eliminate researcher bias.
- Video assisted teaching tool – effective in reducing anxiety and promoting desired intrapartum behaviour.
- Cost effective and can be used independently by the midwives
- Promoting nursing led programmes

Limitations of the study

- Permission to conduct study in various tertiary level hospitals setting was not granted in view of Covid 19

pandemic. Hence tertiary level hospital was selected conveniently.

- Purposive sampling was adopted to enroll the study subjects as the number of cases reported to labour was comparatively less than previous years due Covid 19 pandemic.

Conclusion

Midwives play an important and pivotal role in developing the effective intrapartum coping strategies among primiparturients by reducing anxiety regarding labour

process by means of appropriate teaching method. Based on the study findings and discussion, routine administration of video assisted labour process teaching was recommended to develop effective intrapartum coping strategies by reducing anxiety among primiparturients.

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