

Impact of Midwife-led Supportive Educational Intervention on Perinatal Outcome among Fearful Primipara Mothers

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Abstract

The aim of the study was to develop and assess the effect of supportive-educational intervention on perinatal outcome among primipara mothers with a fear of childbirth. This randomised controlled trial was conducted on 205 primipara mothers with a fear of childbirth attending a Gynae OPD. At 24-28 weeks of pregnancy primipara mothers were screened for fear of childbirth WDEQ-A and then randomly allocated to experimental and control group. Within one week of delivery perinatal outcome was assessed with help of self-made checklist. After the interventions, there were significant differences between groups on post-intervention scores for term of delivery and newborn birth weight at $p < 0.001$. Based on the results of the study it can be concluded that supportive educational intervention was effective in primipara mothers for positive birth outcome.

Key words: Perinatal outcome, Newborn, Mothers, Supportive educational intervention

The obstetrical practices are mainly influenced by childbirth education in the last five decades. In the early 20th century, women prefer birthing in their own homes due to comfort and familiarity issues (Haines et al, 2012). However, this causes high maternal and infant mortality rates. Because the technology advanced within the obstetrical field, and foetal-maternal medicine, the births shifted from homes to hospital. With increasing need for medical and obstetrical interventions during childbirth, the requirement for patient education and preparation also increases. This results in decrease in the mortality and morbidity rates which further leads to increased expectations for an ideal outcome (Fenwick et al, 2015).

Educating women makes them knowledgeable, increases their self worth, and makes them participate in child birth experiences, which shifts focus to more family-centred maternity care. The involvement of expectant father has now shifted to an intimate process and not as someone waiting in the lounge (Melissa & Avery, 2014). Education has led women to raise question on the requirements of obstetrical interventions, procedures, analgesia, anesthesia and routine check-ups. They were also concerned about the security of all these procedures. Women, therefore, feel the necessity to collect more knowledge about and control over their childbirth experiences (Attanasio et al, 2018).

Elevated anxiety and fear during pregnancy

holds important implications for both maternal postpartum wellbeing and child development. Currently no routine pathway to ask specifically about women's fears of childbirth exists. Reliable and valid identification of high levels of fear early in pregnancy could enable interventions to support and manage these concerns to cut back distress and fear of childbirth (Coussons-Read, 2013).

Need for the study: Thought of traumatic birth experiences and fear of child birth leads to disturbed mental health experiences, disruption of mother-infant bonding and poor child development. Therefore, consideration needs to be given to providing quality interactions, interventions and education on the value of positive interactions with the mothers. This can reduce women undergoing trauma and birth fear.

One previous study shows that being a first time mother is the biggest aspect of one's life. People tend to be extremely brutal. Words, although honest, can affect primipara mentally. They tell about their horrified experiences which may not be true with someone else but can cause anxiety. A woman who is pregnant for the first time needs to be supported and not made anxious about it (Mohammad et al, 2014).

The thought of becoming a mother for the first time can bring about immense feelings. If feelings like inadequacy arise and woman feels that she's not prepared adequately for the labor process, fear begins to arise about the consequences and what may lie ahead during labour (Demsar et al, 2018). However, the case is different with some other

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women and educators. They tend to understand that fear of pain can be a hindrance in completing the delivery process successfully (Fenaroli et al, 2019). Hence the investigator felt that supportive educational intervention is needed for primipara mothers with a fear of childbirth (FOC) to have positive perinatal outcome.

Review of Literature

A study (Striebich et al, 2018) was conducted to systematically identify and review studies examining interventions for relief of severe fear of childbirth in pregnancy and their underlying conceptual foundation. The study showed that despite methodological limitations, single or group psychoeducation sessions for nulliparous women or therapeutic conversation during pregnancy (in group or individual sessions) have the potential to strengthen women's self-efficacy and decrease the number of caesarean sections due to FOC. The theoretical validation of an intervention deepens the understanding of psychological processes in women coping with severe FOC.

A population-based cohort study was conducted with aim to investigate the demographic and psychosocial characteristics associated with fear of childbirth and the relative importance of such fear as a predictor of elective caesarean section. A sample of 1789 women from the Akershus Birth Cohort in Norway provided data collected by three self-administered questionnaires at 17 and 32 weeks of pregnancy and 8 weeks postpartum. Information about the participants' childbirths was obtained from the hospital records. Results suggest that women with fear of childbirth may have identifiable vulnerability characteristics, such as poor mental health and poor social support. Results also emphasise the need to focus on the subjective experience of the birth to prevent fear of childbirth and elective caesarean sections on maternal request. Regarding the relationship with social support, causality has to be interpreted cautiously, as social support was measured at 8 weeks postpartum only (Storksán, 2018).

Objectives

To assess the impact of supportive educational intervention on birth outcome, term of delivery, newborn birth weight, mode of delivery and APGAR score among primipara mothers with a fear of childbirth in experimental and control group.

Research hypothesis: There will be statistically significant positive outcome i.e. Birth outcome, Term of delivery, Newborn birth weight, Mode of delivery and APGAR score among experimental group primipara mothers with a fear of childbirth after implementation of supportive educational intervention as compared to control group at $p < 0.05$.

Methodology

Research approach: A quantitative research approach was used for the current study.

Research design: It was a randomised controlled trial. Concurrent parallel design was used for present study. Primipara mothers with a fear of childbirth were assessed for eligibility and then enrolled for the study.

Sampling technique: Sample size comprised of 205 primipara mothers with a fear of childbirth. Sampling technique was probable sampling simple randomisation with lottery method based on inclusion and exclusion criteria. Mothers were asked to choose any slip from the bowl of slip which was mentioned as Experimental and Control group. Whatever slip they picked up, they would be divided into experimental group and control group. There was positive control in the study as control group received the routine care.

Variables of the Study

Independent variable: Supportive educational intervention.

Dependent variables: Birth outcome, Term of delivery, Newborn birth weight, Mode of delivery and APGAR score.

Extraneous variables: Age, education, husband education, occupation, husband occupation, family monthly income, type of family, source of information, type of support person, history of adverse pregnancy outcome in family/friends, duration of marriage, age at marriage, age of husband at marriage, decision of conception, Pregnancy planned.

Tool: Self made Perinatal outcome checklist.

Reliability of tool: 86.

Inclusion criteria: Primipara mothers with a fear of childbirth who were in the 24-28 weeks of pregnancy, with singleton pregnancy, having W-DEQ score 61-85, within the age group 20-35 years, able to read and understand English/Punjabi/Hindi, willing to participate in study.

Description of Intervention

Supportive educational intervention: It refers to provision of informational and emotional support regarding pregnancy and birthing process in two sessions. In one, given at an interval of 24-28 weeks, an educational booklet (Strategies for Empowering Natural Birthing Process) with tips on physical and mental preparation regarding pregnancy and childbirth along with recorded audio for guided meditation, was provided. Then, at 32-36 weeks a booklet on strategies to maintain strength during labour and preparation for the day of delivery educating the primipara mothers with a fear of childbirth to

Table 1: Demographic characteristics of subjects

Sample characteristics	Experimental group n= 100	Control group n= 100	df	Fisher's Exact Test / Chi square Test
Age (in years)				
18<24	19	21	2	F = 0.423 ^{NS}
24<30	71	67		
30-35	10	12		
Education				
Below matric	7	9	3	F= 0.673 ^{NS}
Matric	19	20		
Senior secondary	45	40		
Graduate and above	29	31		
Husband's education				
Below matric	5	4	3	F= 1.196 ^{NS}
Matric	18	13		
Senior secondary	44	48		
Graduate and above	33	35		
Occupation				
Private	26	24	3	F= 1.095 ^{NS}
Government	25	24		
Self employed	-	1		
Unemployed	49	51		
Husband's Occupation				
Private	62	59	2	F=0.232 ^{NS}
Government	8	9		
Self-employed	30	32		
Family monthly income (Rs)				
<10,000<20,000	45	43	2	F= 0.662 ^{NS}
20,000-40,000	49	48		
>40,000	6	9		
Type of family				
Nuclear	66	63	1	χ^2 = 0.197 ^{NS}
Joint	34	37		
Source of information				
Mass media	7	9	3	F=1.189 ^{NS}
Friends/ family members	54	56		
Health professionals	28	28		
Co-workers	11	7		
Type of support person				
Husband	44	49	3	F=1.438 ^{NS}
Mother / Mother- in-law	19	16		
Friends	35	31		
Family members	2	4		

have physical and mental stamina and to have less fear of childbirth, was provided.

Data Collection Procedure

Initially primipara mothers with a fear of childbirth were screened by using Wijma Delivery Expectancy Questionnaire-A between 24-28 weeks of pregnancy. Mothers whose score were between 61-85 were selected. Then they were explained the purpose of study and confidentiality was assured to them. Written consent was taken from them for their participation in the study.

A total of 205 subjects were selected by the probability sampling simple randomisation with lottery method based on inclusion and exclusion criteria. But 5 samples were lost in follow-up. Control group mothers received information related to diet in pregnancy. Experimental group mothers received planned Session I of intervention. Rapport and therapeutic connection between researcher and mothers was made by acceptance of the woman's perspective. Researcher interacted with the primipara mothers to know the cause of their fear related to childbirth and motivated them to talk about it openly fear so that possible solutions could be provided along with the care of mother during

pregnancy. They were also asked to write about her negative self talk, beliefs and fear. Second session

Table continued...

Sample characteristics	Experimental group n= 100	Control group n= 100	df	Fisher's Exact Test / Chi square Test
History of adverse pregnancy outcome in family/relatives				
Present	25	24	1	$\chi^2 = 0.027^{NS}$
Absent	75	76		
Duration of marriage				
< 1 year	16	16	2	F = 0.178 ^{NS}
1<3 years	79	80		
3-5 years	5	4		
Age at marriage (years)				
18<22	25	24	2	F = 0.157 ^{NS}
22<27	57	56		
≥ 27	18	20		
Age of husband at marriage (years)				
18<22	25	24	2	F = 0.105 ^{NS}
22<27	38	40		
≥ 27	37	36		
Decision of conception				
Pressure of husband	2	-	3	F=2.138 ^{NS}
Pressure of in-laws	23	24		
Self-made decision	6	4		
Mutually decided by the couple	69	72		
Pregnancy planned				
Yes	87	88	1	$\chi^2 = 0.046^{NS}$
No	13	12		

was given at 32-36 weeks. Within 1 week of delivery perinatal outcome was assessed.

Time of data collection: March to November 2021.

Ethical considerations: Permissions were obtained from (a) Research centre (b) Director Principal GMCH (c) Professor In-charge Academics GMCH, and Institution ethics committee of GMCH.

Written informed consent was obtained from participants. Participants' right to privacy was protected by confidentiality. Anonymity was maintained. Researchers' contact details were provided to the subjects. Permission to use the tools was taken from the authors.

Plan of data analysis: The collected data was tabulated and analysed by using SPSS version 18. The data analysis was done by calculating frequency, mean, standard deviation, Fisher Exact test, chi-square, 't' test and F-test.

Difficulties faced by the investigator

- Subjects had to be motivated for fol-

low-up.

- Due to Covid-19 sample data collection took more time.

- Sometimes session was very long, the researcher herself had to terminate it.

Results

Table 1 and 2 show that the chi square value of experimental and control group was statistically non-significant. Hence, it can be concluded that there is no effect of supportive educational intervention on birth outcome among primipara mothers with a fear of childbirth.

Table 3 shows that chi square

Table 2: Comparison of birth outcome of primipara mothers with a fear of childbirth in experimental and control group (N = 200)

Group	Birth outcome		df	χ^2
	Alive	Dead		
Experimental group	94	06	1	0.307 ^{NS}
Control group	92	08		

NS= Non-significant at $p < 0.05$

Table 3: Comparison of term of delivery of primipara mothers with a fear of childbirth in experimental and control group (N = 200)

Group	Term of delivery		df	χ^2
	Pre-term	Term		
Experimental group	20	80	1	12.258 ^{***}
Control group	43	57		

***=Significant at $p < 0.001$ level

Table 4: Comparison of mean newborn birth weight of primipara mothers with a fear of childbirth in experimental and control group (N=200)

Group	New born birth weight				df	't' Value
	N	Mean	SD			
Experimental group	100	2.400	0.651		198	4.992 ^{***}
Control group	100	1.950	0.642			

Maximum weight = 3.20 kg ***=Significant at $p < 0.001$ level Minimum weight = 1.00 kg

Table 5: Comparison of mode of delivery of primipara mothers with a fear of childbirth in experimental and control group (N = 200)

Group	Mode of delivery		df	χ^2
	NVD	CS		
Experimental group	49	51	1	0.725 ^{NS}
Control group	43	57		

NS= Non-significant at $p < 0.05$

Table 6: Comparison of mean APGAR score of primipara mothers with a fear of childbirth in experimental and control group (N=200)

Group			APGAR score		
	n	Mean	SD	df	t'
Experimental group	100	2.880	0.477	198	0.552 ^{NS}
Control group	100	2.840	0.545		

Maximum score= 10; NS= Non significant at $p < 0.05$ Minimum score= 0

value of experimental and control group was statistically significant at $p < 0.001$ level. Hence, it can be concluded that there is highly significant effect of supportive educational intervention on term of delivery among primipara mothers with a fear of childbirth at the level of $p < 0.001$.

Table 4 shows that the difference between mean newborn birth weight score of experimental and control group was statistically significant at $p < 0.001$ level. Hence research hypothesis was accepted as there is highly significant effect of supportive educational intervention on newborn birth weight score among primipara mothers with a fear of childbirth at the level of $p < 0.001$.

The chi square value of experimental and control group was statistically non- significant (Table 5). Hence, it can be concluded that there is no effect of supportive educational intervention on mode of delivery among primipara mothers with a fear of childbirth.

Table 6 shows that the difference between mean APGAR score of experimental and control group was statistically non significant. Hence, it can be concluded that there is no effect of supportive educational intervention on APGAR score among primipara mothers with a fear of childbirth.

Discussion

In current study supportive educational intervention was helpful to primipara mothers with a fear of childbirth in perinatal outcome as experimental group had more number of term delivery and newborn birth weight (>2.5 kg) than in control group. A study by Asres et al (2019) to assess effect of programme offering (emotional and informational) support compared with routine care for pregnant women found that intervention group had less number of babies born with <2500 gm and also

had less number of pre-term delivery. Findings of the RCT conducted by Veringa-Skiba et al (2021) to compare mindfulness-based childbirth and parenting with usual care showed that intervention group had improved childbirth outcome with less fear of childbirth. Findings of current study also showed that supportive educational intervention had not increased the rate of normal vaginal delivery as no significant difference was found between the modes of delivery of two groups. The result of the study conducted by Hong et al (2021) is inconsistent with the findings reported in the present study.

Implications

Research studies conducted by Indian nurses are very few in this area. It is the need of time that all the nursing person should join hands to provide scientifically tested material or programmes towards improving psychological wellbeing among primipara mothers so that complications in intranatal and post-natal period can be reduced.

Recommendations

- A similar study can be replicated on a large sample by selecting multiple hospitals to validate and generalise findings.
- A similar study can be conducted in different target populations like multipara mothers.
- A comparative study can be conducted to assess the effect of supportive educational interventions on primipara and mutlipara mothers.

Conclusion

The chi square value of experimental and control group was statistically non-significant for birth outcome, mode of delivery and APGAR score at $p < 0.05$ but significant for term of delivery and newborn weight at $p < 0.001$. Hence it can be concluded that research hypothesis is partially accepted.

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