

Effect of Group Psycho-Educational Interventions on Child birth fear and Child birth Self-efficacy among Primiparous women

Archana Pandey Bista,¹ Chandrakala Shrama,¹ Uma Shrestha,² Punjita Timalisina,¹ Kavita Devkota,² Kalpana Piya,² Beena, Neupane²

¹Maharjung Nursing Campus, Maharajgunj, Kathmandu, Nepal, ²TU Teaching Hospital, Maharajgunj, Kathmandu, Nepal.

ABSTRACT

Background: Child birth related fear and low self-efficacy for child birth found common among primiparous women. Antenatal group psycho-educational interventions have been used as important strategies to address child birth fear and self-efficacy. Thus, this study aimed to find out the status of child birth fear among antenatal women and effect of group psycho-educational interventions among primiparous women.

Methods: One group pretest-posttest design was adopted. Total 307 primigravida women attending antenatal outpatient department of two hospitals within Kathmandu valley were selected through purposive sampling technique. Data was collected from March to July 2020. Child birth fear was assessed by using validated tool i.e. Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) and Child birth self-efficacy was assessed by using childbirth self-efficacy tool. Primigravida women with moderate level of child-birth fear, were intervened for group psycho-education based on PRIME Model by nurses who were research team members. Paired t-test was used to compare differences in mean scores on child birth fear and child birth self-efficacy before and after intervention.

Results: Moderate level of child birth fear was found among 24.8% of participants. Low child-birth self-efficacy was found among 42.0% participants. The overall mean score before providing group psycho-educational interventions to experimental group on child-birth fear was 54.0 ± 2.09 and on child birth self-efficacy was 78.0 ± 28.64 with $p < 0.001$ and after providing group psycho-educational interventions child-birth fear was reduced to 47.8 ± 2.44 and child birth self-efficacy was 105.2 ± 19.6 with $p < 0.001$.

Conclusions: Group psycho-educational interventions based on PRIME approach led by nurses have significant effects in reducing child-birth fear and increasing child-birth self-efficacy. Therefore, provision of group psycho-educational interventions along with routine antenatal service need to be considered in clinical settings in Nepalese context.

Keywords: Child birth fear; child birth self-efficacy; primiparous women

INTRODUCTION

Pregnancy and childbirth have significant emotional and social implications in woman's life.¹ Childbirth fear may impact birth preparation, emotional wellbeing and obstetrical outcome.^{2,3} Usually Primigravida women have more stressors concerned with their pregnancy, self-birth efficacy and pregnancy outcome.^{4,5} Evidences have revealed that group psycho-educational interventions during antenatal period by trained nurses and midwives based on Pregnancy Resilience Mothers Expectancies

(PRIME) have been found as important approach to reduce child-birth fear, anxiety and positive child birth outcome birth and improve child birth efficacy.^{6,9}

A hospital-based study in Kathmandu revealed stress among of pregnant women in first and third trimester to be 35.0% and 34.2% respectively.¹⁰ However, there is a dearth of studies related to child-birth fear in Nepalese context. Thus, this study aimed to assess status of child-birth fear and child birth self-efficacy among primiparous women as well as to find out the effects of group psycho-

Correspondence: Archana Pandey Bista, Maharjung Nursing Campus, Maharajgunj, Kathmandu, Nepal. Email: archanabista67@yahoo.com, Phone: +9779841587917.

educational intervention provided by nurses who were trained to provide group psycho education by using PRIME approach in a group.

METHODS

One group pretest-posttest pre-experimental design was used.¹¹ Total 307 primigravida women attending antenatal Out Patient Department (OPD) were included. Purposive sampling technique was used to select the sample from two tertiary level hospitals i.e. From Teaching Hospital, Maharajgunj and Bajrabarahi Hospital, Kathmandu. Primigravida women with low-risk pregnancy at their second trimester of their pregnancy between 24 to 32 weeks of gestation were available at the OPD of the hospitals who showed interest to participate voluntarily and able to communicate in Nepali language were recruited for the study. Hospital-based record of the previous year was refereed to estimate the sample size for two months which was 20% - 22 % from total antenatal low-risk women. Time period for data collection was from March 2020 to July 2020.

Before collecting the data, ethical approval of the proposal was obtained from Nepal Health Research Council (NHRC, no. 2468). Written administrative approval for collecting data was also obtained from the administration of the concerned hospitals. The research work was implemented into two phases. At first phase, 307 antenatal women who were screened for childbirth fear and self-birth efficacy. Data on Child-birth fear was collected by using standard Wijma Delivery Expectancy/ Experience Questionnaire (W-DEQ) consisting of 33 item-wise questions with reliability of 0.87¹² and Self Efficacy for Child Birth was assessed by using self- efficacy scale for child birth consisting of 15 item-wise questionnaire and the reliability of self-efficacy for child birth tool is 0.86 to 0.96.¹³⁻¹⁴ The tools in English language were translated to Nepalese language by 2 experts in mental health. Further, in order to ensure the consistency in meaning between validated English tool and Nepali tool, developed tools were validated by 3 experts who were Registered nurses with specialization in Women's Health and Development. The edited Nepali tools were discussed with research team members to ensure the clarity of the words. The developed tool was pretested among 40 antenatal primigravida women (10% of the determined sample size) on extended health services OPD of Teaching Hospital. Few items that needed clarification were discussed among team members and few modifications were done. These included 'fantastic' to 'enjoyable' (q.1), 'deserted' to 'alone' and 'desolate' to 'sadness' (q.11), 'composed' to 'self-controlled'

(q.16), 'longing for child' to 'excited for child' (q.21), 'surrender' to 'loss control' (q.26), 'child will die' to 'loss the child' (q.32) and 'child will be injured' to 'complication to child' (q.33).

In second phase, 52 antenatal women with a moderate level of child birth fear (score ≥ 66) were included for interventions through their voluntary participation. Each group psycho-educational interventions based on PRIME were conducted with a group of participants where each group consist of 10 -12 participants.^{3,4}

Each group psycho-educational interventions were led by nurses who were trained research team members in order to ensure the validity of the interventions. These strategic key elements of the PRIME were considered throughout the counseling; a) showing kindness b) accepting and working with women's perceptions c) supporting the expression of feelings and d) clarifying misunderstandings. The intervention was carried out in following three steps:

First Step: Before intervention, participants were welcomed, introduced to each other including research team members. Participants were explained about the process of intervention, their role during and after the intervention.

They were also encouraged to vent about their thoughts, feelings, concerns regarding process of child birth and possibilities of injuries to mother and their newborn including obstetrical interventions through open ended questions.

Second step: Participants were allowed to take a deep breathing and relaxation exercise for 10 minutes. After that they were asked to imagine for positive child birth outcome as evidenced by normal labor and normal deliver this included positive guided imagination of having normal labor process that started with deep breathing exercise by mother and visualizing delivery of healthy newborn. Participants were instructed to practice these techniques at least twice daily as per their convenience throughout the antenatal period.

Third step: Participants were allowed to explore their concerns regarding the child birth process and research team members who were the nurses trained to provide group psychoeducational sessions by using PRIME approach clarified their concerns.

Second Phase: After four months of interventions, post-test was conducted by using the same tool (W-DEQ questionnaire for fear of childbirth) and child birth

self- efficacy scale. Out of 52 participants who received interventions, 47 participants were included for post-test who had normal childbirth or normal delivery.

RESULTS

Table 1. Socio-demographic characteristics of the participants (n=307).

Variables	Number	Percent
Age (in completed years)		
<20	11	3.6
20-34	291	94.8
>35	5	1.6
Mean age \pm SD	25.24 \pm 3.53	
Area of Residence		
Rural	48	15.6
Urban	259	84.4
Educational Status		
Cannot read and write	6.0	2.0
Can read and write	301	98.0
Ethnicity		
Brahmin/Chhetri	187	60.9
Janajati	94	30.6
Dalit/	24	7.8
Madhesi	2	0.7
Religion		
Hinduism	264	86.0
Buddism	37	12.2
Christianity	3	1.0
Islamic	3	1.0
Type of Family		
Joint	162	52.8
Single	145	47.2
Duration of Marriage (in completed years)		
< 2	169.0	55.0
2 to 5	125	41.0
> 5	12	3.9
Head of Family		
Self	11	3.6
Husband	167	54.4
Mothers -in -Law	51	16.6
Fathers -in -Law	72	23.5
Others	6	2.0

Frequency of Hospital Visit

First	168	54.7
Second	38	12.4
Above Three	101	32.9

This table showed that most of the participants were from age 20-24 years with mean age 25.24 \pm 3.53 years. The majority of participants belonged to Brahmin/Chhetri ethnicity. Equal number of participants was living in joint and nuclear family and half of participant's head of the family were husband followed by father-in-law (Table 1).

Table 2. Level of Child-birth fear among Respondents (n =307).

Level of child birth fear	Number	Percentage
Low (score \leq 37)	231	75.2
Moderate (score 38-65)	76	24.8
High (score \geq 66)	-	-

Based on Wizma Delivery Expectancy/Experience Questionnaire consisting of 33 item questions

Table 2 showed that almost one fourth (24.8%) of participants had a moderate level of child birth fear. And remaining majority of them (75.2%) of them had a low level of child birth fear. None of them had a high level of fear.

Table 3. Level of Child birth Self-efficacy among Respondents (n =307).

Level of child birth self-efficacy	Number	Percentage
Low (score<50%)	129	42.0
Moderate (50%-75%)	135	44.0
High (>75%)	43	14.0

Based on self-efficacy for child birth scale consisted of 15 item-wise questions.

Table 3 showed only few (14.0%) of participants had high self-birth efficacy. Almost half of the respondents (44.0%) had moderate self-birth efficacy and (42.0%) had low self-birth efficacy (Table 3).

Table 4 depicts that there is a significant reduction in mean scores in all aspects of child birth related fear among respondents after receiving group psychoeducation than before receiving intervention.

Table 4. Differences in mean score on child birth fear among participant before and after the intervention (n=47).

W-DEQ Item-wise aspects of child-birth fear	Pre-Intervention Score (Mean±SD)	Post Intervention Score (Mean±SD)	t-value	p-value
Think your labour and delivery will turn out as a whole.	49.57±9.32	45.68±10.16	1.80	0.08
Feel in general during labour and delivery.	51.41±3.19	46.04±3.47	7.92	<0.001*
Think you will feel during the labour and delivery.	50.99±6.95	45.81±6.82	3.77	<0.001*
Think what will happen when labour is most intense.	68.09±16.39	62.99±16.69	1.81	0.08
Feel the very moment you deliver the baby.	53.19±5.75	48.30±5.73	3.85	<0.001*
Fantasies about labour.	65.74±27.08	62.91±25.14	0.58	0.56
Overall score on child-birth fear (%)	54.04± 2.09	47.88± 2.44	36.85	<0.001*

*p-value<0.05 is considered statistically significant.

Table 5. Differences in mean score on child birth efficacy among participant before and after the intervention (n=47).

Self-birth Efficacy Based on Self-efficacy for Childbirth Scale	Pre- Intervention Score (Mean ±SD)	Post Intervention Score (Mean ±SD)	t-value	p-value
Relax my body	5.21±2.07	6.85±1.55	8.69	<0.001*
Get ready for each contraction	5.19±2.19	7±1.63	9.69	<0.001*
Use breathing during labor contraction	5.19±2.34	6.91±1.5	8.38	<0.001*
Keep myself in control	5±2.17	6.83±1.86	9.47	<0.001*
Think about relaxing	5.06±2.09	7.02±1.65	11.38	<0.001*
Concentrate on an objects in the room to distract myself	4.87±2.12	6.81±1.58	10.85	<0.001*
Keep myself calm	4.89±2.09	6.83±1.66	11.94	<0.001*
Concentrate on thinking about the baby	5.26±2.33	7.02±1.67	9.27	<0.001*
Think positively	5.3±2.27	6.98±1.5	9.07	<0.001*
Stay on top of each contraction	5.21±1.94	7.02±1.39	10.10	<0.001*
Not think about the pain	5.32±2.24	7.15±1.59	10.42	<0.001*
Tell myself that I can do it	5.45±2.23	7.26±1.55	10.25	<0.001*
Think about others in my family	5.36±2.28	7.11±1.56	9.37	<0.001*
Concentrate on getting through one contraction at a time	5.23±2.13	7.15±1.63	11.16	<0.001*
Listen to encouragement from the person helping me	5.49±2.34	7.28±1.69	9.80	<0.001*
Overall score	78.04±28.64	105.21±19.62	14.32	<0.001*

*p-value<0.05 is considered statistically significant.

Table 5 depicts that there is a significant increase in mean scores in all aspects of self- efficacy for child birth among participants after receiving group psycho-education than before receiving intervention.

Beside this, almost all of the participants had expressed that the self exercises based on received group psycho educational interventions have helped them for preparation for normal birth and maintenance of self-

efficacy during the process of childbirth.

DISCUSSION

In this study one fourth (24.8%) antenatal primigravida women have moderate level of child birth fear. This finding is similar to the hospital -based study findings in Kathmandu –among 240 antenatal women which found that the prevalence of stress was 35.0% in the

first trimester and 34.2% in the third trimester.⁶ But the findings differed to the findings among 401 Australian pregnant women where 48.0% antenatal women reported moderate fear and 26.0% reported high fear of childbirth.² This difference might be due to the different in the setting, as mentioned study was conducted in the context of developed country.

Concerning self-efficacy for child birth almost half (42.0%) of the primiparous women had low level of child-birth self-efficacy and 44.0% had moderate level of child birth self-efficacy and only 14.0% had high level of efficacy. The findings were consistent to the previous findings which revealed that primigravida had higher score of fear and low score of self-efficacy than multiparous women.¹⁷

Regarding the effectiveness of group psycho educational interventions, this study found the significant reduction on level of child birth fear after intervention ($p=0.001$). Similarly, the study identified increased on level of child birth efficacy after intervention ($p=0.001$). Few of these evidences support to the findings which have revealed that there is significant reduction in childbirth fear and increased self-birth efficacy among group receiving psycho education. The study findings conducted among 71 antenatal women who received antenatal childbirth education classes had improvement on level of knowledge about child birth process and had a better mental health status than those who did not receive antenatal childbirth classes.¹ Similarly another study revealed that intervention group had a statistically higher degree of positive childbirth experiences and improved labor outcome than of a control group ($p=0.001$).¹⁵ Another randomized control trial among 170 women in intervention group and 169 in control group intervened by midwife led psycho-education intervention had identified that women in experimental group who received psycho-education reported decreased feelings of fear related to child-birth (53.0% vs 37.0%, with $P=0.002$).⁴

These studies revealed that antenatal education and counseling offered to the pregnant women by skilled nurse and midwives found to be very effective to decrease child birth fear, improving normal birth, decreasing anxiety and perceived stress and stress management.^{7-9,17,18}

One group pre-test post-test design was used so the findings might lack generalizability than true experimental design having control group to observe the differences between groups. The researcher could not fully control extraneous variables like use of social

medias such as watching videos and informational materials regarding child-birth and its process which might have affected the level of child birth fear and child-birth self-efficacy in post-test.

CONCLUSIONS

Nearly one fourth primigravida have moderate level of child-birth fear, nearly half have low childbirth self-efficacy. There is a significant reduction in mean scores of child-birth fears and increased score in child birth efficacy after intervention. Thus, it can be concluded that group psycho-education led by nurses have positive effect on decreasing the level of child-birth fear and increasing the child birth self-efficacy.

CONFLICT OF INTEREST

The authors declare no conflict of interest

REFERENCES

1. Jakubiec D, Jagielska K, Karmowski M, Kubicka K, Karmowski A, Sobiech KA. Effect of attending childbirth education classes on psychological distress in pregnant women measured by means of the General Health Questionnaire. *Advances in Clinical and Experimental Medicine: Official Organ Wroclaw Medical University*. 2014 Nov 1;23(6):953-7. [\[PubMed\]](#)
2. Fenwick J, Gamble J, Nathan E, Bayes S, Hauck Y: Pre- and postpartum levels of childbirth fear and the relationship to birth outcomes in a cohort of Australian women. *J Clin Nurs*. 2009 Mar;18(5):667-77. [\[PubMed\]](#)
3. Fenwick J, Gamble J, Creedy D, Buist A, Turkstra E, Sneddon A, et al. Study protocol for reducing childbirth fear: a midwife-led psycho-education intervention. *BMC Pregnancy Childbirth*. 2013 Oct 20;13:190. [\[PubMed\]](#)
4. Fenwick J, Toohill J, Gamble J, Creedy DK, Buist A, Turkstra E, et al. Effects of a midwife psycho-education intervention to reduce childbirth fear on women's birth outcomes and postpartum psychological wellbeing. *BMC pregnancy and childbirth*. 2015 Oct 30;15:284. [\[PubMed\]](#)
5. Punjot R, Patidar N, Devi NJ, Maithai RM, John R, Solaniki P, et al. A study to assess knowledge regarding process of normal labour among primi gravida mothers in selected hospitals of Pune city. *Innovational J Nurs Healthcare*. 2018;4(2):66-71. [\[Download PDF\]](#)
6. Pantha S, Hayes B, Yadav BK, Sharma P, Shrestha A, Gartoulla P. Prevalence of stress among pregnant women attending antenatal care in a tertiary maternity hospital in Kathmandu. *J Women's Health Care*. 2014;3(5):183. [\[Article\]](#)

7. Airo Toivanen R, Korja R, Saisto T, Rouhe H, Muotka J, Salmela-Aro K. Changes in emotions and personal goals in primiparous pregnant women during group intervention for fear of childbirth. *J Reprod Infant Psychol*. 2018 Sep;36(4):363-80. [\[Article\]](#)
8. Dareshouri MZ, Bosaknejad S, Sarvghad S. A survey on the effectiveness of stress management training with cognitive-behavioral group therapy approach on state/trait anxiety, pregnancy anxiety and mental health of primiparous women. *J Cellular Molecular Biology*. 2013;3(4):495-504. [\[Article\]](#)
9. Artieta-Pinedo I, Paz-Pascual C, Grandes G, Remiro-Fernandezdegamboa G, Odrizola-Hermosilla I, Bacigalupe A, et al. The benefits of antenatal education for the childbirth process in Spain. *Nurs Res*. 2010 May-Jun;59(3):194-202. [\[PubMed\]](#)
10. Grove SK, Gray JR, Faan PR. *Understanding nursing research: Building an evidence-based practice*. 1st ed. India:Elsevier; 2019 Feb 18. [\[Download PDF\]](#)
11. Wijma K, Wijma B, Zar M. Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *J Psychosom Obstet Gynecol*. 1998 Jun;19(2):84-97. [\[PubMed\]](#)
12. Ip WY, Chan D, Chien WT. Chinese version of the child birth self-efficacy inventory. *J Adv Nurs*. 2005 Sep;51(6):625-33. [\[PubMed\]](#)
13. Lowe NK. Maternal confidence for labor: Development of the childbirth self-efficacy inventory. *Res Nurs Health*. 1993 Apr;16(2):141-9. [\[PubMed\]](#)
14. Farahat AH, Mohamed HE, Elkader SA, El-Nemer A. Effect of Implementing a Birth Plan on Womens' Childbirth Experiences and Maternal & Neonatal Outcomes. *J Education Practice*. 2015;6(6):24-31. [\[Article\]](#)
15. Ghazaei M, Davoodi I, Neysi A, Mehrabizadeh Honarmand M, Bassak Nejad S. The effectiveness of cognitive-behavioral therapy on fear of childbirth, fear of pain, self-efficacy of childbirth and tendency to caesarean in nulliparous women. *Iranian J Obstet, Gynecol Infertility*. 2016;19(31):1-12. [\[Article\]](#)
16. Salmela-Aro K, Read S, Rouhe H, Halmesmaki E, Toivanen RM, Tokola MI, et al. Promoting positive motherhood among nulliparous pregnant women with an intense fear of childbirth: RCT intervention. *J Health Psychol*. 2012 May;17(4):520-34. [\[PubMed\]](#)
17. Shakarami A, Mirghafourvand M, Abdolalipour S, Jafarabadi MA, Iravani M. Comparison of fear, anxiety and self-efficacy of childbirth among primiparous and multiparous women. *BMC Pregnancy Childbirth*. 2021 Sep 21;21(1):642. [\[PubMed\]](#)
18. Alaem F, Jalali A, Almasi A, Abdi A, Khalili M. Investigating the effect of group counseling on family stress and anxiety of primiparous mothers during delivery. *Biopsychosoc Med*. 2019 Mar 26;13:7. [\[PubMed\]](#)