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A STUDY TO ASSESS THE IMPACT OF COMMUNITY-BASED TRAINING PROGRAM IN IMPROVING KNOWLEDGE REGARDING BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG MARRIED PEOPLE IN SELECTED AREA OF SUNPURA CIRCLE, UNDER LOHIT DISTRICT, ARUNACHAL PRADESH

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ABSTRACT

Introduction: Birth Preparedness and Complication Readiness (BPCR) is an important component of safe motherhood that promotes timely recognition of obstetric danger signs, planned utilization of skilled maternal healthcare, and readiness to respond to complications. In rural and geographically remote communities, limited access to healthcare, financial constraints and sociocultural barriers may contribute to delays in obtaining appropriate care.

Aim: This study was carried out to assess the impact of a community-based training program in improving knowledge regarding Birth Preparedness and Complication Readiness among married people in a selected area of Sunpura Circle, Lohit District, Arunachal Pradesh.

Methodology: A quantitative research approach with a quasi-experimental pre-test and post-test control-group design was adopted. A total of 114 married people were included, with 57 participants in the experimental group and 57 in the control group. Participants were selected using the opaque sealed envelope method. Data were collected using a demographic profile and a 30-item self-structured BPCR knowledge questionnaire. The experimental group received three interactive community-based training sessions of 30–40 minutes each over one week, while the control group received routine health education. Data were analyzed using frequency, percentage, mean, standard deviation, paired t-test, independent t-test and chi-square test.

Result: At baseline, most participants in both groups had average BPCR knowledge. In the experimental group, 70.2% had average knowledge and 28.1% had good knowledge, compared with 70.2% and 24.6%, respectively, in the control group. After intervention, 66.7% of the experimental group achieved good knowledge compared with 28.1% in the control group. The experimental group showed a significant improvement in mean knowledge score from 18.96 ± 3.20 to 21.12 ± 1.80 (paired $t = -4.73$, $p < 0.001$), whereas the control group showed no significant change (17.84 ± 3.66 to 17.74 ± 3.93; $t = 0.74$, $p = 0.465$). Post-test scores were significantly higher in the experimental group than in the control group ($t = 5.91$, $p < 0.001$). Age and socioeconomic status were significantly associated with post-test knowledge.

Conclusion: The community-based training program was effective in improving knowledge regarding Birth Preparedness and Complication Readiness among married people in the selected rural area of Sunpura Circle. Community-based maternal health education may be a useful strategy for strengthening preparedness for pregnancy, childbirth and obstetric emergencies.

KEYWORDS: Birth Preparedness, Complication Readiness, Community-Based Training, Knowledge, Married People, Maternal Health, Quasi-Experimental Study.

INTRODUCTION

A lack of birth planning often leads to delays in seeking appropriate care, contributing to preventable complications and deaths. This situation is worsened in rural and underserved areas, where healthcare services are limited and cultural factors restrict women's access to timely support. Birth Preparedness and Complication Readiness (BPCR) is an important component of safe motherhood that promotes timely utilization of maternal healthcare services and preparedness for obstetric emergencies. Community-based educational interventions have been shown to improve awareness and preparedness among couples and families, thereby contributing to improved maternal and neonatal health outcomes [1,3,8,17].

Furthermore, active involvement of husbands and family members has been shown to positively influence maternal health outcomes. Couple-focused and community-based training programs facilitate informed decision-making and increase preparedness for childbirth and complications [9,11,20].

Despite various maternal health initiatives, limited evidence is available regarding the effectiveness of community-based BPCR training among married people in Arunachal Pradesh. Therefore, the present study was undertaken to assess the impact of a community-based training program in improving knowledge regarding Birth Preparedness and Complication Readiness among married people in selected areas of Sunpura Circle, Lohit District, Arunachal Pradesh.

Pregnancy and childbirth are important events in the life of a woman and her family. Although most pregnancies progress without complications, unexpected obstetric emergencies can occur at any stage of pregnancy, childbirth, and the postpartum period. Maternal mortality and morbidity remain significant public health concerns, particularly in developing countries, where delays in recognizing complications and seeking appropriate care contribute substantially to adverse maternal and neonatal outcomes.

The concept focuses on ensuring that pregnant women and their support systems are well-informed about danger signs, have identified a skilled birth attendant and health facility, have arranged transportation, and have saved funds for possible expenses. It also emphasizes the importance of community support and the readiness of health facilities to manage obstetric emergencies.

Research evidence suggests that inadequate knowledge regarding BPCR remains a major barrier to safe motherhood. Community-based educational interventions have been reported to significantly improve awareness, preparedness, and utilization of maternal healthcare services among couples and families [1,3,8]. Studies conducted in India, Nepal, Ghana, Bangladesh, Ethiopia, and Nigeria have demonstrated that educational programs focusing on BPCR effectively enhance knowledge regarding obstetric danger signs, emergency preparedness, and maternal healthcare-seeking behavior [2,4,6,13,

Aim

To assess the impact of a community-based training program in improving knowledge regarding Birth Preparedness and Complication Readiness among married people in selected area of Sunpura Circle, Lohit District, Arunachal Pradesh.

Objectives

To assess the baseline knowledge regarding Birth Preparedness and Complication Readiness in the experimental and control groups.

To assess the effectiveness of the community-based training program on BPCR knowledge in the experimental and control groups.

To determine the association between post-test knowledge scores and selected demographic variables.

METHODOLOGY

Research approach and design: A quantitative research approach and quasi-experimental pre-test and post-test control-group design were used. The study was conducted in the rural community area of Sunpura Circle under Lohit District, Arunachal Pradesh.

Population and sample: The study population comprised married people of reproductive age residing in the selected area. The total sample was 114 participants, comprising 57 in the experimental group and 57 in the control group.

Sampling technique: The opaque sealed envelope method was used for group allocation/selection as specified in the study methodology.

Eligibility: Participants were married people residing in the selected area for at least six months, willing and available during data collection, and either pregnant or planning pregnancy. Healthcare professionals, those unwilling to participate and those not planning conception were excluded.

Tools: Tool 1 was a demographic profile covering variables such as age, gender, duration of marriage, gravida, parity, pregnancy-complication history, trimester, socioeconomic status and occupation. Tool 2 was a 30-item self-structured questionnaire assessing BPCR knowledge.

Validity and reliability: Content validity was established through review by seven experts. Reliability was assessed using the split-half method and Spearman-Brown Prophecy Formula, yielding a reliability coefficient of $r = 0.86$.

Intervention: The experimental group received three interactive community-based training sessions, each lasting 30–40 minutes, over one week. Teaching methods included lectures and group discussions supported by modules, charts, posters and pamphlets. Content included danger signs, antenatal care, skilled birth attendance, emergency transportation, financial preparedness and blood-donor identification. The control group received routine health education from community health workers.

Data collection: Data were collected from December 25, 2025 to January 5, 2026 after obtaining required permissions and informed consent. Pre-test knowledge was assessed before intervention and post-test knowledge was assessed after the intervention period.

Ethical considerations: Ethical permission was obtained from the Ethical Committee of Sharda University and administrative permission was obtained from the District Medical Officer, Lohit District, Arunachal Pradesh. Participants provided informed consent.

Data analysis: The completed questionnaires were checked for completeness, coded and entered for analysis using SPSS version 20. Descriptive statistics, including frequency and percentage, were used to summarize categorical variables such as age group, gender, occupation and knowledge category. Mean and standard deviation were used to describe the knowledge scores. An independent-samples t-test was used for comparisons between the experimental and control groups, while a paired-samples t-test was used to compare pre-test and post-test scores within the same group. Chi-square tests were used to examine associations between post-test knowledge category and selected demographic variables. Statistical significance was set at $p < 0.05$. A p-value below 0.05 was interpreted as evidence of a statistically significant difference or association; a p-value at or above 0.05 was interpreted as not statistically significant. Statistical significance does not, by itself, establish clinical impact or prove that knowledge gains led to changes in actual birth-preparedness practices.

RESULT

The results are presented in the following tables.

Table 1. Distribution of participants By selected characteristics (n=114)

Characteristic	Experimental n (%)	Control n (%)
Age 16–25	10 (17.5%)	8 (14.0%)
26–35	28 (49.1%)	27 (47.4%)
36–45	13 (22.8%)	17 (29.8%)
>45	6 (10.5%)	5 (8.8%)
Gender: Male	26 (45.6%)	27 (47.4%)
Gender: Female	31 (54.4%)	30 (52.6%)
Marital duration <1 year	8 (14.0%)	5 (8.8%)
2 years	5 (8.8%)	2 (3.5%)
3 years	8 (14.0%)	4 (7.0%)
≥3 years	36 (63.2%)	46 (80.7%)
Socioeconomic ₹30,000–50,000	10 (17.5%)	14 (24.6%)
₹50,001–70,000	16 (28.1%)	17 (29.8%)
₹70,001–90,000	15 (26.3%)	10 (17.5%)
>₹90,000	16 (28.1%)	9 (15.8%)
Occupation: Unemployed	4 (7.0%)	5 (8.8%)
Businessman	7 (12.3%)	30 (52.6%)
Farmer	34 (59.6%)	13 (22.8%)
Government service	12 (21.1%)	3 (5.3%)

Analysis and interpretation of Table 1: A total of 114 participants were included, with 57 in the experimental group and 57 in the control group. In both groups, the largest age category was 26–35 years: 28 participants (49.1%) in the experimental group and 27 (47.4%) in the control group. Female participants constituted 54.4% of the experimental group and 52.6% of the control group, while the remainder were male. Most participants had been married for at least three years, particularly in the control group (80.7%) compared with the experimental group (63.2%). Regarding the reported socioeconomic categories, the largest experimental-group category was income above ₹90,000 (28.1%), whereas the largest control-group category was ₹50,001–70,000 (29.8%). Farming was the most frequently reported occupation in the experimental group (59.6%), while business was most common in the control group (52.6%). These figures describe the composition of the sample and help readers understand the context in which the intervention was evaluated. Some demographic distributions differ between groups; therefore, the baseline knowledge comparison should be considered alongside the study's quasi-experimental design. The income units/time period and category labels should be checked against the original questionnaire before final submission.

Table 2. Knowledge level before and after intervention

Knowledge level	Experimental Pre n (%)	Control Pre n (%)	Experimental Post n (%)	Control Post n (%)
Poor	1 (1.8%)	3 (5.3%)	0 (0%)	3 (5.3%)
Average	40 (70.2%)	40 (70.2%)	19 (33.3%)	38 (66.7%)
Good	16 (28.1%)	14 (24.6%)	38 (66.7%)	16 (28.1%)

Analysis and interpretation of Table 2: Before the intervention, average knowledge was the predominant category in both groups, with 40 participants (70.2%) in each group. Good knowledge was recorded for 16 participants (28.1%) in the experimental group and 14 (24.6%) in the control group. Poor knowledge was uncommon but present in one experimental participant (1.8%) and three control participants (5.3%). After the training, the experimental group showed a clear shift toward good knowledge: 38 participants (66.7%) were classified as having good knowledge, 19 (33.3%) had average knowledge, and none remained in the poor category. In contrast, the control group showed comparatively little change: 16 participants (28.1%) had good knowledge, 38 (66.7%) had average knowledge, and three (5.3%) remained in the poor category. The 38.6 percentage-point increase in the experimental group's good-knowledge proportion (66.7% minus 28.1%) is a descriptive change, not a separate significance test. Overall, this distribution is consistent with an improvement following training, while the control group's distribution remained mostly average.

Table 3. Baseline homogeneity of knowledge scores (n=114)

Group	Mean	SD	t	p
Experimental	18.96	3.20	1.74	0.084
Control	17.84	3.66		

Detailed interpretation of baseline comparison: The experimental group's pre-test mean was 18.96 (SD = 3.20), compared with 17.84 (SD = 3.66) in the control group. The mean difference was 1.12 points, and the reported independent-samples comparison was $t = 1.74$, $p = 0.084$. Since p was greater than 0.05, the difference was not statistically significant at baseline. This suggests that the study did not detect a statistically significant difference in the groups' average starting knowledge scores. It does not prove that the groups were identical on all characteristics, and it does not remove the

possibility of confounding in a quasi-experimental study. The reported t-test assumptions and the exact allocation procedure should be confirmed against the final SPSS output and approved protocol.
The baseline difference was not statistically significant (p = 0.084), indicating comparable knowledge levels before the intervention.

Table 4. Pre-test and post-test knowledge in experimental group (n=57)

Assessment	Mean	SD	Mean difference	t	p
Pre-test	18.96	3.20	−2.16	−4.73	<0.001
Post-test	21.12	1.80			

Detailed interpretation of the experimental group: The mean knowledge score increased from 18.96 (SD = 3.20) before training to 21.12 (SD = 1.80) after training. The reported mean increase was 2.16 points, with t = −4.73 and p < 0.001; the negative sign reflects the order in which the difference was calculated (pre-test minus post-test). Because p was below 0.05, the change was statistically significant. The results indicate that the experimental group's knowledge scores were higher after receiving the community-based training program. The smaller post-test standard deviation also suggests that scores were less dispersed at post-test, although this should be verified from the raw data. The result supports the effectiveness of the intervention for improving the measured knowledge outcome during the study period; it does not directly establish improved clinical practices or maternal outcomes.
The experimental group demonstrated a statistically significant improvement in knowledge after the community-based training program (p < 0.001).

Table 5. Pre-test and post-test knowledge in control group (n=57)

Assessment	Mean	SD	Mean difference	t	p
Pre-test	17.84	3.66	0.11	0.74	0.465
Post-test	17.74	3.93			

Detailed interpretation of the control group: The control group's mean score changed from 17.84 (SD = 3.66) at pre-test to 17.74 (SD = 3.93) at post-test, a reported difference of approximately 0.11 points in the direction of a slight decrease. The paired comparison was t = 0.74, p = 0.465. Since p exceeded 0.05, there was no statistically significant evidence of a change in knowledge scores in the control group over the assessment period. This pattern contrasts with the significant improvement observed in the experimental group. However, a non-significant result should not be interpreted as proof that no individual participant learned anything; it indicates that the group-level change was not statistically significant under the reported test.
There was no statistically significant change in the control group (p = 0.465).

Table 6. Between-group comparison of knowledge scores

Assessment	Group	Mean	SD	Mean difference	t	p
Pre-test	Experimental	18.96	3.20	1.12	1.74	0.084
Pre-test	Control	17.84	3.66			
Post-test	Experimental	21.12	1.80	3.39	5.91	<0.001
Post-test	Control	17.74	3.93			

Detailed interpretation of between-group comparisons: At pre-test, the experimental group had a mean score of 18.96 (SD = 3.20) and the control group had 17.84 (SD = 3.66). The baseline difference of 1.12 points was not statistically significant (t = 1.74, p = 0.084). At post-test, the experimental-group mean was 21.12 (SD = 1.80), while the control-group mean was 17.74 (SD = 3.93), giving a reported difference of 3.39 points (t = 5.91, p < 0.001). This post-test difference was statistically significant and favored the experimental group. Taken together with the within-group results, the findings support the conclusion that the training program was associated with higher BPCR knowledge after the intervention. For stronger inference, the final report should confirm whether the between-group t-tests used the correct independent-samples procedure, whether equal-variance assumptions were assessed, and whether an adjusted analysis or comparison of change scores was planned.
The post-test knowledge score was significantly higher in the experimental group than in the control group (t = 5.91, p < 0.001), demonstrating the effectiveness of the intervention.

Table 7. Association between post-test knowledge and selected demographic variables

Variable	χ^2	df	p-value	Interpretation
Age	13.13	6	0.04	Significant
Marital duration	4.34	6	0.63	Not significant
Gender	0.17	2	0.91	Not significant
Duration of marriage	7.07	6	0.31	Not significant

Gravida	4.08	6	0.66	Not significant
Parity	8.64	8	0.37	Not significant
Pregnancy complication history	0.34	4	0.97	Not significant
Trimester	1.13	4	0.88	Not significant
Socioeconomic status	15.30	6	0.01	Significant
Occupation	11.77	6	0.06	Not significant

Detailed interpretation of demographic associations: The chi-square analysis showed statistically significant associations between post-test knowledge category and age ($\chi^2 = 13.13$, df = 6, $p = 0.04$) and socioeconomic status ($\chi^2 = 15.30$, df = 6, $p = 0.01$). At the 0.05 level, these results indicate that knowledge category distribution differed across age groups and socioeconomic categories in this sample. The analysis does not establish that age or socioeconomic status caused the differences; possible explanations, such as differences in prior experience, access to information or resources, would require further investigation. The associations for marital duration ($p = 0.63$), gender ($p = 0.91$), duration of marriage ($p = 0.31$), gravida ($p = 0.66$), parity ($p = 0.37$), pregnancy-complication history ($p = 0.97$), trimester ($p = 0.88$) and occupation ($p = 0.06$) were not statistically significant at $p < 0.05$. Occupation's p-value of 0.06 is close to, but still above, the predefined threshold and should not be labelled significant. The table contains both “marital duration” and “duration of marriage”; these may duplicate the same variable and should be checked. Expected cell counts should also be reviewed because sparse categories can affect the validity of chi-square tests.
Age ($\chi^2 = 13.13$, df = 6, $p = 0.04$) and socioeconomic status ($\chi^2 = 15.30$, df = 6, $p = 0.01$) showed statistically significant associations with post-test knowledge. The other reported demographic variables were not significantly associated with knowledge.

Summary Of Statistical Analysis
Across the principal analyses, the baseline comparison did not identify a statistically significant difference in mean knowledge scores between groups ($p = 0.084$). Following the intervention, the experimental group showed a statistically significant increase in mean score ($p < 0.001$), whereas the control group did not show a significant change ($p = 0.465$). The post-test mean was significantly higher in the experimental group than in the control group ($p < 0.001$). The categorical results similarly showed an increase in the proportion with good knowledge in the experimental group from 28.1% to 66.7%, with no participants in the poor category at post-test. Age and socioeconomic status were significantly associated with post-test knowledge category. These findings should be interpreted within the limitations of a quasi-experimental study and verified against the final SPSS output before publication.

DISCUSSION
The present study demonstrated that most participants had average BPCR knowledge before the intervention. After the community-based training program, the proportion with good knowledge increased from 28.1% to 66.7% in the experimental group, while the control group showed little change. The significant improvement in the experimental group supports the effectiveness of structured community-based education.
The experimental group's mean knowledge score increased from 18.96 ± 3.20 to 21.12 ± 1.80, with a highly significant paired t-test result ($t = -4.73$, $p < 0.001$). In contrast, the control group had no significant change. The significant between-group post-test difference ($t = 5.91$, $p < 0.001$) further supports the effectiveness of the intervention.
The findings are consistent with the general evidence summarized in the thesis, which reports improvements in BPCR knowledge following community-based, couple-focused and structured educational interventions in India and other settings. The present findings also indicate that age and socioeconomic status were associated with post-test knowledge, whereas gender, marital duration, gravida, parity, pregnancy-complication history, trimester and occupation were not statistically significant.

Conceptual Framework
The study was conceptually supported by the Three Delays Model of Thaddeus and Maine (1994), integrated with the Health Belief Model of Rosenstock (1974). The framework proposes that improved knowledge and preparedness can reduce delays in deciding to seek care, reaching a health facility and receiving appropriate care. The training addressed recognition of danger signs, antenatal care, skilled birth attendance, transportation, financial preparedness and community support, with improved knowledge as the immediate study outcome.

CONCLUSION
The community-based training program was effective in significantly improving knowledge regarding Birth Preparedness and Complication Readiness among married people in the selected area of Sunpura Circle, Lohit District, Arunachal Pradesh. The intervention group showed a significant increase in knowledge compared with the control group. The findings support the use of structured community-based maternal health education to strengthen preparedness for safe pregnancy, childbirth and obstetric emergencies.

Implications For Nursing
Nurses can conduct regular community-based BPCR education for couples and families.
Community health nurses can strengthen awareness of danger signs, skilled birth attendance, transport and emergency preparedness.
BPCR content can be integrated into nursing education and continuing professional development.

Nursing administrators can support outreach programs and allocate resources for maternal health education in rural communities.
Further nursing research can evaluate longer-term knowledge retention and changes in actual BPCR practices.

LIMITATIONS

The study was limited to 114 participants from the selected rural area, which may restrict generalizability.
Post-intervention assessment covered a short period and did not establish long-term knowledge retention.
The study assessed knowledge and did not directly measure actual BPCR practices or maternal outcomes.
Self-reported responses may have introduced response bias.
Other factors influencing BPCR knowledge could not be completely controlled.

Future Recommendation

Conduct similar studies with larger samples across different rural and tribal settings.
Undertake longitudinal research to assess long-term retention of BPCR knowledge.
Evaluate whether BPCR education results in changes in preparedness practices and maternal healthcare utilization.
Integrate community-based BPCR training into routine maternal and child health services.
Include both women and men to strengthen family participation in birth preparedness and complication readiness.
Compare different educational approaches, including audiovisual teaching, mobile health applications and peer education.

FUNDING

The authors declare that no specific funding was received for this study.

Conflict Of Interest

The authors declare no conflict of interest.

Ethical Consideration

Ethical permission was obtained from the Ethical Committee of Sharda University. Administrative permission was obtained from the District Medical Officer, Lohit District, Arunachal Pradesh. Informed consent was obtained from all participants before data collection.

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REFERENCES

1. Abdullah S, Khan A, Shah F. Community-based training and its effect on birth preparedness among couples in Pakistan. Int J Reprod Med. 2020;2020:1–7. doi:10.1155/2020/9278564.
2. Agyemang E, Boateng D, Ameyaw E. Effects of couple education on birth preparedness in urban Ghana. BMC Public Health. 2020;20:488. doi:10.1186/s12889-020-08595-6.
3. Ahmadpour A, et al. Effect of implementing a birth plan on maternal and neonatal outcomes: a randomized controlled trial. BMC Pregnancy Childbirth. 2022;22:862. doi:10.1186/s12884-022-05199-5.
4. Bako B, Oche MO, Raji MO. Effect of community-based health education on birth preparedness and male involvement among couples in Nigeria. BMC Pregnancy Childbirth. 2021;21:112. doi:10.1186/s12884-021-03652-7.
5. Bhattarai S, Kandel P. Community training and BPCR among couples: a study from Nepal. Asian J Nurs Educ Res. 2021;11(4):489–494.
6. Chaudhary A, Verma S. Mixed-method evaluation of community training on BPCR in urban Uttar Pradesh. Indian J Health Soc Work. 2022;9(1):33–40.
7. Das S, Patel M. Participatory antenatal training and its effect on BPCR among couples in Odisha. Int J Reprod Health. 2023;12(1):59–65.
8. Desta M, Ayenew T, Belayneh M. Birth preparedness and complication readiness among women in rural Ethiopia. Int J Womens Health. 2021;13:51–60. doi:10.2147/IJWH.S290047.
9. Hassan M, Rahman T, Begum R. Effect of couple-focused educational intervention on birth preparedness in rural Bangladesh. BMC Pregnancy Childbirth. 2022;22:740. doi:10.1186/s12884-022-05114-6.
10. Joshi S, Raut R. Improving birth preparedness through couple-based intervention in rural Nepal. Midwifery. 2022;108:103275. doi:10.1016/j.midw.2021.103275.
11. Kaur R, Singh G. A study to assess the effectiveness of structured teaching on birth preparedness among antenatal couples. Nurs Midwifery Res J. 2021;17(2):98–104.
12. Kumar A, Sharma N. Effectiveness of community-based training on birth preparedness among couples in rural Bihar. Indian J Public Health Res Dev. 2020;11(3):202–207.
13. Mehta R, Joshi M, Patel K. Impact of couple-centered training on BPCR among antenatal clients in Gujarat. Indian J Matern Health. 2022;9(2):75–80.
14. Mohammed Y, Idris H, Abdalla A. Role of male-inclusive education in improving birth preparedness in Sudan. Afr J Reprod Health. 2021;25(2):82–90.
15. Mukherjee A, Sen I. Effect of structured community training on birth preparedness among couples in West Bengal. Int J Community Health Nurs. 2023;5(1):12–18.

16. Nair PR, George A, Joseph S. Impact of couple-focused antenatal education on birth preparedness in Kerala. Int J Community Med Public Health. 2023;10(2):588–594. doi:10.18203/2394-6040.ijcmph20230342.
17. Nguyen LT, Tran HN, Vo PH. Community-based interventions and their effect on birth preparedness among rural Vietnamese couples. Glob Health Action. 2020;13(1):172–179. doi:10.1080/16549716.2020.1721199.
18. Okafor I, Okeke E, Nwankwo T. Community education and BPCR: a comparative study in Nigeria. Afr Health Sci. 2022;22(4):78–86.
19. Sharma N, Verma P. Structured BPCR education among tribal couples in Rajasthan: a pre-experimental study. J Community Health Nurs. 2023;40(2):101–108.
20. Shrestha R, Paudel S, Acharya D. Community-based birth preparedness education among couples in rural Nepal. Int J Reprod Health. 2021;17(3):120–126.
21. Sisay S, Alemu M, Tadesse T. Determinants of birth preparedness among couples in northern Ethiopia. Reprod Health. 2020;17(1):134. doi:10.1186/s12978-020-00972-2.
22. Tambe S, Thomas M. Effectiveness of structured education on BPCR among antenatal couples in Maharashtra. Nurs Pract Today. 2023;10(1):34–40.
23. Tsegaye D, Abebe S. Couple communication and its association with birth preparedness in southern Ethiopia: a community-based study. PLoS One. 2021;16(4):e0250937. doi:10.1371/journal.pone.0250937.
24. Yeboah MA, Abeka M, Osei K. Enhancing birth preparedness and complication readiness through couple education: a study in urban Ghana. Afr J Reprod Health. 2022;26(4):45–55.