

Effectiveness Of A Structured Training Manual On Women's Reproductive Health Capacity Building Among Self-Help Group Members in Selected Talukas of Sangli District, Maharashtra, India

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ABSTRACT

Objective: To evaluate the effectiveness of a structured training manual in strengthening women's reproductive health capacity among Self-Help Group (SHG) members in selected talukas of Sangli District, Maharashtra, India.

Methods: A mixed-method evaluative study was conducted among 200 women belonging to selected SHGs. Quantitative data were collected using structured instruments assessing reproductive health knowledge, attitude and self-reported practices at baseline, day 15, day 30 and day 60 following implementation of a structured training manual. The manual was developed from literature, reproductive health guidance, government programmes, expert consultation and community needs, and was prepared in Marathi using simple language and illustrations. Repeated-measures analysis of variance with Bonferroni-adjusted pairwise comparisons was used to examine changes over time. Qualitative data were obtained through three focus group discussions involving 21 SHG members and were analysed thematically.

Results: Baseline mean scores were 17.84±4.36 for knowledge, 49.28±7.12 for attitude and 20.62±5.08 for self-reported practice. Overall capacity-building increased from 87.74±11.84 at baseline to 102.24±10.28, 113.94±9.18 and 121.38±8.42 on days 15, 30 and 60, respectively. Repeated-measures ANOVA showed significant improvements in knowledge ($F=412.86$; $p<0.001$), attitude ($F=328.41$; $p<0.001$), practice ($F=376.95$; $p<0.001$) and overall capacity-building scores ($F=495.27$; $p<0.001$). Qualitative findings indicated increased awareness, confidence, communication, and adoption of healthier reproductive health practices.

Conclusion: The structured training manual was associated with significant and sustained improvement in reproductive health knowledge, attitude, self-reported practices and overall capacity among SHG members. SHGs may provide a feasible community platform for reproductive health capacity-building interventions.

Keywords: Women's Health; Reproductive Health; Self-Help Groups; Health Education; Health Knowledge, Attitudes, Practice; Community Health Nursing.

INTRODUCTION

Reproductive health encompasses physical, mental and social well-being in matters relating to the reproductive system and its functions and processes. It includes access to appropriate information and services concerning contraception, fertility, maternal health, sexually transmitted infections and other reproductive health needs throughout the life course.¹

In India, women continue to experience reproductive health challenges related to anaemia, menstrual health, reproductive tract infections, contraception, maternal health, reproductive cancers and delayed healthcare seeking. National Family Health Survey-5 reported anaemia among 57.0% of women aged 15–49 years in India, demonstrating the continuing burden of an important reproductive and nutritional health problem.²

Women's reproductive health is influenced not only by the availability of health services but also by knowledge, decision-making ability, social support, cultural beliefs and healthcare-seeking behaviour. Consequently, community-based interventions that strengthen women's knowledge and capacity to act on health information are important components of public health strategies.^{1,3}

Self-Help Groups (SHGs) constitute an important community platform for women's empowerment in India. Beyond savings and livelihood activities, SHGs can provide opportunities for collective learning, peer support, health promotion and community participation. Evidence from India suggests that health interventions delivered through women's groups can improve selected health behaviours, particularly when interventions incorporate participatory learning and community-capacity strengthening rather than relying solely on information dissemination.^{3,4}

A systematic review of women's group interventions in India found moderate-quality evidence that health interventions delivered through women's groups can improve women's and children's health outcomes. The review further emphasized that interventions are more effective when they build individual, group and community capabilities.³

Evidence from Maharashtra is particularly relevant. Kulkarni et al. demonstrated the feasibility of training SHG women to provide reproductive health education and facilitate referrals for women with reproductive morbidity. The intervention increased reproductive health-seeking behaviour and demonstrated the potential of SHGs as community-level resources for reproductive health promotion.⁵ Similarly, interventions integrating health education into SHGs have demonstrated improvements in reproductive, maternal and newborn health practices.^{4,6}

Despite the established role of SHGs, evidence regarding comprehensive reproductive health capacity-building programmes among SHG members in Sangli District remains limited. The present study therefore developed a structured training manual covering major reproductive health topics and evaluated its effectiveness in improving knowledge, attitudes and self-reported practices.

OBJECTIVE

To evaluate the effectiveness of a structured training manual on strengthening women's reproductive health capacity among Self-Help Group members in selected talukas of Sangli District, Maharashtra.

METHODS

Study design and setting

A mixed-method evaluative design was used. The quantitative component followed a pre-experimental one-group repeated-measures design, with assessments conducted at baseline, day 15, day 30, and day 60 after implementation of the intervention. The qualitative component consisted of focus group discussions conducted after the intervention.

The study was conducted among women members of selected Self-Help Groups functioning in selected talukas of Sangli District, Maharashtra.

Participants and sampling-

The completed quantitative dataset consisted of 200 SHG women. Participants were women aged 18–49 years who were members of selected SHGs, could understand Marathi or English, were willing to participate, and provided written informed consent. Women who had recently undergone structured reproductive health training, were unable to participate because of severe illness or disability, were absent during the intervention or post-test assessment, or withdrew consent were excluded.

Purposive sampling was used to recruit eligible participants.

Intervention development

The structured training manual was developed following a review of reproductive health literature and relevant WHO and Government of India guidance, expert consultation and consideration of community educational needs. The manual was prepared in Marathi using simple language, illustrations and participatory educational approaches.

The major content areas included:

1. Female reproductive anatomy and physiology;
2. Menstrual hygiene;
3. Nutrition and anaemia prevention;
4. Family planning;
5. Maternal health;
6. Reproductive tract infections and sexually transmitted infections;
7. Cervical cancer awareness;
8. Breast cancer awareness;
9. Menopause; and
10. Government reproductive health services.

The content and assessment tools were reviewed by experts in community health nursing, obstetric and gynaecological nursing, obstetrics and gynaecology, public health, health education and medical-surgical nursing. The reported reliability coefficient of the assessment tool ranged from 0.82 to 0.92. A pilot study involving 10 SHG women was undertaken in a village outside the main study area. The pilot indicated that the procedure was feasible and no major modification was required.

Data collection

After obtaining administrative and ethical permissions, written informed consent was obtained from participants. Baseline assessment was conducted before implementation of the training manual. The intervention employed lecture, discussion, demonstration, flip charts, audiovisual aids, group activities, and question-and-answer sessions. The training lasted approximately 2–3 hours, delivered either as one session or two 90-minute sessions. The manual was also distributed to participants for continued reference. Follow-up assessments were conducted at days 15, 30 and 60. The study methodology describes the intervention and follow-up procedures in detail.

Outcome measures

The principal outcome was reproductive health capacity-building, assessed across three domains:

- knowledge;
- attitude; and
- self-reported practices.

The knowledge questionnaire contained approximately 40 items covering major reproductive health topics. Correct responses received one mark and incorrect responses received zero marks. The capacity-building assessment also examined dimensions such as confidence, decision-making, communication, health-service utilization and participation in health education.

Qualitative component

Three focus group discussions involving 21 SHG members were conducted after the intervention. Each discussion lasted approximately 60–90 minutes and was conducted in Marathi using a semi-structured guide. Thematic analysis was used to identify participants' experiences, perceived behavioural changes, barriers and recommendations.

Statistical analysis

Descriptive statistics included frequency, percentage, mean and standard deviation. Repeated-measures analysis of variance was used to compare mean scores across baseline, day 15, day 30 and day 60. Bonferroni-adjusted pairwise comparisons were undertaken following significant overall effects. Associations between baseline scores and selected demographic variables were assessed using appropriate parametric and non-parametric tests. Statistical significance was considered at $p < 0.05$.

Ethical considerations

Ethical approval was obtained from the Institutional Research Review Committee. Administrative permissions were obtained from self-help group community authorities. Written informed consent was obtained from all participants. Confidentiality and anonymity were maintained, participation was voluntary, and participants were informed of their right to withdraw.

RESULTS

Participant characteristics

Among the 200 SHG members, 36.0% were aged 26–35 years and 29.0% were aged 36–45 years. Secondary education was the most frequently reported educational level (34.0%), followed by higher secondary education (23.0%). Homemakers constituted 59.0% of participants, while 19.0% were engaged in agriculture. Most participants were married (84.0%).

A substantial proportion of women (71.0%) had never received formal reproductive health training. ASHA/ANM personnel were the most common source of reproductive health information (38.0%), followed by health professionals (19.0%), television/radio (14.0%), internet/social media (12.0%), family/friends (11.0%) and newspapers (6.0%).

Table 1. Selected baseline characteristics of participants (N=200)

Characteristic	n	%
Age 26–35 years	72	36.0
Age 36–45 years	58	29.0
Secondary education	68	34.0
Higher secondary education	46	23.0
Homemakers	118	59.0

Agriculture	38	19.0
Married	168	84.0
Previous reproductive health training: No	142	71.0
Previous reproductive health training: Yes	58	29.0
ASHA/ANM as information source	76	38.0

Baseline reproductive health capacity

At baseline, the mean knowledge score was 17.84 ± 4.36 , representing 59.5% of the maximum possible score. The mean attitude score was 49.28 ± 7.12 (65.7%), while the mean self-reported practice score was 20.62 ± 5.08 (57.3%). The overall capacity-building score was 87.74 ± 11.84 (60.8%).

More than half of participants demonstrated fair self-reported reproductive health practices (51.0%), while 28.0% reported poor practices and 21.0% reported good practices.

Table 2. Baseline reproductive health capacity scores (N=200)

Domain	Mean $\pm$ SD	Percentage mean score
Knowledge	17.84 ± 4.36	59.5
Attitude	49.28 ± 7.12	65.7
Self-reported practice	20.62 ± 5.08	57.3
Overall capacity building	87.74 ± 11.84	60.8

Effect of the training manual

Knowledge scores increased from 17.84 ± 4.36 at baseline to 22.36 ± 3.92 on day 15, 25.44 ± 3.41 on day 30, and 27.18 ± 2.88 on day 60. Repeated-measures ANOVA showed a statistically significant difference across assessments ($F=412.86$, $p<0.001$).

Attitude scores increased from 49.28 ± 7.12 at baseline to 55.44 ± 6.30 , 60.32 ± 5.64 and 63.18 ± 4.88 on days 15, 30 and 60, respectively. The overall time effect was statistically significant ($F=328.41$, $p<0.001$).

Self-reported practice scores increased from 20.62 ± 5.08 at baseline to 24.44 ± 4.42 on day 15, 28.18 ± 3.81 on day 30 and 31.02 ± 3.18 on day 60. Repeated-measures ANOVA demonstrated a significant improvement ($F=376.95$, $p<0.001$).

Table 3. Changes in reproductive health capacity across assessments (N=200)

Assessment	Knowledge Mean	Attitude Mean	Practice Mean	Overall Mean $\pm$ SD
Baseline	17.84	49.28	20.62	87.74 ± 11.84
Day 15	22.36	55.44	24.44	102.24 ± 10.28
Day 30	25.44	60.32	28.18	113.94 ± 9.18
Day 60	27.18	63.18	31.02	121.38 ± 8.42

The overall capacity-building score increased from 87.74 ± 11.84 at baseline to 121.38 ± 8.42 on day 60. Repeated-measures ANOVA demonstrated a highly significant overall effect ($F=495.27$, $p<0.001$).

Bonferroni-adjusted comparisons showed significant improvement across assessment periods. From baseline to day 60, the mean increase was 9.34 points for knowledge, 13.90 points for attitude and 10.40 points for self-reported practice, all with $p<0.001$.

Association with demographic characteristics

Baseline knowledge was significantly associated with age, education, occupation, family income, type of family, previous reproductive health training and source of information. Attitude was significantly associated with age, education, family income, type of family, previous training and source of information. Marital status, parity and residence were not significantly associated with baseline outcomes.

Multiple regression analysis showed that educational qualification and previous reproductive health training were the strongest independent predictors of baseline capacity-building. The model explained approximately 52.4% of the variance in overall capacity-building scores ($R^2=0.524$; adjusted $R^2=0.508$; $F=32.84$; $p<0.001$).

Qualitative findings

Seven interconnected themes emerged from the focus group discussions. Participants described increased awareness of reproductive health problems, greater confidence in discussing health issues, positive changes in menstrual hygiene and health-checking practices, and improved communication with family members.

Participants also described persistent barriers, including financial constraints, transportation difficulties, household responsibilities, cultural beliefs, embarrassment and limited access to healthcare. The manual was generally considered easy to understand, culturally appropriate and practically useful. Participants recommended refresher sessions every six months and extending reproductive health education to husbands, adolescents and older women.

DISCUSSION

The present study demonstrated substantial improvement in reproductive health capacity following implementation of a structured training manual among SHG women. Knowledge, attitude, self-reported practice and overall capacity-building scores increased progressively from baseline to day 60, with statistically significant differences across all assessment points.

The baseline findings indicate an important educational gap. Although attitude had the highest percentage mean score, knowledge and practice scores were comparatively lower. Only 21.0% of participants reported good reproductive health practices, while 28.0% reported poor practices. This suggests that possessing some awareness does not necessarily translate into appropriate reproductive health behaviour.

The findings are consistent with evidence supporting SHGs as platforms for health promotion. A systematic review of women's group interventions in India concluded that interventions that build community capability and use participatory approaches can improve health-related behaviours and outcomes.³ The present intervention similarly moved beyond simple information provision by using discussions, demonstrations, group activities, audiovisual aids and opportunities for questions.

The Maharashtra-based study by Kulkarni et al. provides particularly strong contextual support. SHG women were trained to provide reproductive health education and facilitate referrals, demonstrating improvements in reproductive health-seeking behaviour.⁵ The present study extends this evidence by demonstrating improvement in knowledge, attitudes and self-reported practices following a structured reproductive health training manual among SHG members.

The increase in knowledge from 17.84 at baseline to 27.18 on day 60 suggests both immediate learning and continued retention. The sustained improvement may have been facilitated by distribution of the manual for home reference and reinforcement of learning during the intervention. Similar evidence from women's group interventions suggests that repeated community engagement and capability strengthening may be more effective than one-time information dissemination.^{3,4}

The improvement in attitude is also important because reproductive health behaviours are influenced by perceptions, confidence, social norms and willingness to seek care. The qualitative findings support this interpretation: participants reported greater confidence in asking questions, communicating with peers and discussing reproductive health concerns with healthcare providers.

The improvement in self-reported practices from 20.62 to 31.02 is particularly relevant to community health nursing. Education is most meaningful when it facilitates translation of knowledge into health behaviour. Studies of SHG-based interventions in India have reported improvements in contraceptive use, maternal health practices and other health behaviours following participatory health interventions.^{4,6}

The association between educational attainment and baseline capacity-building further indicates that health education should be tailored to participants' literacy and educational needs. The finding that previous reproductive health training was a strong predictor of baseline capacity suggests the importance of repeated exposure to structured health information. Frontline workers, particularly ASHA and ANM personnel, were the main source of reproductive health information in the present study, highlighting their continuing importance in community health communication.

The qualitative findings also demonstrate that educational interventions cannot eliminate structural barriers by themselves. Financial limitations, transportation difficulties, household responsibilities, cultural beliefs and healthcare accessibility continued to affect women's ability to act on health information. Therefore, future programmes should combine health education with referral mechanisms, linkage to health services and community mobilisation.

The findings are also consistent with the broader concept of health layering within SHGs. Studies in India have shown that integrating health education into existing SHG structures can provide a scalable mechanism for improving health-related knowledge and behaviours.^{4,7} The existing social relationships within SHGs may facilitate peer discussion, reinforcement and collective problem-solving.

The present study therefore contributes local evidence supporting the use of SHGs as community platforms for reproductive health capacity building. The intervention was relatively simple, used locally understandable

materials and incorporated participatory methods, suggesting potential feasibility for implementation by community health nurses and trained frontline workers.

LIMITATIONS

First, the study used a one-group evaluative design without a parallel control group; therefore, causal attribution should be interpreted cautiously. Second, purposive sampling limits generalizability beyond the selected SHGs and talukas. Third, self-reported practice measures may be influenced by recall and social-desirability bias. Fourth, the follow-up period was limited to 60 days and therefore cannot establish long-term sustainability of behavioural changes. Finally, the qualitative findings were based on a purposively selected subgroup of 21 participants and may not represent all participants.

IMPLICATIONS

The findings have implications for community health nursing, women's health programmes and SHG-based health promotion. Community health nurses can use structured, culturally appropriate manuals to standardize reproductive health education. SHGs may serve as platforms for periodic reproductive health sessions, peer education, referral support and reinforcement of preventive practices.

The intervention could be strengthened by incorporating refresher sessions, community health camps, referral pathways and involvement of husbands and other family members. Participants themselves recommended periodic refresher programmes and broader community participation.

CONCLUSION

The structured reproductive health training manual was associated with significant and sustained improvement in knowledge, attitude, self-reported practices and overall reproductive health capacity among SHG women. Overall capacity-building scores increased from 87.74 ± 11.84 at baseline to 121.38 ± 8.42 at day 60, with a highly significant repeated-measures effect ($F=495.27$, $p<0.001$).

The qualitative findings complemented the quantitative results by demonstrating increased awareness, confidence, communication and reported behavioural change. The findings support the feasibility of using SHGs as community platforms for structured reproductive health education. Larger controlled studies with longer follow-up are recommended to determine the effectiveness and sustainability of such interventions.

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ETHICS APPROVAL

The study received approval from the Institutional Research Review Committee of Bharati Vidyapeeth (Deemed to be University), College of Nursing, Sangli and relevant administrative/community authorities. Written informed consent was obtained from all participants.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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