

ORIGINAL RESEARCH ARTICLE

Harnessing community radio for change: A participatory approach to menstrual health and hygiene awareness in under-served women

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Abstract

This study explores the effectiveness of a participatory communication approach in qualitative method utilizing Anna Community radio 90.4 MHz, and physicians to improve menstrual health hygiene awareness among 280 community women near Kotturpuram and Kannigapuram in Chennai of Tamilnadu. Anna Community Radio (Anna CR) is the first campus community radio in India, which is established in 2004, February, reaching the local community in vernacular language. The purpose of Anna CR is to elevate the local community residing near the campus Anna University, Chennai, by sharing knowledge and creating awareness on healthcare, education, female literacy, self-employment, unpolluted environment, etc. Programmes are produced by the women community people focussing women. In interview shows, local communities were engaged by invited specialists, who promoted engagement and used communication to influence behavioural change. This community engagement produced significant impact by successfully delivering medium messages. The intervention focused on disseminating accurate information, addressing cultural taboos, and promoting mensural hygienic practices through culturally sensitive and accessible communication strategies. Pre and post-intervention assessments revealed a significant increase in participants' knowledge levels regarding menstrual health and hygiene. The findings underscore the potential of participatory communication strategies, particularly community radio and role models like physicians, in addressing public health challenges in underserved communities. (*Afr J Reprod Health 2025; 29 [9]: 63-73*).

Keywords: Menstrual Health; Hygiene practice; Community Radio; Participatory approach; Women community

Résumé

Cette étude explore l'efficacité d'une approche de communication participative qualitative utilisant la radio communautaire Anna (90,4 MHz) et des médecins pour améliorer la sensibilisation à l'hygiène menstruelle auprès de 280 femmes vivant près de Kotturpuram et Kannigapuram à Chennai, au Tamil Nadu. Anna Community Radio (Anna CR) est la première radio communautaire universitaire en Inde. Créée en février 2004, elle touche la communauté locale en langue vernaculaire. L'objectif d'Anna CR est de promouvoir l'éducation des communautés riveraines du campus de l'Université Anna de Chennai en partageant des connaissances et en les sensibilisant aux soins de santé, à l'éducation, à l'alphabétisation des femmes, au travail indépendant, à la préservation de l'environnement, etc. Les programmes sont produits par des femmes de la communauté et s'adressent particulièrement aux femmes. Lors d'entretiens, des spécialistes invités ont mobilisé les communautés locales, favorisant leur engagement et utilisant la communication pour influencer les changements de comportement. Cet engagement communautaire a eu un impact significatif en transmettant efficacement des messages clés. L'intervention s'est concentrée sur la diffusion d'informations précises, la lutte contre les tabous culturels et la promotion des pratiques d'hygiène menstruelle grâce à des stratégies de communication accessibles et respectueuses de la culture. Les évaluations pré et post-intervention ont révélé une amélioration significative des connaissances des participantes en matière de santé et d'hygiène menstruelles. Ces résultats soulignent le potentiel des stratégies de communication participative, notamment la radio communautaire et des modèles comme les médecins, pour relever les défis de santé publique dans les communautés mal desservies. (*Afr J Reprod Health 2025; 29 [9]: 63-73*).

Mots-clés: Santé menstruelle; Pratiques d'hygiène; Radio communautaire; Approche participative; Communauté de femmes

Introduction

Menstrual health and hygiene mostly remain as an acute among young women and it is habitually disregarded as community health issue, mostly in underserved women communities where in cultural

stigmas and imperfect access to exact information persist. Improper and destitute menstrual hygiene can lead to adversarial health outcomes, including infections, and disseminate gender inequalities by curbing women's participation in educational, professional and economic activities in the society.

Menstrual health and hygiene (MHH) are serious components of women's overall healthy life style and wellness. However, cultural and traditional taboos, lack of knowledge and shortage of education, have factually stalled for open discussions and awareness about menstruation among the young women in secured families¹. In India generally families include younger to elder women, where they share the personal health and hygiene practices, but today's scenario of daily routine there is least opportunity for this kind. In recent years, the media has emerged as a dominant means in breaking these barriers and endorsing awareness about menstrual health and hygiene. Despite global efforts to address this issue, many women in low-resource settings continue to face barriers to accessing reliable information and hygienic products⁸.

This study investigates the effectiveness of a participatory communication approach in improving menstrual health hygiene awareness among 280 women respondents in Kotturpuram and Kannigapuram area situated in Chennai, Tamilnadu. The intermediation leveraged two significant elements: community radio, an extensively accessible and culturally pertinent medium, and physicians, who served as trusted people in the society and considered as sources of reliable information. Community radio, with its extensive range, affordability, and capacity to provide localized content, serves as a perfect medium for engaging community women in discussions about issues frequently reflected taboo⁵. By combining these approaches and communication strategies, the programme intended to bridge the gap between healthy education and community engagement, nurturing an environment where women could acquiescently discuss and discourse menstrual health apprehensions.

The study measured the effect of the community radio programmes on participants' knowledge, attitudes, and practices connected to women's menstrual health. The findings underscore the potential aspects of participatory communication approach and strategies, particularly in the community radio, in addressing women health challenges and empowering women with the important information and awareness. The

participatory contribution of the intervention confirmed that the content was tailored to the community's cultural context, focusing misconceptions and supporting practical solutions for the problems faced. Pre- and post-intervention assessments demonstrated a significant improvement in participants' knowledge levels, while qualitative feedback highlighted the program's acceptability and impact. These findings advocate that participatory communication strategies, particularly those involving community radio and local role models, can effectively address public health challenges in underserved populations. This main analysis of the study mainly contributes to the discourse on menstrual health hygiene, but also provides a reproducible context for similar interventions in further resource-limited situations.

Research Questions

- Q1. Does women have awareness and knowledge on menstrual health and hygiene?
- Q2 How far the Anna Community radio have created an effective communication in educating menstrual health and hygiene?
- Q3. Whether the Changes in menstrual hygiene practices (e.g., use of sanitary products, disposal methods, etc.) have been created through community radio?

Objectives

1. Assess the effectiveness of the communication intervention.
2. Measure changes in knowledge, attitudes, and practices (KAP) regarding menstrual health hygiene.
3. Identify demographic factors influencing the outcomes.
4. Evaluate the reach and impact of the community radio program

Literature review

The various studies review explores the role of media in addressing menstrual health issues, its impact on women's awareness, and the challenges that persist.

Media as a tool for breaking taboos

Menstruation has long been a stigmatized topic in many societies, often shrouded in silence and misinformation. Media, including television, radio, social media, and print, has occupied a crucial role in normalizing conversations around menstruation. For instance, campaigns like #PeriodEmoji and #MenstruationMatters on social media platforms have sparked global discussions, challenging societal taboos and encouraging open dialogue⁹. These initiatives have been influential in shifting public perceptions and reducing the stigma accompanied with menstruation.

Educational campaigns and awareness programs

Media campaigns have been effective in disseminating accurate information about menstrual health and hygiene. For example, the Indian television show "Main Kuch Bhi Kar Sakti Hoon" (I, a Woman, Can Achieve Anything) addressed menstrual hygiene as part of its broader focus on women's health, reaching millions of viewers and significantly improving knowledge about safe menstrual practices¹⁰. Similarly, radio programs in rural Africa have been used to educate women and girls about menstrual hygiene management, leading to improved practices and reduced health risks⁸.

Social media and digital platforms

The rise of social media has revolutionized the way menstrual health information is shared. Platforms like Instagram, Twitter, and YouTube have become spaces for activists, organizations, and influencers to share educational content, personal stories, and advocacy campaigns. For instance, the organization Days for Girls uses social media to promote reusable menstrual related products and educate women about sustainable menstrual hygiene practices¹. Digital media platforms have also facilitated the creation of online communities where women could seek advice, share experiences, and access resources anonymously, reducing the embarrassment often connected with menstruation.

Challenges and Limitations

Despite its potential, the media's role in promoting menstrual health awareness is not without challenges. In many low-income settings, access to media remains limited, mainly for women and girls in rural areas. Additionally, the quality and accuracy of information shared through media can vary, prominent to the spread of myths and misconceptions⁵. Furthermore, cultural resistance to discoursing menstruation openly can hinder the effectiveness of media campaigns, particularly in conservative societies.

Impact on policy and advocacy

Media has also played a crucial role in encouraging for policy modifications related to menstrual health. For example, the documentary "Period. End of Sentence." highlighted the challenges faced by women in rural India and contributed to the global conversation about menstrual equity. Such media efforts have pressured governments and organizations to address issues like menstrual product affordability, accessibility, and education¹.

Research design

This study adopted qualitative research method implementing participatory communication method to find the major objectives of the study. The program on Menstrual health and hygiene was scheduled with men and women physician to deliver the interactive session with the community women, in the Anna community radio which is inside the College of Engineering, Anna University campus, Chennai. Initiated on the content of the delivered programme, community women around Kotturpuram and Kannigapuram in Chennai nearly 280 women respondents with their concern were interfered before and after the session to comprehend the knowledge, perceptions and attitudes towards their menstrual health and hygiene. Three women from the community interacted with the Physicians, and discussed about the menstrual health issues. Before the programmes the community women were distributed with questionnaires to collect the individual responses

about their knowledge and awareness on menstrual health. After the broadcast of the interactive programmes through the Anna Community Radio, the same community women were requested to fill the questionnaires to analyse and understand the knowledge level and the communication effectiveness about the menstrual health issues. Community women around the age group of 18 to 30 years and 30 to 45 years were included for the study with their individual concern for the responses.

Community radio programme on menstrual health and hygiene

Anna Community Radio 90.4 MHz aired an episode titled "Magalir Neram: Menstrual Problems, Medicine, and Food Habits" to increase awareness about menstrual health and hygiene. The programme featured a radio drama performed by women community volunteers Malliga, Sasikala, and Nageswari, who portrayed as friends, discussing menstrual issues confronted by Nageswari's granddaughter. They emphasized common complications like abdominal discomfort, irregular periods, and nutritional apprehensions.

In a recent interview with a male physician who practices naturopathy, he shared valuable insights about menstrual discomfort. He explained that many women experience pain during their periods due to hormonal changes, stress, and diet. To help ease these symptoms, he suggested some simple home remedies, like drinking warm herbal teas and using heat pads. He also emphasized the importance of eating healthy foods, such as fruits, vegetables, and whole grains, which can make a big difference. Additionally, he recommended gentle exercises and specific yoga poses to help relax the body and reduce pain. By making these small changes in diet and lifestyle, women can better manage their discomfort and enjoy a more balanced menstrual cycle. The other programme was an interactive session organised on May 28th Menstrual hygiene day in Anna Community radio. The community women discussed about the menstruation, first period time and how the female body functions during this time were conversed by the female

Physician. The Physician described the hormonal changes and how female body reacts during this menstruation, was explained and advised how to maintain a good health and hygiene practices in this period. The two episodes targeted to educate women and girls on natural and usual ways to discourse menstrual health disputes efficaciously.

The discussion covered: General puberty-related health problems, Abdominal pain in working women, Recommended yoga and exercises as Solutions for irregular periods.

The program provided practical advice, encouraging women to adopt natural remedies and lifestyle changes for better menstrual health.

Data analysis and interpretations

The primary objective of this analysis is to evaluate the impact of a communication intervention on menstrual health and hygiene among 280 community women in qualitative approach method. Specifically, the study aims to measure changes in knowledge, attitudes, and practices related to menstrual health before and after the intervention. By assessing these factors, the study seeks to regulate the effectiveness of the intervention in improving menstrual health outcomes within the community.

Descriptive statistics

The table 1 and table 2 summarize demographic data and baseline characteristics of participants. Used frequency tables and percentages for categorical variables (e.g., education level, occupation). And used measures of central tendency (mean, median) and dispersion (standard deviation) for continuous variables (e.g., age, knowledge scores).

Tabulation 2 describes the demographic details of the respondents, age was analyzed as a continuous variable or grouped for summary statistics. Education Level and Occupation had been coded numerically for statistical analysis. These demographic variables helped in understanding the background of participants and was used to analyse the intervention outcomes.

Table 1: Details of data collection

Variable	Details
Demographics	Age, education level, occupation, marital status
Pre-intervention Knowledge	Baseline knowledge about menstrual health and hygiene
Post-intervention Knowledge	Knowledge after the communication intervention
Behavioral Changes	Use of sanitary products, disposal methods, frequency of changing products
Attitudes	Perceptions and attitudes toward menstrual health (before and after intervention)

Table 2: Demographic characteristics

Variable	Category	Frequency (n)	Percentage (%)
Age	18-25	120	42.9%
	26-35	100	35.7%
	36-45	60	21.4%
Education Level	No formal	50	17.9%
	Primary	80	28.6%
	Secondary	100	35.7%
	Higher	50	17.9%
Occupation	Homemaker	180	64.3%
	Daily wage	70	25.0%
	Others	30	10.7%

Table 3: Pre-intervention knowledge scoring and categorization

Knowledge Level	Score Range (out of 10)	Description
Poor	0–3	Limited or incorrect knowledge
Medium	4–7	Moderate understanding, some misconceptions
High	8–10	Comprehensive and accurate knowledge

Pre-intervention knowledge

Pre-intervention knowledge refers to the baseline understanding that participants have about menstrual health and hygiene before any educational or communication intervention is implemented. This knowledge is typically assessed using structured questionnaires or validated scales, which includes both scored items and categorized levels of understanding. Pre-intervention knowledge is often evaluated through a set of questions that cover essential aspects of menstrual health, such as:

- Understanding that menstruation is a normal physiological process
- Knowledge of the causes of menstruation (e.g., hormonal changes)
- Awareness of the normal age of menarche
- Recognition of the body portions responsible for menstrual blood flow
- Knowledge about the normal duration and interval

of the menstrual cycle

- Awareness of menstrual hygiene and its importance
- Understanding that poor menstrual hygiene can lead to infections
- Dispelling myths, such as menstrual blood being impure or the possibility of pregnancy during menstruation

Each correct answer has been assigned a score (e.g., 1 point per correct response), and the total score reflects the participant's baseline knowledge. Alternatively, knowledge can be categorized into levels such as "poor," "medium," or "high" based on the total mark range⁴. Table 3. The data about the pre-intervention knowledge in the table 4 and table 5 provides a baseline for assessing the impact fullness of menstrual health interventions. Baseline data typically reveal substantial gaps in knowledge, which interventions aim to address. This organized approach allows for clear measurement of change after the intervention.

Table 4: Pre-intervention knowledge data

Participant ID	Q1: Menstruation is normal?	Q2: Cause of menstruation?	Q3: Age of menarche?	Q4: Organ responsible?	Q5: Menstrual hygiene?	Total Score	Knowledge Level
001	Yes	No	Yes	No	Yes	3	Poor
002	Yes	Yes	Yes	Yes	Yes	5	Medium
003	Yes	Yes	Yes	Yes	Yes	8	High

Table 5: Post-intervention knowledge scoring and categorization

Knowledge Level	Score Range (out of 10)	Description
Poor	0–3	Limited or incorrect knowledge
Medium	4–7	Moderate understanding, some misconceptions
High	8–10	Comprehensive and accurate knowledge

Table 6: Post-intervention knowledge data

Participant ID	Q1	Q2	Q3	Q4	Q5	Total Score	Knowledge Level
001	Yes	Yes	Yes	Yes	Yes	8	High
002	Yes	Yes	Yes	Yes	No	7	Medium
003	Yes	Yes	Yes	Yes	Yes	9	High

Table 7: Knowledge scores

Time Period	Mean Score (SD)	Mean Difference (95% CI)	p-value
Pre-intervention	5.2 (1.8)	2.3 (1.9, 2.7)	<0.001
Post-intervention	7.5 (1.5)		

Post-intervention knowledge

Post-intervention knowledge in the table 6 and table 7 refers to the status of understanding participants have about menstrual health and hygiene after they have received targeted communication messages or educational interventions through Anna community radio. This is a critical measure for evaluating the effectiveness of the intervention.

After the communication intervention from the Anna Community radio programmes with physicians about menstrual health and hygiene, participants are assessed using the same or similar set of questions as the baseline (pre-intervention) assessment. This allows for straight comparison and measurement of knowledge gains.

- Assessment Tools: Structured questionnaires, knowledge tests, or interviews.
- Scoring: Each correct answer is assigned a point;

total scores reflect overall knowledge.

•Categorization: Scores can be grouped into levels (e.g., poor, medium, high) to simplify interpretation.

Studies across health domains (including menstrual health, diabetes, and cancer prevention) consistently show that structured communication interventions—such as daily or periodic text messages, educational sessions, or action learning—lead to significant improvements in knowledge scores among participants⁶. For example, this study identified that after a text message-based intervention, knowledge scores improved by up to 46% in the intervention group compared to 25% in the control group³. Another study on reproductive health in adolescents found a significant increase in knowledge scores following SMS-based education¹¹. Post-intervention knowledge is measured after participants receive communication messages.

Table 8: Change in knowledge levels (pre- vs. post-intervention)

Knowledge Area	Pre-Intervention (%)	Post-Intervention (%)	Percentage Increase
Importance of Menstrual Hygiene	17.9%	85.7%	+67.8%
Use of Sanitary Products	25.0%	78.6%	+53.6%
Disposal of Sanitary Waste	14.3%	71.4%	+57.1%
Health Risks of Poor Hygiene	10.7%	75.0%	+64.3%

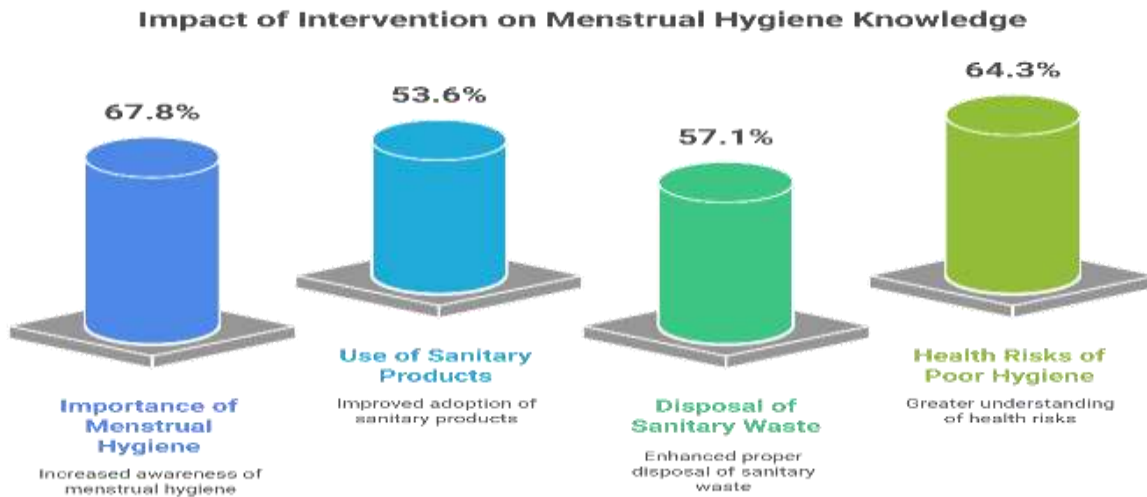


Figure 1: Change in Knowledge Levels

Table 9: Changes in menstrual hygiene practices

Practice	Pre-Intervention (%)	Post-Intervention (%)	p-value
Use of sanitary pads	40%	75%	<0.001
Proper disposal	30%	65%	<0.001
Regular washing	50%	85%	<0.001

Studies show significant improvement in knowledge following well-designed communication interventions, confirming their effectiveness in health education⁶. This approach provides a clear, measurable way to demonstrate the impact of health communication efforts on menstrual health knowledge.

Pre- and post-intervention comparison

Compared the knowledge, attitudes, and practices before and after the intervention using paired t-tests or Wilcoxon signed-rank tests (for non-parametric data). Calculated the mean difference and confidence intervals are shown in table 7.

The table 8 highlights the percentage increase in knowledge levels after the intervention and the Figure 1 clearly states that there is an increase in the knowledge after the intervention of communication

through Anna CR programme on menstrual health and hygiene among the community women i.e., 67.8% increase in the understanding of importance of menstrual hygiene, 53.6% rise on the awareness of use of sanitary products, 57.1% knowledge increased on the disposal of sanitary waste and 64.3% have improved on knowledge about the health risks of poor hygiene. Figure 1

Attitude and practice changes

To analyse the attitude and practice changes, used frequency tables and thus table 9 and Figure 2 shows changes in attitudes and practices, especially post intervention results shows that attitudes of women respondents have been improved on the usage of sanitary pads, proper disposal of sanitary pads and regular hygiene washing. Applied chi-square tests or McNemar's test to assess significant changes in categorical outcomes.

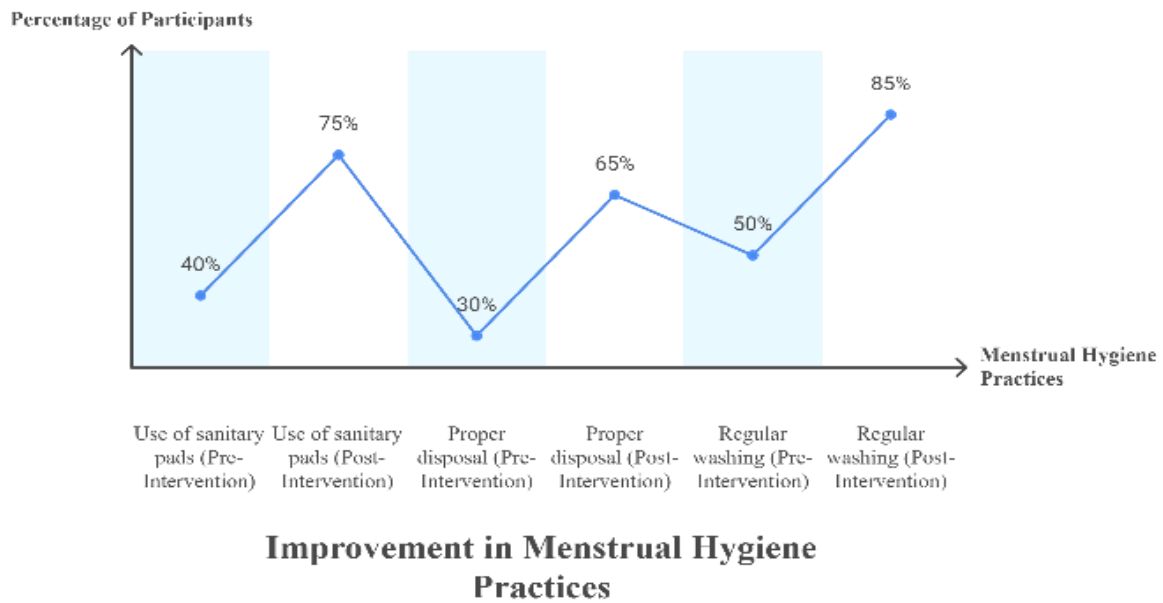


Figure 2: Changes in menstrual hygiene practices

Table 10: Knowledge scores by education level

Education Level	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	p-value
No formal	4.5 (1.6)	6.0 (1.4)	<0.001
Primary	5.0 (1.7)	7.2 (1.5)	<0.001
Secondary	5.5 (1.8)	8.0 (1.3)	<0.001
Higher	6.0 (1.5)	8.5 (1.2)	<0.001

Table 11: Participant feedback on the intervention

Feedback Parameter	Number of Positive Responses	Percentage (%)
Clarity of Information	260	92.9%
Relevance of Content	250	89.3%
Trust in Women Physicians	270	96.4%
Preference for Community Radio	240	85.7%
Willingness to Share Knowledge	230	82.1%

Subgroup analysis

Analysed the impact of demographic factors (e.g., education) on outcomes using cross-tabulations to explore relationships are shown in the table 10.

Feedback on community radio program

Summarized the feedback using descriptive statistics is calculated in the table 11. Participants were asked to provide feedback on the effectiveness of the communication approach. The results are summarized below in the table 11. The

Figure 3 shows that from the total respondents, 92.9% women respondents had clarity of information from the Anna CR programme, 89.3% respondents said the content delivered in the programme is more relevant to menstrual health, 96.4% women said they have trust on physicians who shared valuable insights, and 85.7% said they prefer community radio for such communication since they had direct interactions with the experts to discuss their problems, 82.1% of respondents willing to share the learned knowledge further with their community.

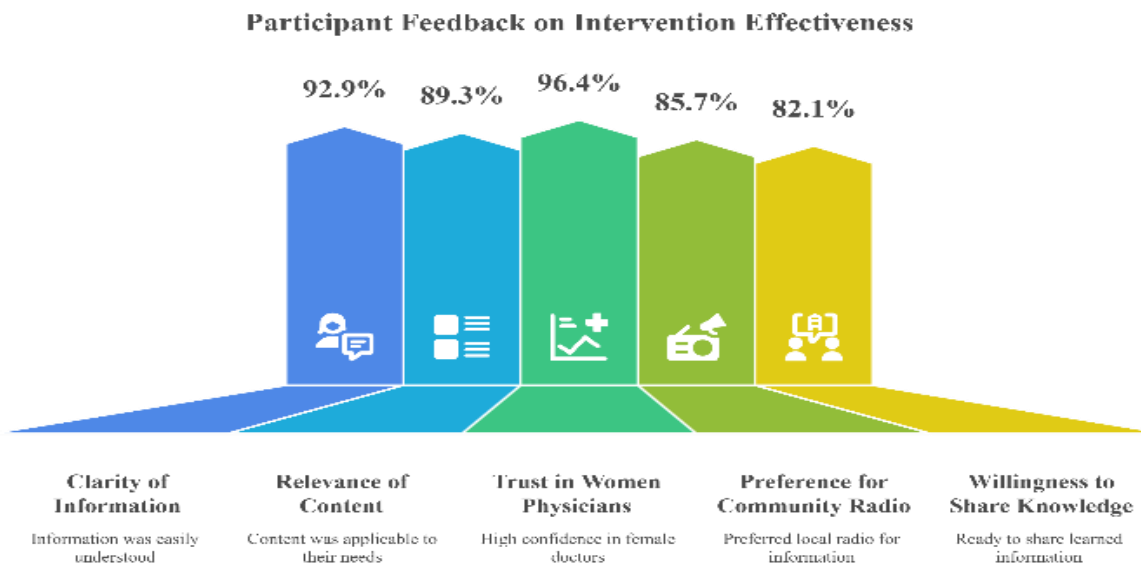


Figure 3: Participant feedback on the intervention

Thus from the feedback it is understood that psychological aspects of women towards the community radio programme was made interest to participate and shown willingness to share such a taboo information in open forum to bring knowledge and awareness among the community women. The Anna community radio has built trust among the women community to raise the issues to be discussed and find the solution for their problem.

Interpretation of results

Demographic Profile: The majority of participants were aged 18–35 years (78.6%), with limited formal education (57.1% had only primary or no formal education). This highlights the need for accessible and simple communication methods.

Pre-Intervention Knowledge: Before the campaign, knowledge levels were low, particularly regarding health risks (10.7%) and waste disposal (14.3%). This indicates a significant gap in menstrual health awareness.

Post-Intervention Knowledge: The participatory communication approach led to a substantial increase in knowledge levels across all areas. The most significant improvement was in understanding

the prominence of menstrual hygiene (+67.8%).

Effectiveness of Community Radio: The usage of community radio was highly effective, with 85.7% of participants preferring this medium for receiving health information. The trust in physicians (96.4%) further enhanced the credibility of the message.

Participatory Approach: The readiness of 82.1% of participants to share their knowledge with others indicates the success of the participatory approach in fostering community engagement and ownership.

Recommendations

Sustained Campaigns: Regular awareness programs using community radio should be conducted to reinforce knowledge and address emerging questions.

Local Language Content: Ensure all communication is in the local language (Tamil) to maximize understanding and inclusivity.

Involvement of Local Leaders: Engage community leaders to further amplify the reach and impact of the campaign.

Access to Sanitary Products: Combine awareness campaigns with initiatives to provide affordable and accessible sanitary products.

Conclusion

The findings of this study underscore the effectiveness of a participatory communication approach, utilizing community radio and physicians, in improving menstrual health and hygiene awareness among women in underserved communities. The demographic profile of participants revealed that the majority were young women with partial proper education, emphasizing the need for accessible and culturally appropriate communication methods. The significant knowledge gaps identified in the pre-intervention phase, particularly regarding health risks and waste disposal, highlighted the urgent need for targeted interventions. Post-intervention results demonstrated a remarkable improvement in knowledge levels, with the most notable increase in understanding the importance of menstrual hygiene. The results of the intervention were efficacious in concluding imperative gaps in knowledge, awareness and providing valuable information to the target community. Community radio evidenced to be an excessive means to share health information, as maximum participants preferred this process. The faith about the doctors made the communications even more reliable, presenting how significant role representatives are in health campaigns. The programmes stimulated community engrossment, which engaged as an immense measure in its success. Mostly women participants were enthusiastic to converse what they learned, signifying that the interference not only upraised the consciousness distinctly but also shaped a culture of exposed conversation and shared the ideated knowledge of culture in the community.

These results shown how useful participatory communication approaches are, specifically when consuming community radio and trusted indigenous figures, to challenge the public health issues. The study discloses that these procedures can close individual's knowledge gaps, encounter cultural taboos, and inspire lasting variations in behaviour. Impending projects must take these outcomes into account by using comprehensive and culturally sensitive methods, confirming that all women, no matter their circumstantial or education level, can gain from

related ideas. With the recommendation of precise information and associate community oriented elucidations, these determinations can lead to enhanced health outcomes and encourage gender equality.

Contribution of authors

Dr P Sri Jothi: Prepared Manuscript and collected Data. Author mentioned in the article approved the manuscript.

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