

Evaluation of a training program for soft skill education and financial literacy to community health workers in India: a quasi-experimental study

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Abstract

Background: The soft skills of community health workers (Accredited Social Health Activists, ASHA) are known to be effective in negotiating behaviour change in the community; however, there has been a meagre focus towards improving them. Considering this gap, we adopted a comprehensive training program, known as Personal Advancement and Career Enhancement (P.A.C.E.), to empower ASHAs on soft skills and financial literacy. The present study intends to assess the training program in two districts of Uttar Pradesh, India, by examining changes in knowledge, perceptions, and practices of ASHAs about soft skills and financial literacy.

Methods: We conducted a quasi-experimental, non-randomized, controlled study with pre- and post-test assessments. Data were collected on socio-demographic characteristics, knowledge, and practices related to soft skills (communication skills, self-confidence, problem-solving and decision-making skills, time and stress management skills) and financial literacy. Additionally, perceptions regarding changes in practices related to gender issues, soft skills, and savings at the personal, community, and workplace levels were obtained from the intervention group. Factor analysis was performed to obtain the change patterns by assessing the degree to which the four domains of soft skills, financial literacy, and domains of perceptions of change in practices were correlated to each other. A general linear regression model was performed to assess associations among change pattern scores and socio-demographic variables.

Results: The data of 171 ASHAs were analyzed (intervention group:86 and control group:85). There was a significant improvement in the average post-test scores of all the soft skills and financial literacy in the intervention group ($p < 0.001$). Three distinct change patterns were found post-training in the intervention group. Factor 1 (high loadings for perceptions related to change in practices) was positively associated with ASHAs aged 38 years and above and with experience of ≤ 12 years. On the contrary, the change in financial literacy and self-confidence scores was common among ASHAs with more than 12 years of experience.

Conclusions: The P.A.C.E training program was found effective in improving the soft skills and financial literacy of ASHAs in India.

Background

India, accounting for 17% of the world's population, contributes to 19% of global maternal deaths and 21% of global childhood deaths [1]. It has, however, made significant strides in improving maternal and child health coverage over the last decade, especially after the launch of the National Health Mission (NHM) programme in 2005 [2]. The creation of a cadre of community health workers, Accredited Social Health Activists (ASHAs), across all villages, proved instrumental in improving maternal and child health care in India. [3] An ASHA is a woman resident in the community who is trained, deployed, and supported to function in her own village to improve the health status of the people by facilitating their access to healthcare services. Her job responsibilities are three-fold, the role of a link-worker (facilitating access to healthcare facilities and accompanying women and children), that of a community health worker (depot-holder for selected essential medicines and responsible for the treatment of minor ailments), and of a health activist (creating health awareness and mobilizing the community for a change). Close to 0.9 million ASHAs are currently trained and deployed across the country [4].

The national guidelines specify that ASHAs receive 23 days of training in the first year and 12 days of training in the subsequent years thereafter. The Ministry of Health & Family Welfare (MoHFW) has developed the training modules for ASHAs, which primarily focus on healthcare-related aspects such as maternal, new born and child health,

reproductive health, gender-based violence, etc. [5]. However, content on improving their soft skills like decision-making skills, problem-solving skills, time and stress management skills, and interpersonal communication skills is seldom addressed in the modules. Also, the health system lack mechanisms for continued learning and periodic upgrading of their skills. Due to the lack of such skills among ASHAs, they face difficulties in effectively negotiating behaviour change in the community [6]. Hence it is important to have a comprehensive capacity building for ASHAs, which would increase their confidence and enable them to translate technical knowledge into practice. Studies have highlighted that increase in employee's self-efficacy positively impacts employee performance [6] and also enhances competence and task-based self-esteem [7].

Given that there is a lack of the components of soft skills education and financial literacy in the existing training modules of ASHA, we developed a training program. We adopted a structured, pre-validated comprehensive learning program, known as Personal Advancement and Career Enhancement (P.A.C.E.) [8]. P.A.C.E. uses module-based learning to empower women on soft skills. There were four major modules in the P.A.C.E. program, apart from introductory and consolidation modules. The four major modules included were communication skills, problem-solving and decision-making skills, time and stress management skills, and financial literacy.

The flow chart of the key activities in the training program is given in Fig. 1. We followed a cascade model of training (P.A.C.E. trainers created master trainers to train ASHA). Pre-and post-test assessments were done for the master trainers (n = 19). Further, master trainers trained ASHAs on the six modules, and each training session lasted 6–7 hours. A gap of 20 days between two sessions was kept purposively to let the contents of one be imbibed properly in the attendees. Hence, all the modules were covered in 6–7 months. All the trainings for ASHAs were done in the health facilities. The interactive modules had visuals, pictorials, games, and plays for a better understanding of the content.

The modules imparted 40 hours of education, followed by enhanced technical training intended to help health workers to become more effective at work and improve their personal lives. The training program was started in November 2018 in two districts of Uttar Pradesh in India namely, Prayagraj and Varanasi. These two districts were selected because they have poor maternal and child health indicators [9]. The details of the training program are provided in the supplementary file 1.

In the backdrop of the aforesaid discussion, the present study intends to evaluate the training program by assessing the knowledge, perceptions, and practice of ASHA about soft skill education and financial literacy. We hypothesized that the training program would lead to improved knowledge, perceptions, and practice of ASHAs, keeping assured the training fidelity.

Methods

2.1. Study design and sampling

A quasi-experimental, non-randomized, controlled study with pre- and post-test assessments was conducted among ASHAs of two selected districts. In each of the two selected districts, two control and intervention blocks were selected. The selection of intervention blocks was carried out randomly; simultaneously, control blocks were selected adjacent to the two intervention blocks in the respective districts. As this was a panel study, the same sampled respondents were provided training, and the same individuals were interviewed during the baseline and end line rounds. This allowed assessment of the trajectories of individual outcomes in the intervention group and compared with those of the control group.

2.2. Sample Size and participation

$$N = \frac{2(Z_{\alpha} + Z_{\beta})^2 \times p(1-p)}{(P_1 - P_0)^2}$$

Where N = Sample size required for each group

P_1 = Probability of event in the intervention group = 75%

P_0 = Probability of event in the control group = 50%

$p = (P_1 + P_0)/2$

Z_{α} = Standard normal deviate corresponding to the level of significance (type I error rate)

Z_{β} = Standard normal deviate corresponding to the chance of not detecting the relative risk as significant (type II error rate)

A sample size of 60 per group was derived assuming that 50% of ASHAs had knowledge on soft skills during the baseline and hypothesized that this would increase to 75% after the intervention at 95% confidence level and power of study as 80%. The sample size was equally divided in each intervention or control block. Within each block, respondents were selected randomly for the interview.

2.3. Data collection

Data were collected by ten trained investigators. Structured questionnaires were developed for the study to collect data in both the survey rounds (supplementary file 2). The questionnaire had the following sections: a) socio-demographic characteristics, b) knowledge and practices related to soft skills (communication skills, self-confidence, problem-solving and decision-making skills, time and stress management skills), and financial literacy. The socio-demographic characteristics included age, years of schooling, years of experience of working as ASHA, monthly income from the job, and social class ASHA belongs to. The four domains of soft skills and financial literacy were assessed through different scales. The communication skills scale consisted of 7 questions with scores ranging between 0–17. The self-confidence scale had 6 questions on a five-point Likert scale (no confidence to very confident) with scores ranging between 6 and 30. There were 4 questions in the problem-solving and decision-making scale, and the minimum and maximum scores were 0 and 11, respectively. Similarly, the time and stress management scale had 5 questions, and the scores ranged between 0–20. Assessment of financial literacy was based on 5 questions with minimum and maximum scores of the scale ranging between 0 and 24, respectively. The scores of the individual question in the scale of each domain were summed up to calculate their aggregate scores. All the scales were validated, and the reliability scores (Cronbach's alpha score) of all the scales were found more than 0.7.

Additionally, during the post-test assessment, current practices and related perceptions of ASHAs from the intervention groups were also captured. Here, we specifically assessed general views on P.A.C.E. training module and perceptions regarding the change in practices related to gender issues, soft skills (problem-solving, communication, and time management), and savings at the personal level, community level, and workplace. Separate scales for

assessing each of these three domains (changes in perceptions at the personal level, community level, and workplace) were developed. The questions in all the scales were based on a four-point Likert-scale. The responses varied from completely agree to completely disagree. The scores of the questions on every scale were aggregated with completely agree given a score of 2 and agree a score of 1 and rest 0. The maximum and minimum scores of changes at the personal level varied between 0 and 22, community-level between 0 and 18, and the workplace between 0 and 14. All the scales were validated, and the reliability scores (Cronbach's alpha score) of all the scales were observed more than 0.85. For assessing general perceptions on P.A.C.E. training modules, the participants were asked to rate the quality of the training on a scale from 1 to 10.

The questionnaires were standardized, translated into the local language (Hindi), and field-tested before data collection. We used Computer Assisted Personal Interview (CAPI) for collecting quality real-time data during both the survey rounds. To collect quality of data, two supervisors, one in each district, were assigned to randomly back-check and spot-check 10% of all interviews during both the rounds.

2.4. Data analysis

The data were analyzed using the IBM SPSS Statistics for Windows version 24.0 (IBM Corp., Armonk, N.Y., USA). Descriptive data were expressed as frequency or percentages for categorical variables and mean (Standard Deviation, SD) or median (Interquartile Range, IQR) for continuous variables. The paired t-test (or Wilcoxon signed-rank test for medians) was conducted to assess the differences between average pre-and post-test scores in the intervention and control groups for four domains of soft skills and financial literacy. Factor analysis was used to derive change patterns of the training. We used this method to assess the degree to which the four domains of soft skills, financial literacy, and domains of perceptions of change at the personal level, community level, and workplace in the intervention group were correlated with each other and to derive a new set of composite variables. These new set of composite variables, not related to each other, represent discrete change patterns of the training. Only the change patterns with eigenvalues > 1.0 were included in the analysis. The domains that loaded highly ($|>0.30|$) in varimax rotated change patterns were shown in the analysis. The Kaiser-Meyer-Olkin (KMO) measure reached the acceptable limit of 0.6, and Bartlett's test of sphericity was significant ($p < 0.001$), meaning thereby that the data were suitable for factor analysis.

A general linear model of regression was performed to assess the association between the change pattern scores and socio-demographic variables using main-effect analysis. Standard regression coefficients (β) and 95% confidence intervals were used to depict the strength of and precision of associations. A two-sided p -value < 0.05 was considered statistically significant.

2.5. Ethical considerations

The study was granted ethical approval by MAMTA Ethical Review Board. Written informed consent was obtained from all the study participants.

Results

3.1. Socio-demographic profile

Initially, baseline data of 197 ASHAs were obtained, constituting 94 from the intervention arm and 103 from the control arm (Fig. 2). However, due to the loss to follow-up and missing data of some of the ASHAs, we could analyse 171 ASHAs (intervention arm: 86 and control arm: 85). Table 1 describes the socio-demographic profile of the ASHAs

that participated in the study. The majority of the ASHAs in the intervention (64%) group were aged ≤ 38 years (Table 1). Nearly two-thirds of the ASHAs (64%) in the intervention group and a half in the control group had received more than 11 years of schooling. Around 68% of ASHAs, in total, had ≤ 12 years of experience. Nearly all the ASHAs in both intervention and control groups belonged to scheduled caste or tribe or other backward classes.

Table 1
Socio-demographic characteristics of the study participants in the two groups

| Characteristics | Intervention group n = 86 n(%) | Control group n = 85 n(%) | Total n = 171 n(%) |
|--|---|--------------------------------------|-------------------------------|
| Age groups | | | |
| ≤ 38 years | 55 (64.0) | 37 (43.5) | 92 (53.8) |
| > 38 years | 31 (36.0) | 48 (56.5) | 79 (46.2) |
| Years of schooling | | | |
| ≤ 11 years | 31 (36.0) | 42 (49.4) | 73 (42.7) |
| > 11 years | 55 (64.0) | 43 (50.6) | 98 (57.3) |
| Years of experience | | | |
| ≤ 12 years | 56 (65.1) | 60 (70.6) | 116 (67.8) |
| > 12 years | 30 (34.9) | 25 (29.4) | 55 (32.2) |
| Monthly income (Indian rupees, INR) | | | |
| ≤ 2500 INR | 47 (54.7) | 49 (57.6) | 96 (56.1) |
| > 2500 INR | 39 (45.3) | 36 (42.4) | 75 (43.9) |
| Social class | | | |
| SC/ST | 46 (53.5) | 45 (53.0) | 91 (53.2) |
| OBC | 39 (45.3) | 34 (40.0) | 73 (42.7) |
| General | 1 (1.2) | 6 (7.0) | 7 (4.1) |
| <i>Abbreviations: OBC: Other Backward class SC: Scheduled caste, ST: Scheduled tribe</i> | | | |

3.2. Pre- and post-test scores of four domains of soft skills and financial literacy

There was a significant increase in the average post-test scores of communication ($p < 0.001$), self-confidence ($p < 0.001$), problem-solving and decision-making ($p < 0.001$), and time and stress management ($p < 0.001$) domains in the intervention group (Table 2). Although a significant difference in the average post-test scores of problem-solving and decision-making domain was noted in the control group ($p = 0.02$), the scores had actually decreased. The mean scores of the financial literacy domain increased post-intervention in both groups; however, the increase was higher in the intervention ($p < 0.001$) than the control group ($p < 0.001$).

Table 2

Distribution of the scores of four domains of soft skills and financial literacy among ASHAs before and after the intervention in the intervention and control groups

| Characteristics | Intervention group (n = 86) | | | Control group (n = 85) | | |
|---|-----------------------------|-----------------|-------------------|------------------------|---------------|-------------------|
| | Pre-test | Post-test | P value | Pre-test | Post-test | P value |
| Communication skills mean (SD) | 6.1 (1.7) | 11.5 (2.1) | < 0.001 | 6.1 (2.1) | 6.2 (2.0) | 0.8 |
| Confidence skills Mean (SD) | 15.9 (4.0) | 24.0 (3.7) | < 0.001 | 18.5 (5.9) | 19.5 (4.4) | 0.2 |
| Problem-solving and decision-making skills* Median (IQR) | 2.0 (0–4.0) | 8.0 (7.0–9.0) | < 0.001 | 2.0 (0–5.0) | 0 (0–3.0) | 0.02 |
| Time and stress management skills* Median (IQR) | 4.5 (2.0–6.0) | 10.0 (8.0–13.0) | < 0.001 | 5.0 (1.0–7.0) | 5.0 (2.0–7.0) | 0.3 |
| Financial literacy | 4.6 (2.4) | 16.2 (3.3) | < 0.001 | 6.0 (3.2) | 9.9 (4.2) | < 0.001 |
| <i>Abbreviations: SD: Standard Deviation; IQR: Interquartile Range</i> | | | | | | |
| <i>*Wilcoxon signed-rank test was run</i> | | | | | | |
| <i>P value < 0.05 was considered significant and highlighted in bold</i> | | | | | | |

3.3. Perception of ASHAs on the program and change in their practices

Around 93% (80 out of 86) of the participants in the intervention group attended the session on communication skills, 92% (79 out of 86) attended the session on problem-solving and decision-making, and 89.5% (77 out of 86) attended time and stress management session. Seventy out of 86 (81.4%) ASHAs attended the session on financial literacy. Approximately 80% of ASHAs (69 out of 86) rated the quality of the sessions ≥ 7 on a scale of 1–10. Furthermore, 80 out of 86 (93.0%) ASHAs would like to participate again in training and also recommended this training to others. The median (IQR) score of the scale of perceptions regarding the change in practices related to gender issues, soft skills, and savings at the personal level was 12 (6–15). Similarly, the median (IQR) scores of the scale of perceptions regarding change at community and workplace level were 11 (5–14) and 9 (5–11), respectively.

3.4. Factor analysis of change patterns of the training

The first three components that explained the largest proportions of variance in the change patterns of the training had eigenvalues more than 1.0. These components were retained as three discrete change patterns of the training among ASHAs (Table 3). These three patterns together explained 79.8% (43.9%, 18.8%, and 17.0%, respectively) of the variation in change patterns. Factor 1 was characterized by high factor loadings for change in perceptions of gender issues, soft skills, and savings at the personal level, community level, and workplace. Factor 2 was characterized by high loadings for three domains of soft skills (communication skills, problem-solving and decision-making skills, time and stress management skills). Factor 3 was characterized by high loadings for self-confidence and financial literacy.

Table 3

Factor loadings for the four domains of soft skills, financial literacy and domains of perception of change at personal level, community level and workplace that loaded highly (>0.30) in varimax rotated components.

| Components | Factor 1 | Factor 2 | Factor 3 |
|--|----------|----------|----------|
| Eigen value | 3.51 | 1.51 | 1.36 |
| % variance explained | 43.91 | 18.88 | 17.03 |
| Change in perception at personal level | 0.94 | - | - |
| Change in perception at community level | 0.94 | - | - |
| Change in perception at workplace | 0.91 | - | - |
| Communication skills | - | 0.72 | - |
| Problem-solving and decision-making skills | - | 0.85 | - |
| Time and stress management skills | - | 0.79 | - |
| Self-confidence skills | - | - | 0.89 |
| Financial literacy | - | - | 0.82 |

3.5. Regression analysis

As shown in Table 4, factor 1 was inversely associated with the younger age group (≤ 38 years) of ASHAs ($p = 0.004$). An experience of ≤ 12 years among ASHAs was positively associated with factor 1 (p -value = 0.005), and factor 2 (p -value = 0.01), and inversely associated with factor 3 ($p = 0.004$).

Table 4
General linear model for the change patterns' associations with sociodemographic variables

| Socio-demographic variables | Factor 1 | | Factor 2 | | Factor 3 | |
|---|-------------------------|--------------|------------------------|--------------|-------------------------|--------------|
| | β (95% CI) | P value | β (95% CI) | P value | β (95% CI) | P value |
| Age | | | | | | |
| ≤ 38 years | -0.642 (-1.077, -0.207) | 0.004 | 0.430 (-0.005, 0.866) | 0.053 | -0.121 (-0.552, 0.311) | 0.579 |
| > 38 years | <i>Reference</i> | | <i>Reference</i> | | <i>Reference</i> | |
| Years of schooling | | | | | | |
| ≤ 11 years | 0.104 (-0.328, 0.536) | 0.632 | 0.403 (-0.029, 0.836) | 0.067 | -0.229 (-0.651, 0.200) | 0.291 |
| > 11 years | <i>Reference</i> | | <i>Reference</i> | | <i>Reference</i> | |
| Years of experience | | | | | | |
| ≤ 12 years | 0.660 (0.203, 1.116) | 0.005 | 0.672 (0.215, 1.129) | 0.004 | -0.677 (-1.129, -0.224) | 0.004 |
| > 12 years | <i>Reference</i> | | <i>Reference</i> | | <i>Reference</i> | |
| Monthly salary | | | | | | |
| ≤ 2500 INR | -0.055 (-0.491, 0.381) | 0.801 | -0.422 (-0.859, 0.014) | 0.058 | -0.323 (-0.755, 0.109) | 0.141 |
| > 2500 INR | <i>Reference</i> | | <i>Reference</i> | | <i>Reference</i> | |
| <i>β (95% CI): Standard regression coefficients (β) and 95% confidence intervals</i> | | | | | | |
| <i>R² for factor 1 regression analysis = 13.7%, R² for factor 2 regression analysis = 13.4%; R² for factor 3 regression analysis = 15.1%</i> | | | | | | |
| <i>P-value < 0.05 is considered statistically significant and highlighted in bold</i> | | | | | | |

Discussion

To the best of our knowledge, this is one of the first studies that has evaluated the soft skills training and financial literacy of ASHAs (community health workers) in India. There was a statistically significant improvement in the post-test scores of the participants in the intervention group across all four domains of soft skills (communication skill, self-confidence, problem-solving and decision-making skill, time and stress management skill) and financial literacy. Three distinct change patterns were found post-training in the intervention group. Factor 1 (high loadings for perceptions related to change in practices) was positively associated with health workers aged more than 38 years and with experience of ≤ 12 years. On the contrary, the change in financial literacy and self-confidence scores was common among health workers with more than 12 years of experience.

As stated in the national guidelines and previous literature, ASHAs should be between 25–45 years of age and have completed 8 years of schooling at the time of selection [10, 11]. The participants from the intervention group in our study had similar age and education distribution. A higher presentation of ASHAs from the scheduled caste or tribes

is reflective of the system's response to enhanced coverage and quality delivery of services to poor and marginalized people by skilled workers from their own community [12]. Furthermore, one-third of the participants in the present study had more than 12 years of experience. The increasing years of experience not only bring to ASHAs an increased social capital and networking within the health system but increased skills and performance in delivering outcomes [13]. Started in 2005, the ASHA program is still evolving in India and has been viewed from different lenses. The empowering views of the program are improved respect and dignity to health workers in the community, and the disempowering lens finds a lack of support and political contradictions from the health systems [13].

Soft skills, essential for professional practice, help health workers in dealing with patients face-to-face, making correct decisions in difficult situations, and improving their performance and career prospects [14]. Community health workers, acting as agents of social change, need to feel empowered and equipped with soft skills such as communication, problem-solving, etc. [15]. However, the soft skills gap in community health workers has been poised as a critical challenge with an impact on their performance and lack of motivation, self-worth, job satisfaction, and a high attrition rate [14, 16, 17]. Building on the need to address this gap, the present study provided evidence of the effectiveness of a structured training program in improving the soft skills and practices in the community of ASHAs. We observed a significant improvement in all the soft skills and financial literacy post-training. P.A.C.E training program conducted for another set of professionals (non-health workers) in India and neighbouring countries reported similar results with improved gender issues/relations, productivity, confidence, and better time management and communication skills [18]. Other studies have evaluated the soft skills training program for community health workers with different training structures or strategies and found considerable improvement in their performance, decision-making capacity, patients dealing, time management, self-confidence, and interpersonal skills [14, 17].

P.A.C.E. training program gains an advantage over other programs by being holistic, that is focusing on woman's work and personal advancement and sustainable, that is integrating the program into existing internal operations [18]. Moreover, the program has been designed to be flexible, adaptable, and contextualized for the setting in which it is implemented.

Financial literacy is the ability to make informed judgments and to take effective decisions regarding the use and management of money. It can help health workers avoid financial distress and achieve financial security with improved physical and mental well-being [19]. However, there is a huge gap in the levels of financial literacy among health workers [20]. Previous studies highlighted that financial literacy is poor, even among educated and working women [21, 22]. We found a significant increase in the financial literacy scores in the intervention group from the baseline. However, some increase was noted in the control group as well. The plausible explanation for such an increase in the control group could be that they might be exposed to some other training program [23]. However, further inquiry is required to better explain the increase in the level of financial literacy in the control group.

Female health workers experience unequal gender relations with the community and other health cadres and need to exercise agency to deftly balance the demands and supply of essential services in the community [13]. The training on gender dynamics and relations help community health workers to navigate and negotiate the difficulties and dilemmas at all levels, personal, community, and workplace. Our findings accord with this thought, and ASHAs realised that their understanding of gender improved after the training program.

Finally, in highlighting the socio-demographic attributes of the change patterns observed, our findings demonstrate that ASHAs elder in age but with experience ≤ 12 years have increased probability of acquiring soft skills and change in perceptions related to practice at personal, community and workplace levels. This clearly affirmed the observation in the previous studies that health worker's performance is often related to increasing age and

experiences regarding relations and power [13, 24]. Greater probability of increased financial literacy and self-confidence scores among ASHAs with more than 12 years of experience may reflect the need and outcome of savings in the last 10–12 years.

Contrary to the published literature, we could not find the effect of increasing years of education on any of the three change patterns [24]. However, we concur with the findings from a review, which demonstrated that health workers with low levels of formal education could be trained effectively for acquiring skills and knowledge [25]. We could not find statistically significant improvement in financial literacy or soft skills among ASHAs with higher incomes. David McCoy and his colleagues' work on adequacy of incomes for health workers demonstrates that low pay can cause decreased retention, increased dissatisfaction, and loss of motivation among health workers [26]. The ASHAs in the study did not receive a salary and depended on performance-linked incentives [13]. We argue that regular monthly income and secured salary would improve performance and job satisfaction [27].

Limitations of the study

The results of the study should be interpreted in view of certain limitations. Firstly, the assessment of the immediate effects of the training (knowledge, practices, and perceptions) was done without assessing its effect on the end-users to whom ASHAs serve in the community. Secondly, the study was conducted on a small scale in localized settings that may limit the generalization of findings. Lastly, due to budgetary and time constraints, more specific models of soft skill training evaluation were not undertaken, such as Kirkpatrick's model, and People Styles model [28].

Conclusions

The P.A.C.E training program was found effective in improving the soft skills and financial literacy of community health workers (ASHAs) in India. The six module-based training spread over a period of 6 months improved not only the knowledge, but also the perceptions and practices related to gender issues, savings, and soft skills at the personal, community, and workplace levels. This structured training is one of a kind and has a significant potential to be scaled-up across other districts of the state or to other states in India. Further research may be warranted to assess the long-term and sustainable effects of the training.

Supplementary File Legends

Supplementary file 1. Key issues covered under 4 core training modules of P.A.C.E, namely communication skills, problems-solving and decision-making skills, time management skills, and financial literacy, master trainer's profile, and distribution of time for the different modules of the training.

Supplementary file 2. Questionnaire. The questionnaire employed in the interviews with community health workers (ASHA) for pre- and post-test assessments

Declarations

Ethics approval and consent to participate

The study was granted ethical approval by MAMTA Ethical Review Board (MERB). Written informed consent was obtained from all the study participants. Information about the study was provided to all the participants.

Consent for publication

Not Applicable

Availability of data and materials

The data can be made accessible to the readers on request to the corresponding author.

Competing interest

The authors declare that they have no competing interests.

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The training program was funded by GapInc. However, the project was implemented by MAMTA Health Institute for Mother and Child. The funder was not involved in any component of the project, including research, intervention design, and training of community health workers (ASHA).

Authors' contribution

SS did the analysis of data and write-up of the manuscript. KA and FA conceptualized the study and implemented the program. CS supervised the data collection and analysis activities. SM and RS co-supervised the study and supported the application for funding. The authors read and approved the final manuscript.

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Abbreviations

ASHA: Accredited Social Health Activist

CAPI: Computer Assisted Personal Interview

IQR: Interquartile Range

MoHFW: Ministry of Health and Family Welfare

NHM: National health Mission

P.A.C.E.: Personal Advancement and Career Enhancement

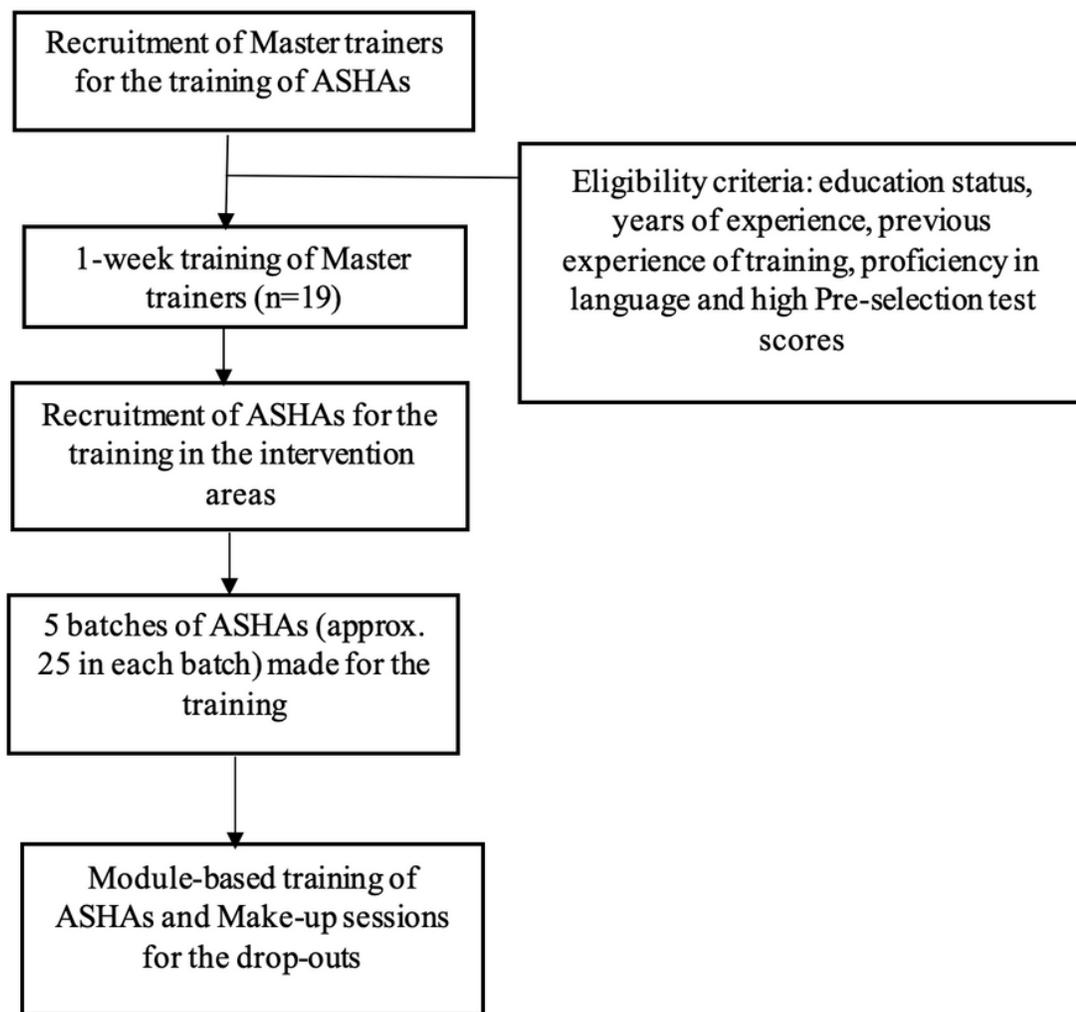
SD: Standard Deviation

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Figures

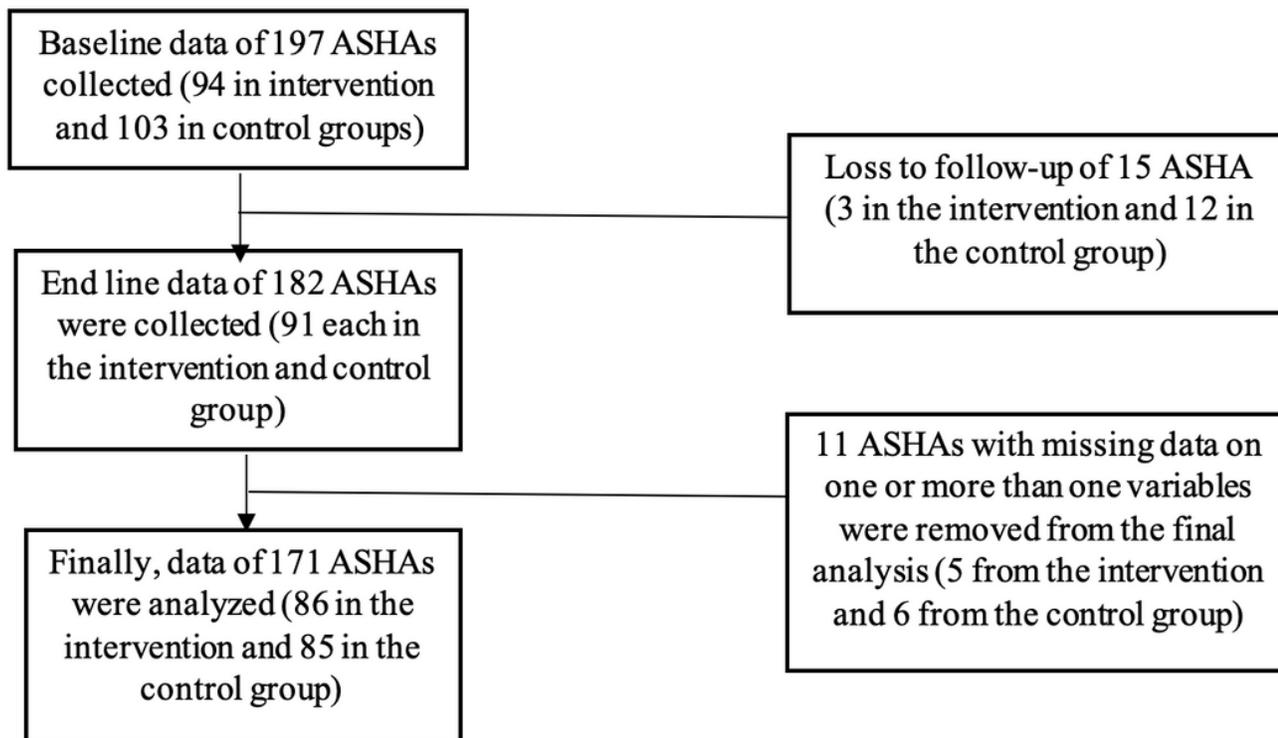


ASHA: Accredited Social Health Activist

This is the cascade model of training of ASHAs in the two intervention districts. The training was based on a 6 modules, including communication skills, problem-solving and decision-making skills, time and stress management skills, financial literacy, introduction and consolidation.

Figure 1

Flow chart of the key activities of the training program



ASHA: Accredited Social Health Activist

Figure 2

Flow chart of the study participants enrolled and analyzed

Supplementary Files

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