Original Article

Introduction of a Community-Based Participatory Model for Women's Mental Health Promotion in Iran: A-Z

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Abstract

Background: To address the disproportionate burden of poor mental health among women, we present a community based participatory research (CBPR) model used to develop a women's mental health promotion program for Iranian women. **Methods:** This is a multi-phase interventional study using a CBPR approach among married women age 18–65 living in Tehran. First, participants described the process of women's mental health. Subsequent steps involved participatory needs assessment, priority setting, intervention design, and evaluation. Finally, a conceptual model of women's mental health promotion was developed. **Results:** "Seeking comfort" emerged as the core process in women's mental health. To promote mental health, women prioritized training on coping mechanisms to deal with stress. Women receiving this training used more problem-based coping methods and reported a higher quality of life than the comparison group. **Conclusions:** The resulting conceptual model illustrates the utility of using a CBPR approach to develop women's mental health promotion programs.

Keywords: *Community-based participatory model, Iran, mental health promotion, women*

Introduction

Mental disorders are very common worldwide, with conservative estimates suggesting lifetime prevalence ranges from 18.1% to 36.1%[1] among the general population. These disorders account for approximately 7.4% of all disabilities and are associated with poorer physical health,[2] health-damaging behaviors,[3] and social role impairment including decreased economic productivity.[4] For many disorders-particularly, the common mental disorders such as depression, anxiety, and psychosomatic complaints-prevalence are higher among women than men.[5] Likewise, other international study findings, the prevalence estimates of mental disorders in adult population of Tehran the capital of Iran range from 10.8% to 34.2%.[6,7] Furthermore, a recent mental health survey in Tehran reported higher prevalence among adult women (37.9%) compared to men (28.6%).[7] Considering the high prevalence and significant impact of mental health problems, especially among women, interventions to promote women's mental health are needed.

Mental health is influenced by social, economic, and physical factors, where risk of the mental disorders is highly associated with social and economic inequalities.[8] Researchers attribute higher prevalence of disorders among women at least partially related to environmental factors such as gender roles and adverse experiences that negatively impact on women.[9] Considering these risk factors, health promotion strategies that seek to understand and address stressors and disparities identified by women are critical for developing locally relevant interventions that deal with community needs and fit within the local context.[10]

Some studies have suggested that mental health promotion interventions at the community level can increase health equity and reduce social disintegration through community engagement.[11,12] The World Health Organization (WHO) has promoted the use of multidisciplinary strategies for mental health promotion and prevention that involve both individuals and communities and support vulnerable groups such as women.[13] In this regard, community-based participatory research (CBPR) and programs may be considered a particularly powerful and effective strategy for mental health promotion, especially for women, by empowering them through active involvement in the research process.[14] The CBPR approach has four main components:

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Community mobilization needs assessment and priority setting, program design and implementation, and program evaluation.[15] When considering an intervention program geared toward women, community mobilization and particularly the collaboration of female volunteers are critical components of the CBPR process.[16]

The aim of this paper is to introduce a conceptual model of women's mental health promotion that was developed using a multi-stage CBPR approach in Tehran, the capital of Iran. Results of each stage have already been published separately.[11,16-19] This paper presents a concise overview of the entire process as a model that can be used to design similar health promotion programs elsewhere.

Methods

Context of the study

Iran is the 17th largest country in the world, with a population of about 75 million. Its capital city, Tehran, is home to 12.1 million people, nearly a fifth (17%) of the total country population. The city of Tehran is comprised of 22 districts which are further subdivided into zones and areas.

The CBPR study was implemented from February 2011 to January 2013 in Olympic area in the western part of Tehran. The Olympic area has a population of approximately 100,000, of which 54.5% are women. This area was selected as the study site for a number of reasons. First, it is an area where mental health problems had previously been identified as highly prevalent.[7] In addition, the presence of active Non-Governmental Organizations (NGOs) in the area enabled us to have easy access to the community and a comprehensive population database. Given important differences in the everyday experiences of married and unmarried women in Iran, we focused this study on mental health promotion among married women between the ages of 18–65. In Olympic area, half of the women (27,451) living in the district met these criteria.

Procedure

Study procedures followed a CBPR approach in which we first identified community stakeholders, conducted a series of qualitative steps to develop an understanding of prioritized problems and potential approaches to intervention, followed by designing, implementation, and evaluation of the intervention. The specific steps are further discussed.

Community engagement

This first step of the CBPR approach was critical to identify stakeholders and recruit volunteers for the study. After selection of the study area, we consulted with local NGOs and used existing databases to identify local stakeholders and key persons in the community. Through this process, we also gained an understanding of who to involve as study volunteers and developed an appropriate recruitment plan. Women, who were interested in participatory activities, had at least high school diploma, were well-known in the community and had good communication skills were recruited as volunteers. Recruitment methods included making announcements at group meetings and disseminating recruitment advertisements using brochures and posters. All volunteers were trained in CBPR principles and processes, the study objectives, and the study methods.

Community needs assessment and defining the issue

Since the mental health promotion process is bounded to community culture and experiences, we used qualitative methods to explore the community's perspectives on mental health problems and processes of mental health promotion. Following a grounded theory approach,[20] we conducted in-depth interviews with 20 community respondents. The number of participants was determined according to data saturation and theoretical sampling.[21] Each interview lasted 1–1.5 h. Data analysis followed Strauss and Corbin's approach "to determine concept, structure, and process."[22] Triangulation, member checking, external checking, and persistent observation were strategies used to confirm the trustworthiness of the data. Results from this phase of the study were used to develop a mental health promotion paradigm for the study participants.[11]

After exploring the community's perspectives on mental health promotion, we sought a better understanding of existing needs and to determine where a mental health promotion intervention could be situated. Four focus group discussions (FGDs) involving 28 married women from the community were held to discuss all of the gaps, weak points and barriers of the mental health promotion process. In addition, individual interviews with five key stakeholders (one authority in the municipality, two local confidants, and two representatives from women's NGOs) were conducted to add to the focus group findings. This process resulted in the development of a list of needs identified by the community regarding women's mental health promotion.[19] Participants then ranked and prioritized the list of needs based on the following criteria: importance, frequency, applicability, resource, coverage, and affordability. Different techniques consist of brainstorming and nominal group with community and stakeholders were used to assign the scoring system and set the priorities.[19]

Designing and implementing the intervention program

After setting priorities, two FGDs with 15 married women were held. In addition, an expert panel comprised of one psychologist, two psychiatrists, two social researchers, the principle investigator, and two co-investigators working with the project, was convened. These discussions focused on possible intervention programs to enhance women's coping strategies, as well as the level at which an

intervention should be targeted. The potential intervention levels were determined according to Diderichsen's model of the mechanisms of health inequality.[23] This model has five levels for action, including: (1) the socioeconomic context (such as macroeconomic policy) at the societal level, and (2) differential vulnerability (in terms of health conditions and material resource availability), (3) differential exposure to health-damaging conditions, (4) differential health outcomes, and (5) differential consequences (including economic and social consequences) at the individual level.[24] Data from these FGDs were analyzed using content analysis. Steps 1–3 resulted in a community-led decision to develop an intervention aimed at enhancing coping mechanisms among married women. Selected implementation strategies for delivering intervention material included: (1) training and consultation sessions; (2) a training pamphlet; and (3) simple and understandable books. Both the sessions and publications were designed with close community consultation as follows:

1. Training and consultation sessions: The training sessions were designed as a structured 10 part series of 2-h long weekly group sessions to be facilitated by women volunteers from the community. A facilitator's manual, including session content and presentation methods, was developed with close collaboration between ten community volunteers and the research team, including two clinical psychologists from the research team. The topics of the training sessions consisted of: an overview of stress (the concept, sign and symptoms, causes, disease-related stress, and risk factors), along with coping mechanisms and life skills (anger management, decision-making, problem solving, healthy lifestyles and nutrition, social relations, living a purposeful life, positive thinking, saying no, and assertiveness). Before implementation, volunteers attended an orientation to review the training sessions and strategies. Room for the training sessions was provided by a local NGO
2. Training pamphlet: A training pamphlet was developed. The pamphlet provided a brief discussion about the topic of each training session. This pamphlet followed the information included in the facilitator's manual, adapted for distribution to prospective training session participants
3. Simple books on coping: Two small, pocket-sized books were developed. The first book focused on stress and general methods of coping, while the second focused on life skills. These topics were selected based on the results of the FGD data collected in step 3 with community members. Once the topics were chosen, a scientific team of two psychologists and two psychiatrists developed the content for each topic. Finally, the books were reviewed for accuracy by an expert panel and for ease of understanding by two community volunteers. All feedbacks from these reviewers were considered and checked by the research team. These books are publicly available (insert website).

The intervention was implemented during a 3-month period between September and December 2012 in the designated intervention area. During this time, one complete cycle of the 10-week group series was delivered by a total of ten volunteer facilitators. In addition, the two books were published and distributed to women in the target area, both to women who were and were not attending the training sessions. The community volunteers were responsible for all sessions' coordination, community outreach, and logistical issues such as place and transportation.

Evaluation of the intervention

To measure changes in select outcomes among women who participated in the intervention, we situated the above implementation period within a pre-post-community field trial. Married women living in the intervention area were recruited as intervention participants and were considered recipients if they received any component of the intervention. Women living in a different zone in the district (with sufficient geographic distance to avoid contamination) were recruited to participate as a control group. Using simple random sampling, 100 married women were selected for each group (power = 80% and confidence = 95%). At baseline, both groups were administered two questionnaires to assess coping and quality of life (QoL) (both identified as important aspects of mental health promotion through the formative research). The intervention was then delivered in the intervention area, while women in the control area had access to community services as usual. Following the 3-month implementation period, the questionnaires were re-administered. The two questionnaires are described below:

a. Revised Ways of Coping Questionnaire: The tool is a 66 item self-report questionnaire that assesses use of eight ways of coping. Responses are provided on a four-point Likert scale ranging from "not used" to "used a great deal." The Farsi version has been shown to have satisfactory reliability with an alpha of 0.6–0.84
b. QoL (WHO-QoL-BREF): This tool consists of 26 items on a five-point Likert scale. This tool has four domains assessing mental, social, environmental, and physical health. The reliability of the Farsi version of this tool is satisfactory with an alpha of >0.7.

Data analysis included descriptive and analytical statistics. Mean domain scores on the pretest were compared between the two groups using independent *t*-tests. The impact of the intervention was assessed by calculating mean change from pre to post assessment in each group using paired *t*-tests. All analysis was conducted using Statistical Package for the Social Sciences (SPSS) version 21, were manufactured by IBM Corporation, New York, United States.

Development of a draft conceptual model of the community based participatory research approach to Iranian women's mental health promotion

Based on the results of the process described above, a preliminary draft of the conceptual model of women's mental health promotion was designed by the research team with the cooperation of key stakeholders and a team of experts. Results of the research were presented to all stakeholders and reviewed by an expert panel.

Ethical consideration

All participants provided informed consent before participation in any phase of the study. Data were collected without personal identifiers. This study was approved by the ethics committee of the University of Social Welfare and Rehabilitation Science.

Results

Below we present summary results separately for each step of the CBPR process.

Community engagement

We identified six relevant stakeholder groups and nine key persons for study involvement. Examples of stakeholder groups included: authorities in the social municipality, health posts, health-care centers, local confidants, charities, and NGOs working in women's health. In addition, ten volunteers were recruited from the community. Eight of the volunteers were married women with an average age of 35 years. The other two volunteers were younger unmarried women (mean age = 20).

Community needs assessment and defining the issue

In-depth interview participants included 18 married women, one unmarried woman, and one married man, all living in the study area. Participants' age ranged from 18 to 65, with an average age of 34.5 years. Education level ranged from elementary school to doctoral degrees; 40% were currently homemakers. The key construct we extracted from this process was "seeking comfort," which participants described as looking for comfort in their lives. Actions and interactions taken to achieve comfort included strengthening *human essence* (a Farsi term describing one's sense of humanity or morality), developing life skills, and seeking help from others. Life experiences and daily stress were considered to be background factors influencing the ability to successfully seek comfort. The final successful outcome of the process of seeking comfort was life satisfaction. This paradigm is illustrated in Figure 1. Based on the processes in this paradigm, Table 1 shows the final themes and subcategories identified as relevant for Iranian women's mental health promotion.

Community stakeholders identified and prioritized 18 needs related to the final themes and sub-categories identified in Step 2. These needs are also reported in Table 1. Many of the needs related to background factors were social issues such as poverty eradication and job creation, while those related to actions and interactions centered on training and skills development.

Designing and implementing the intervention program

Nine potential intervention actions were developed to respond to the needs identified in Step 3. These actions were categorized according to the levels in Diderichsen's model [Table 2] and reviewed for intervention selection. In addition to the priority placed on the need by the community, logistical factors such as project capabilities, budget, and feasibility of delivery by community volunteers were also considered. Given these considerations, we selected the differential vulnerability level for the intervention. Within this level, training on coping mechanisms was selected as the interventions due to the higher priority given to this need by the community.

Results of FGDs with community members suggested different possible ways to enhance coping mechanisms. These consisted of: Carrying out training sessions for community women, publishing books on coping mechanisms in plain simple language, providing training videos, distributing educational pamphlets, holding consulting sessions, organizing outreach training teams, telephone counseling, and presenting the training materials in district monthly journal club. These results were presented to the expert panel, and according to project facilities and budget, the three interventions including: Of training sessions, publishing the books and distributing the educational pamphlets were selected for inclusion in the.

In total, 100 women participated in the training sessions and received the training pamphlets. In addition, 100 books were distributed, both to women who did and did not attend all training sessions.

Evaluation of the intervention

Participants' demographic information and pre-and post-test scores for both the control and intervention groups are reported in Table 3. At baseline, there were no statistical differences between two groups in terms of either demographic makeup or the pretest measures ($P > 0.05$ for all comparisons). Following the intervention period, the intervention group reported significant increase in the use of all ways of coping ($P < 0.05$) other than positive reappraisal and distancing ways ($P > 0.05$) and significant increase in all QoL domains ($P < 0.05$). No significant changes were observed in the control group [Table 3].

The main components of the conceptual model developed through this process are illustrated in Figure 2. These consist of: Developing a deep understanding of the mental health promotion process among study group, needs assessment, priority setting, and intervention design,

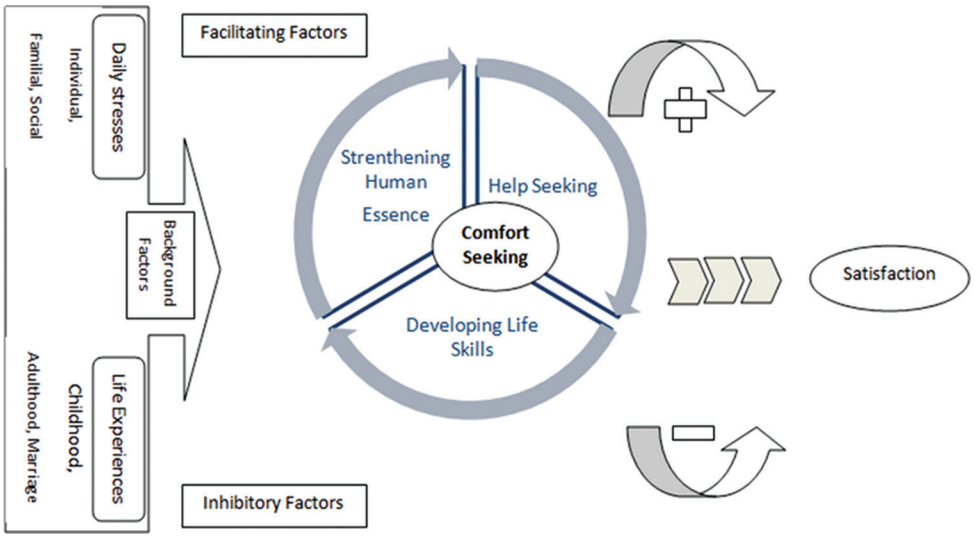

Figure 1: Mental health promotion paradigm in married women-Tehran (District 22)

Table 1: Final themes, subcategories and list of needs in mental health promotion paradigm in Iranian women

Paradigm	Final themes	Subcategories	List of needs
Action-interactions	Strengthening human essence	Strengthening the religious aspects	Strengthening the religious aspects
		Improvement of rational and positive thinking	Improvement of rational and positive thinking
		Knowledge development	Training the Anger management
		Strengthening self-controlling such as: Lack of jealousy, anger management, and so on	Strengthening the social relations
		Increase flexibility	Training coping strategy
		Strengthening the social relations	Training problem solving skill
	Developing life skills	Training coping strategy	Take the consultation
		Training problem solving skill	Training life skills before marriage
		Training the anger management	Training the ways of mate Selection
	Help seeking	Take the consultation	Ways of coping with family
		Resource finding such as: Information resource (book, magazine), familial resource (emotional support)	Children training
Background factors	Daily stress	Individual problems	Poverty eradication
		Familial problems	Addiction eradication
		Social problems	Control of high-risk behavior in youth
	Life experiences	Childhood experiences	Development of morality
		Adolescence experiences	Dispel the stigma
		Marriage experiences	Job creation for youth
	Facilitators and inhibitors	Economic status	Facilitate the marriage
		Cultural status	
		Ethical status	
Core variable	Seeking comfort		
Consequence	Satisfaction		

implementation, and evaluation with special consideration to the level of intervention. This model has two main participant groups including the active interaction of the community and researchers.

Discussion

In the proposed model for developing women's mental health promotion programming, several important issues have been considered. First, we paid special attention to community mobilization and dynamic interaction between the community and researchers in all steps of the process. Second, we developed a deep understanding of the target community's perspectives on the mental health promotion process before proceeding with any intervention planning. Third, we considered the Diderichsen's model of intervention levels to identify an appropriate level of intervention to meet community needs within logistical constraints.

Our results showed that women who participated in the intervention programs demonstrated significant improvement in coping skills and QoL compared to women who did not receive the intervention. Because this was a multicomponent, community-based intervention, we were not able to separate out the independent contribution of each intervention component. However, researchers have highlighted the process of CBPR itself as contributing to health promotion and elimination of health inequities through active empowerment of the target community.[25] While this was not specifically measured in the current study, based on anecdotal evidence from community participants, we believe that women's mental health promotion was not attributed solely to the intervention components themselves, but also to participants' involvement in the broader CBPR approach. In the future, outcomes associated with the research approach and specific intervention components should be specifically evaluated.

Table 2: Determination of actions based on levels of interventions

Levels of intervention	Actions based on priorities	Priority
Socioeconomic context	Equity extension	First
	Combating social corruption	Second
Differential vulnerability	Training of coping strategies	First
	Development of rational thinking	Second
Differential exposure	Job creation for youth	First
	Addiction eradication	Second
Differential health outcome	Creation of free consultation center	First
	Integration of mental health services in health house	Second
Differential consequence	Expansion of insurance coverage	First

In the CBPR approach, community mobilization is critical to the success of the process.[11] Identifying key stakeholders not only motivates people to have more participation but is also is effective for financial mobilization,[26] which is critical for the sustainability of intervention following study completion. In our study, stakeholders did not contribute direct financial support but did provide important community resources such as meeting space, which enabled low-cost delivery of the intervention. We also collaborated with most of the existing organizations in the community to involve stakeholders in all steps of the process including the analysis phase. This is a key

Table 3: Comparison between control and intervention groups based on demographic characteristics, ways of coping, and quality of life domains before and after intervention in Olympic area

Variables	Control group (*n*=100)			Intervention group (*n*=100)		*P*
Demographic						
Mean age (SD)	40.3 (9.7)			41.5 (10.4)		0.42
Mean years of marriage with spouse (SD)	16.25 (11.8)			18.3 (12.3)		0.22
Educational status (%)						
Illiterate	0			3		0.17
Under diploma	53			58		
Academic	37			39		
Employment status (%)						
Employed	44			45		0.8
Number of children ≤3 (%)	77			71		0.33
Ways of coping	**Before****	**After**	***P***	**Before****	**After**	***P***
Positive reappraisal	15.07 (4.2)	15 (3.9)	0.613	14.7 (4.1)	15.5 (2.3)	0.141
Confrontive	9.8 (3.6)	10.02 (3.4)	0.12	9.2 (3.3)	10.1 (2.04)	0.04*
Escape avoidance	11.5 (4.4)	11.9 (4.1)	0.138	10.9 (4.1)	6.2 (2.3)	<0.001*
Distancing	7.8 (3.8)	8.19 (3.6)	0.14	8.7 (3.7)	8.09 (2)	0.081
Self-controlling	14.26 (3.5)	14.6 (3)	0.16	14.25 (3.3)	12.03 (2)	<0.001*
Seeking social support	11.7 (3.9)	11.5 (3.6)	0.39	11.6 (3.5)	13.9 (2.06)	<0.001*
Accepting responsibility	7.27 (2.8)	7.2 (2.9)	0.648	6.8 (3)	4.2 (1.6)	<0.001*
Planful problem solving	12.56 (3.5)	12.33 (3.5)	0.14	11.7 (3.3)	14.3 (1.6)	<0.001*
Quality of life						
Physical	14.6 (2.9)	15.1 (2.5)	0.205	14.6 (2.6)	15.9 (1.7)	<0.001*
Mental	13.36 (3.2)	13.49 (2.5)	0.743	13.5 (2.6)	15.7 (1.8)	<0.001*
Social	14.84 (3.1)	15.31 (2.8)	0.240	14.1 (3.2)	15.7 (2.1)	<0.001*
Environmental	13.3 (2.9)	13.4 (2.9)	0.718	13.8 (3)	15.5 (1.5)	<0.001*

*Significant, **There is no significant difference between control and intervention groups before intervention (matched). SD=Standard deviation

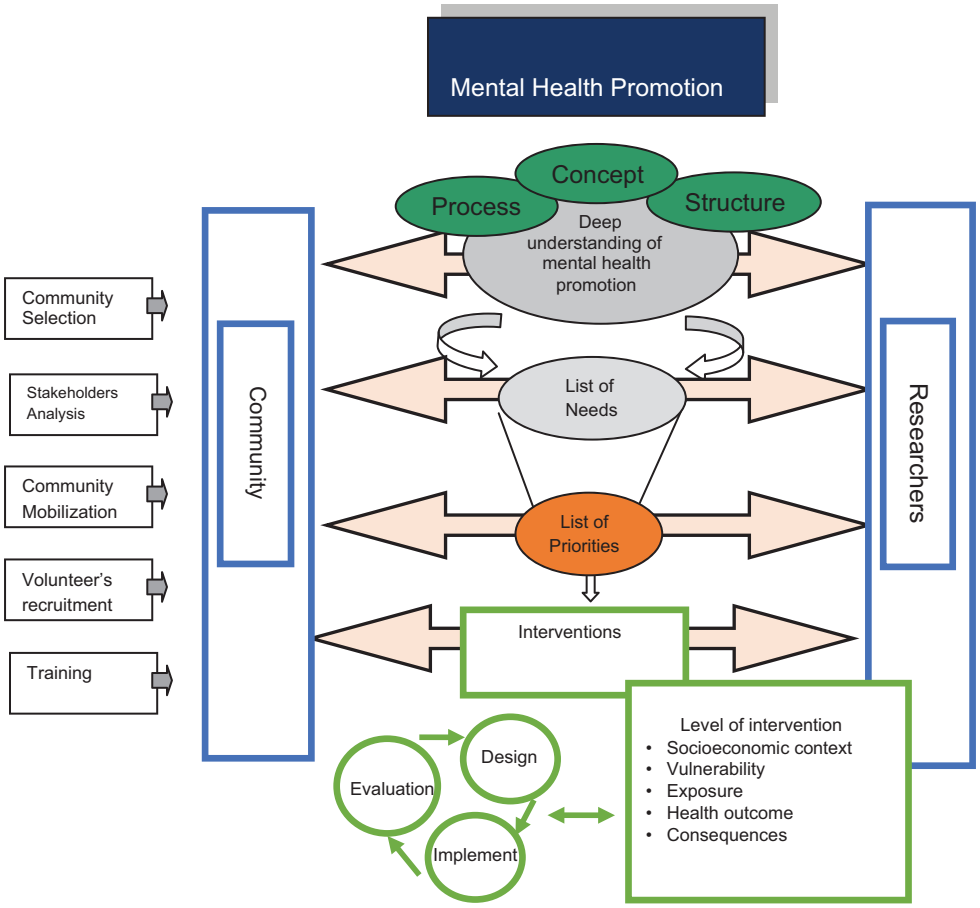

Figure 2: Conceptual model of women mental health promotion

approach of community mobilization helped us to involve the community throughout the study process.

In addition, high motivation to participate among volunteers has been considered to be one of the most important strengths of CBPR programs in Iran. For that reason, we involved selected female volunteers throughout the study process. They were mostly homemakers and highly motivated to participate in social programs due to their experiences in participatory actions in local NGOs. Previous studies have also indicated that these women have important roles in community participation, voluntary activities, and health literacy promotion.[27]

This study showed that training programs and participatory meetings with community members were effective for enhancing the coping capacity of the community women through increased awareness on mental health and coping mechanism education at the community level. This approach has previously been shown to facilitate community-led problem solving and lead to changes in attitudes and behavior.[16]

It is worth noting that in our study community members and stakeholders fully participated in the needs assessment and priority setting process. However, due to the project's limited resources, these important stakeholders had less than expected participation in other steps; and this can be considered as an important study limitation.

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Conflicts of interest

There are no conflicts of interest.

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