

## ORIGINAL RESEARCH

# Explaining barriers to childbearing using the risk communication and community engagement (RCCE) strategy: Based on action research

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## Abstract

**Background and Aims:** Reluctance to childbearing and then the reduction of the total fertility rate are common experiences of developed countries and many developing countries, including Iran, therefore, the purpose of this study was explaining barriers to childbearing using the risk communication and community engagement (RCCE) strategy.

**Methods:** The study was conducted by action research and according to RCCE during 9 months in Ardabil city. The statistical population consisted of 41 married women aged 15–54 who were eligible for childbearing, these women were purposefully selected from among the people covered by Ardabil health centers and interviewed. Data were collected using open and in-depth interviews by the researcher and analyzed by content analysis.

**Results:** The results of data analysis led to the extraction of three main categories, personal, familial, and social barriers. The “personal barriers” category was classified into three subcategories, namely mental, belief, and awareness barriers, the “familial barriers” category was classified into two subcategories, namely social and financial barriers, and the “social barriers” category was classified into two subcategories, political and managerial barriers.

**Conclusions:** According to the results, a set of personal, familial, and social factors could affect childbearing among married women. Identification of these factors can play an effective role in designing educational and managerial programs.

## KEYWORDS

action research, childbearing, community engagement, risk communication

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## 1 | INTRODUCTION

Reluctance to childbearing and then reduction of total fertility rate (TFR) are common experiences of most countries worldwide.<sup>1</sup> The TFR has fallen to a subreplacement fertility level in Iran during the last two decades, and this downward trend continues as it has decreased to 1.62 children per woman.<sup>2,3</sup> There is a concern that fertility will decrease to 0.8 and the country will experience negative growth until 2025–2030.<sup>4,5</sup> Studies indicate that if the TFR falls significantly to the subreplacement fertility level, the population will not only become older, but also the economy dependence index will also increase, and governments will heavily face problems such as the provision of active labor, the crisis of pension organizations, and the healthcare service system.<sup>6</sup> The results of the 2016 census indicated the population growth rate was 1.24% in 2011–2016 and it decreased to less than 1% for entire Iran. This development changed the age structure of Iran's population.<sup>7</sup> According to studies, factors such as economic problems, women's employment, children's educational problems, and other factors are effective in parents' desire for childbearing.<sup>7</sup> Community engagement and the desire to follow health measures are the most powerful weapons for implementing health intervention.<sup>8,9</sup> The analysis of social behaviors indicates that even though people have adequate information about the importance of childbearing and the problems of single children, there are oversimplification and low-risk perceptions in the majority.<sup>10</sup> Furthermore, the people's belief about what they can do is not enough; in other words, people do not believe in their ability to improve their lifestyles and consider the public sector as the guardian and responsible for public health.<sup>11–13</sup> Obviously, new and collaborative strategies are very important for the way of interacting with communities to detect local problems and their causes.<sup>14</sup> Community engagement in various aspects such as getting to know people in the neighborhood, identifying people at risk, introducing proposed solutions, and other cases pave the way for the implementation of health programs. Without community engagement, there is a risk that misinformation and mistrust will prevent the effectiveness of measures.<sup>12</sup> In response to the population crisis and for attracting the purposive engagement of effective people and coordinating with other programs, the risk communication and community engagement (RCCE) program not only empowers people but also increases public trust which can lead to the effectiveness of actions.<sup>15–19</sup> The results obtained from Fatehi's study indicate that community engagement, centered on local health liaisons, can provide a basis for the continuation of a program.<sup>20</sup> The main approach in the RCCE program includes (1) maintaining and increasing trust, (2) community engagement, and (3) managing information and rumors and choosing a local communication channel with people.<sup>20</sup> Since the implementation of engagement and neighborhood-based programs is a global strategy<sup>21</sup> and executive planning is necessary for Iran due to the potential of health liaisons in each neighborhood, the present study was conducted with the RCCE strategy to take the use of the public capacity (health liaisons) to explain the barriers to childbearing and planning according to that neighborhood, increase the opportunity

for the local community engagement, and take advantage of the capacity of neighborhoods as places for management of the program implementation in Ardabil.

## 2 | MATERIAL AND METHODS

### 2.1 | Study design

The present study was conducted with an action research method using an RCCE strategy in Ardabil city for 9 months (from March to December 2022). The seven major elements of RCCE are (1) Partnering with the public; (2) Planning and evaluation; (3) listening to peoples' concerns; (4) Being open, honest, and frank; (5) Coordinating and collaborating with credible sources; (6) Meeting the needs of news organizations; (7) Speaking clearly and compassionately. The main purpose of the study was explaining barriers to childbearing with using an RCCE strategy. The statistical population consisted of married women aged 15–54 years with electronic health records in the healthcare system of Ardabil city. The inclusion criteria were as follows: women aged 15–54 years, eligibility for childbearing, consent to participate in the study, no history of infertility, and no mental illness and exclusion criteria, including women under 15 and over 54 years old years, unwillingness to participate in the study, infertility or specific illness.

Action research is a dynamic process with stages, namely detecting problems, making changes, and drawing conclusions. In the problem detection stage, the researcher faces a problem, examines its various dimensions, and comes to certainty. In the change stage, data are collected and solutions are proposed and implemented. In the conclusion stage, the activity result is reported.

In the present study, the reduction of childbearing was the problem according to the national and provincial indexes announced by the Ministry of Health and Medical Education. After detecting the problem, the researchers needed the data of the research population; hence, the RCCE strategy (people's work for people) was used to collect data.

Therefore, 10 out of 110 neighborhoods of Ardabil city were randomly selected. This localities has 15,000 households and 3621 married women aged 15–54 with eligibility for childbearing. In the healthcare centers, the information of eligible women in the selected areas was as follows (according to the electronic standard questionnaire of the Ministry of Health that exists in the healthcare centers).

Among them, 8.9% had a history of one abortion, 11.4% had a history of preterm birth, and 5.2% had a history of infertility. Among the research households, 20.7% had only one child, 40.1% had two children, and 9.9% had no children. Among those with one child and two children, 21.4% were willing to childbearing under the condition of reducing barriers, and 14.3% of these women were not sexually satisfied in their marital life.

In addition to this information (further information), additional information was extracted from the local team by brainstorming by using of RCCE strategy in this study and coordination with the local

influential team (the head of the local health center, health volunteers, healthcare workers, local elders, and women's representative in the neighborhood). The main goal was the local community engagement to implement the program and provide solutions by local people. The research team then took action together with the local influential team.

In this phase, the research had a qualitative content analysis type (the second step of action research). The purposive sampling method was used until data saturation. A total of 41 women eligible for childbearing were selected for interviews, and data were collected using open and in-depth interviews. The analysis was then performed using the content analysis method according to the strategy of Graneheim and Lundman.<sup>21</sup> The interviews were conducted by the research team at the local cultural center after obtaining the women's consent. Supplementary interviews were conducted with five participants to increase the credibility of data obtained from the interviews, and the questions and ambiguities were resolved again. They were also informed that participation in the study was voluntary, and they have the right to withdraw at any time and were assured that the interviews would be kept confidential. Consent was obtained to record the interviews. After each interview, the data were transcribed, categorized, and arranged, and if needed, the research questions were edited and revised for the next interview.

The data were analyzed using conventional qualitative content analysis. Data were categorized and analyzed via MAXQDA10 software. Analysis was performed by coding, constant comparison, and note writing. If new findings were obtained, new participants were selected and this stage was repeated until saturation. Using the follow-up questions and sentences like "can you give an example" or "can you explain more," the researcher further examined the participants' answers to each question. The interviews lasted from 30 to 40 min on average. At the end of each interview, the interviews were listened to several times and then transcribed word by word as early as possible.

In this study, the data were analyzed based on Graneheim and Lundman qualitative content analysis (2004) which was a systematic and clear eight-step method for data processing and analysis as follows. These steps, respectively, included preparing data, deciding on the analysis unit, classification, testing and fixing the coding in a text sample, coding the whole text, checking the coding stability, drawing conclusions from the coded data, reporting the data analysis method, and findings. Before conducting the interviews, the research purpose was explained orally to the participants. The time and place of the interviews were set based on the agreement of the parties and the opinion of the local cultural center participants. In this research, various strategies such as review by participants and review of data by the research group were used to increase the data credibility. The cases where their speech was not understandable for the researcher and the participant's meaning was not understood correctly during the interviews were reported and confirmed to review the participants. The participants were requested in person or by phone to confirm the basic codes of their interviews and clarify the incomprehensible items. The full text of the interviews and the

coding and initial classifications were sent to the honorable supervisor and advisor, and their confirmatory and supplementary comments were received in line with the initial implementation, coding, and classification. Stability is, in fact, the stability or repetition of data at similar times and conditions. Its concept is similar to reliability in quantitative research. It means that findings should be consistent, logical, and continuous.

In the present research, the researcher sought to ensure the stability of research findings by taking actions such as feedback to participants and review by the research team and also two colleagues with experience in qualitative studies. Confirmability indicates the connection of data with sources and the emergence of findings and interpretations of these sources. It can be ensured by presenting the research process in a way that can be followed. In this research, the confirmability of all interviews, codes, and categories was extracted according to supervisors' reviews and was examined by several experienced professors in qualitative research. Transferability refers to the theoretical parameters of research and the applicability of sets of findings in another situation. Different views and experiences of different participants about a phenomenon increase its transferability. In this research, the researcher examined the main participants' experiences to increase the transferability of the findings. In the last stage of the action research (conclusion), the entire process of the study was carried out with the participation and cooperation of the local team and health volunteers, which is one of the most important steps of public participation risk communication; this matter should be the attention of officials and planners with this cooperative strategy, trust is established between people and officials, and the willingness to cooperate and state the facts increases.

### 3 | RESULTS

Based on the results of the present study, Table 1 presents the participants' demographic characteristics.

The main categories of personal, familial, and social barriers were extracted based on the analysis of the interviews. The "personal barriers" category was classified into three subcategories: mental, belief, and awareness barriers. The "familial barriers" category was classified into two subcategories: social and financial barriers. The "social barriers" category was classified into two subcategories: political and managerial barriers (Table 2).

### 4 | DISCUSSION

The present study aimed to investigate the use of the RCCE strategy in explaining the barriers to childbearing. The results indicated that childbearing was a complex issue involving many direct and indirect factors. Since the measures until now have not been based on the strategy of working with people for people, it is necessary to implement a program that is based on working with people for people.<sup>21,22</sup>

The first theme determines personal barriers, and in fact, individuals' behavior goes back to values that are considered for the issue.<sup>5</sup> Positive and negative values have important effects on individuals' behavior, especially about behaviors that have complex effective factors. The results of the present study indicated that mental barriers (low understanding of people, depression, not accepting a new child, worry about the future of children's employment and well-being, welfare seeking, fear of pregnancy and childbirth, and low self-efficacy) were the main reasons for the

reluctance of eligible women to childbearing. Obviously, when the participants have low knowledge and understanding of issues, they will be unwilling to childbearing. These results are consistent with studies by Hosseini et al.,<sup>23</sup> Bahrevar et al.,<sup>24</sup> Aghdasi et al.,<sup>25</sup> and Nejhaddadgar et al.<sup>14</sup> These studies report insufficient awareness about the crisis as an important reason for not performing health behaviors because awareness is a prerequisite for changing attitudes and making decisions about behavior.<sup>26</sup> Targeted training according to the audience's needs can encourage people to perform a behavior.<sup>27,28</sup> In a study by Al-Dmour et al.<sup>29</sup> and Ziapour et al.,<sup>30</sup> the results indicated that individuals' low understanding of the health problem decreased the level of compliance with health behaviors. In Tao's study, there was a significant correlation between knowledge and the perceived severity of people with a serious problem<sup>31</sup>; in other words, people do not consider themselves obliged to perform a behavior until they are exposed to danger or health problems.<sup>32</sup> Depression was among the items extracted in the "mental barriers" category. Depression is a disorder that destroys the motivation to do many affairs.<sup>33</sup> The results of Cao et al.'s<sup>34</sup> study indicated that intimate family relationships, especially with friends and spouses, are the most important factors in improving individuals' mental and emotional levels. The obtained results indicated that talking with spouses about various topics and commuting with family and friends decreased daily stress load and played an important role in accepting the viewpoints and behavior.<sup>35</sup> The barrier to awareness was another theme that was extracted in the present study. The need to educate different age groups and use new technologies proportional to age and gender is a very important point that should be taken into consideration. Choosing and using different educational techniques and methods, depending on the appropriateness with age groups and

**TABLE 1** Demographics of the participants.

Variable	Aspect	%
Age	35-18	42
	36-55	58
Work status	Governmental position	22
	Nongovernmental position	60
	Unemployed	18
Education level	Less than diploma	20
	Diploma to BA	69
	Higher than BA	11
Number of children	Without children	13.6
	Single child	52.3
	Two children	34.1
Age of children	Under 5 years	49.3
	5-10 years	50.7

**TABLE 2** Categories, subcategories, and codes.

Categories	Subcategories	Codes
Individual barriers	Mental barriers	Low perception—depression—not accepting a new child—worrying about the future of employment and children's well-being—welfares—fear of pregnancy and childbirth—low self-efficacy
	Belief barriers	The insignificance of the population crisis—negligence—belief in having few children—stubbornness—distrust of the government's commitments—people's lack of motivation—distrust of the people towards the statistics announced by the media—distrust of children multiple role identity
	Barriers to awareness	Low health literacy—not speaking in the language of the people—people not being informed about the expected incentives—people not being aware of the new rules for having children—lack of a coherent media to inform—people becoming passive towards news and statistics—the need for new methods of education and persuasion
Family barriers	Cultural barriers	The value of having one child or two children—lack of support at work—lack of support from family—lack of support from spouse and family members—high education—employment—conflict between couples—keeping children—wife's opposition—parenting skills
Social barriers	Political barriers	Political conflicts—the need to apply the law
	Economic barriers	Worrying about expenses—financial problems—fear of losing a job—economic dependence of the family on the wife's job—not having a fixed income—having to leave the house for work—living in rented accommodation
	Management barriers	Lack of access to free amenities—lack of necessary infrastructure in the workplace—lack of equal access of people to services

the audience's needs, encourage people to do certain behavior.<sup>30,36</sup> In a study by Nejhaddadgar et al., the results indicated that training, especially according to people's needs, was very effective, especially in critical situations and when there was no definite plan to solve problems. In this situation, the audience waits to receive messages with appropriate and persuasive training to get acquainted and perform the behavior, and if the training and messages are not as needed, people will get confused.<sup>14</sup>

Familial barriers were another theme that was identified in the present study, and they were the most important barriers in other studies.<sup>37</sup> Weakness and disruption in relationships between family members disrupt concepts of marital life. The evidence indicates that most health problems are affected by cultural factors.<sup>33</sup> Studies indicate that it is not possible to achieve health goals without obtaining cultural changes in many countries.<sup>38</sup> Targeted education and giving people an effective identity are very important points in removing these barriers.<sup>39</sup> The participants stated that economic problems were the most important reasons for unwillingness to childbearing. Given that people's livelihood was associated with economic issues, people preferred to have fewer children and educate their children properly. A similar study investigated the effect of the economy on health behavior and indicated that people considered compliance with expensive health behaviors as a double burden on their lives.<sup>39</sup>

Social barriers were the third theme in the present study. Countries have managed this issue with comprehensive planning and coordination between the nation and the government. Confusion in decision-making by officials and contradictory statements, and inattention to needs were among the issues that were mentioned by the participants as barriers. Given the complicated nature of childbearing behavior, it appears necessary to coordinate all organs and organizations along with the Ministry of Health and Medical Education. Sometimes the lack of coordination has caused indifference, and people expected long-term and specific support from the government. Ineffective policies and scattered measures were among the issues that encouraged participants to ignore the importance of the population crisis and their roles in getting out of this crisis. Studies indicate that a single policy is needed to coordinate the organs in crisis. In a situation, where this coordination is not established, the functions will be isolated and scattered, and the result of a coherent whole gets in front of a crisis and it is very different from the result that individual islands have, and sometimes it leads to failure. Managerial barriers with concepts such as the incompetence of hospitals/health centers in dealing with pregnant mothers, oversimplification of the problem by the authorities, the need to involve people in solving the problem, the lack of optimal service to pregnant mothers, the lack of access to equal and free treatment, and the lack of collaborative look at the problem have caused a kind of individual's passivity that hinder the implementation of a behavior. People are interested in improving the situation and the effectiveness of policies, and more importantly, the policies according to prevailing conditions, and passivity prevails among people in the absence of these conditions.<sup>39</sup>

## 5 | CONCLUSION

Ensuring effective community response to health problems requires a shift from a top-down approach focusing on what should or should not be done to an exploratory and interactive risk communication that recognizes public sentiment, builds trust, heuristics, and the sociocultural context of power understands, needs. For this, it is essential that risk communication is for emergency situations and health priorities and engages with communities at the local level, where new risks are emerging and being responded to. Although several models have been developed to engage with communities and use a participatory approach to risk communication, there is limited research on their application in different sociocultural contexts. There is a need for further research on different structures and guidelines to involve communities as responsible stakeholders in the risk communication process, where they are not only informed of risks but also can make informed decisions that include and respect local socioeconomic issues and cultural diversity, different risks and local governance systems.

### AUTHOR CONTRIBUTIONS

**Nazila NeJhaddadgar:** Conceptualization; investigation; methodology; writing—original draft; writing—review & editing. **Arash Ziapour:** Conceptualization; writing—original draft; writing—review & editing. **Mohammad Jafarzadeh:** Data curation; resources; software. **Farahnaz Ezzati:** Formal analysis; methodology; visualization; writing—original draft. **Farshid Rezaei:** Data curation; methodology; software; supervision. **Fatemeh Darabi:** Conceptualization; investigation; methodology; writing—original draft; writing—review & editing.

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### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

The data sets used in the study are available from the corresponding author on reasonable request.

### ETHICS STATEMENT

Ethical approval was obtained and approved for the study from the Ethics Committee at the Mazandaran University of Medical Sciences. The ethic code allocated to this study is IR.AUMS.REC. 1401.196. The purpose of this research was completely explained to the participants through the cover page of the questionnaire, and they were assured that their information would be kept confidential by the researcher. Informed consent from the participants was acquired as they agreed to participate in the study by reviewing the questionnaire's cover page and clicking on the provided link. Furthermore, for participants

younger than 18 years of age, the participant was asked for the consent of the parent or guardian.

## TRANSPARENCY STATEMENT

The lead author Fatemeh Darabi affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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