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Improving the Quality of Healthy Aging Care: A Participatory Action Research

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Abstract

Background: The elderly health care services provided in public health centers neglect the care and education of the healthy elderly.

Aim: This qualitative study aimed to improve the quality of public health services for the healthy elderly.

Method: This participatory action research was conducted on 11 health care workers, 54 elderly participants, and 54 family members in Motahhari Comprehensive Health Services Center of Mashhad, Iran, within 2016-2019. Data collection tools were the SERVQUAL questionnaire, interview, focus group discussion, and field note-taking. After the identification of the problems through interviews with participants, the sessions of focus group discussions were held to design the program. After executing the change programs, evaluations were repeated to compare pre-change and post-change situations. Qualitative content analysis was performed using the reality description method, and quantitative content analysis was conducted by descriptive statistics and paired t-test.

Results: The mean values of age and work experience of the health care workers were reported as 32.4±2.7 and 8.1±1.7 years, respectively. Using the developed care files, the non-specialist routine care was transformed into standardized organized care based on the needs of the healthy elderly. In the pre-intervention phase, the mean scores of service quality from the perspective of the elderly participants and their families were 63.0±9.4 and 61.8±9.0, respectively. In the post-intervention phase, the aforementioned figures statistically increased (P=0.001) to 130.1±14.7 and 122.6±13.5, respectively.

Implications for Practice: The quality of health care services for the healthy elderly improved by encouraging the participation of the elderly and their families in the care process. This approach can be used in other public health centers.

Keywords: Healthy aging, Participatory action research, Service quality

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Introduction

Given the rapid growth of the elderly population in Iran and country's lack of sufficient infrastructure to provide this group with health services, Iranian health organizations should consider healthy aging a strategic objective and try to keep the elderly as healthy and active as possible by implementing community-based programs (1). Currently, Iranian health organizations are executing an integrated elderly health program designed by the World Health Organization (WHO) for the Eastern Mediterranean Region (2), which is based on three principles. The principles include the participating of the elderly in the development process, strengthening their physical and mental health, and creating supportive and empowering environments for the elderly population (3).

The program has been designed for both physicians and non-physicians, including the observation of risk factors and clinical signs for early diagnosis, appropriate treatment, and timely referral. In this program, elderly people are screened for conditions, such as blood pressure, cardiovascular diseases, diabetes, eating disorders, and visual and auditory disorders. However, this program focuses on the ailing elderly and neglects the care and education of healthy seniors (2). Due to heavy workload and shortage of trained personnel, many public health facilities executing this program adopt a passive approach toward the elderly people whom this program classifies as healthy (4). Nevertheless, the approach of health facilities to this group of the elderly is indeed important because maintaining their health by -for example- implementing community-based programs can help reduce future costs and disease burden on the health care system and further enhance their quality of life and satisfaction (5).

This is the approach followed by community-based healthy aging programs (6). The majority of studies carried out on aging in Iran have focused on the specific aspects of aging, such as social participation (7), abuse (8), empowerment in chronic diseases (9), lifestyle (10), quality of life (11), nutrition (12), autonomy (13), loneliness (14), and physical activity (15), and have not paid much attention to the concept of healthy aging and related care or quality of healthy aging services. Therefore, the present study aimed to identify the approaches to improve healthy aging services provided at health centers.

Methods

This study was extracted from qualitative participatory action research conducted in Shahid Motahari Comprehensive Health Services Center of Mashhad, Iran, within November 2016 to March 2019. This center was chosen due to the researcher's experience of working there as a clinical instructor for more than 10 years, large number of elderly people falling in the center's area of responsibility, and eagerness of the center's management and personnel to improve its performance.

The present study was carried out on 11 employees of the center, 54 elderly people visiting the center, and families of the elderly. At the time of the study, the total number of the elderly subjects covered by the center was 13,000, and there were 550 health records for the elderly at the center. After making announcements at the center and local mosque, 60 elderly people enrolled to participate. During the 2 years of the study, six subjects were excluded (one participant due to mortality, three subjects due to change of residence, and two cases due to unwillingness to continue), reducing the number of elderly participants to 54 people.

The inclusion criteria for the elderly were the age range of 70-60 years, physical and mental health for the interviews, and no participation in the elderly care program. The inclusion criterion for the elderlies' family members was to be the main caregiver of an elderly aged 60 or over. Since the change was to occur in the center's entire workspace, all of its employees entered the study. The satisfaction of the elderly and their families was measured using the SERVQUAL questionnaire. The qualitative data were collected by three methods of interview, field note-taking, and focus group discussion.

Before starting data collection, informed consent was obtained from the center's personnel, elderly participants, and family members. Moreover, they were explained about the objective of the study. The time and location of the interviews were decided based on the suggestions of interviewees to avoid causing inconvenience. The interviewees were also asked to permit the interviewer to record the conversations. There are a few examples of questions made during the interviews as follows:

Example of questions from the personnel

What does the center do for healthy elderly people? What are the barriers to running a healthy aging

program?

Example of questions from the elderly
What do you need as a healthy individual? What problems do you have with your health? What do you expect from the center?

Example of questions from family members
What problems does your elderly family member have? What do you know about aging care? What do you expect from the center? What do you do to keep your elderly family member healthy?
After each interview, the record of the interview was transcribed verbatim. Then, the researcher listened to the record and reviewed the transcripts multiple times and took notes for use in subsequent interviews. After preparing transcriptions, the next step was the identification of the themes and sub-themes in the data. This was carried out through a qualitative analysis that involved examining the collected data step by step to identify sub-themes and categorize them into themes.
The initial coding was performed after reviewing the data. Each theme was reviewed several times to ensure that its sub-themes matched the data. This process continued until no new theme or sub-theme emerged. The researcher also took notes of ideas, thoughts, questions, or theories coming to the mind during the construction of themes and discussed them in the subsequent interviews. Data coding and analysis in this study was based on a previously developed method (16).
The interviews were conducted one-on-one (interviewing the elderly and family members separately) in a quiet place approved by the interviewee. Each interview lasted 30 to 60 min. The healthy aging promotion program was executed in four phases, including 1) collecting initial information and examining the current situation, 2) designing change plans, 3) executing the designed change plans, and 4) evaluating the post-change situation.

Phase 1 (collection of initial information)
This phase consisted of two steps, namely A) examination of the current situation and identification of problems and B) reexamination and confirmation of the identified problems by the participants. In this phase, 27 interviews were conducted with the center's personnel, the elderly, and the family members. The concepts extracted from the interviews were rechecked with the participants. After the confirmation of the concepts, problems were determined and then prioritized in three sessions of focus group discussion held separately with the personnel, the elderly, and the family members.
The qualitative data were analyzed using the reality description method and constant comparative method. In addition, after the emergence of patterns, coding was performed using the method of Bogdan and Biklen. The field notes taken while observing the service provided at the center during different working days were also used to confirm the problems. The validity of the qualitative data was verified by obtaining feedback from the participants. The reliability of the data was checked through peer review (by nursing PhD students).
The use of the three methods, namely interview, focus group discussion, and field note-taking and design of five change cycles helped to improve the rigor of the data. The validity of the qualitative findings was checked using the 22-item SERVQUAL questionnaire. This questionnaire, developed by Parasuraman (1988), measures the service quality in five dimensions, including tangibles, reliability, responsiveness, assurance, and empathy. Based on the 5-point Likert scale, this questionnaire can have total scores within the range of 22-110. A SERVQUAL score of 66 indicates an average level of service quality (17, 18). The validity and reliability of this questionnaire were confirmed by Heidarnia et al. (2014) (19). This questionnaire was separately completed by the elderly participants and their families.
Subsequently, the quantitative and qualitative data were combined, resulting in the identification of 24 problems. The identified problems were reexamined by the participants for confirmation. After this confirmation, the problems were prioritized in one session of group discussion with the center's personnel. In the second session of group discussion, the prioritized problems were approved by the personnel and the suggested solutions were recorded. The solutions were prioritized based on urgency, degree of consensus, applicability, consistency with master documents, and readiness of the research team.

Table 1. Examples of feedbacks and reflections in personnel empowerment cycle

Revision	⟺	Feedback
Adding a review of care programs and master documents to group discussions		I am not familiar with aging programs
Encouraging the personnel to plan the sessions in order to have enough time for more interaction with the elderly participants		The sessions are excessively focused on writing
Introducing relevant books and journals		I do not have sufficient information about elderly issues

Phase 2 (development of change plans)

In this phase, change plans were designed based on the opinions of the center's personnel, elderly participants, and families. The considered change cycles included modifying and improving physical space and equipment, holding personnel empowerment workshops, developing and creating care files for healthy seniors, and designing home visit programs.

Phase 3 (execution of change plans)

In this phase, the designed plans were implemented. The physical space improvement cycle lasted 3 months, and the personnel empowerment cycle took 7 months. The case file design cycle lasted 6 months, and the home visit cycle took 4.5 months to complete. For example, the personnel empowerment cycle consisted of the following 11 activities:

Reviewing the integrated elderly care program, going over the changes in the new package of elderly services, reviewing the national document on health promotion, welfare, and dignity of the Iranian elderly, introducing the indicators of healthy aging, and holding seven workshops (six principles of healthy aging and home visits)

These activities were carried out by the researcher, all the involved personnel, nutrition and psychology experts, and a number of nursing master's students. The healthy aging program was executed twice a week in the evening shifts at the center's location. The personnel worked with the elderly participants and their families for 4 months based on the designed care cases. During this time, the personnel trained the elderly subjects according to the principles of healthy aging (i.e., nutrition, physical activity, communication, drug use, falling, and physical environment).

The elderly participants and their families played an active role in education and were asked to not only attend the classes but also try to use what they had learned in practice. Using the feedback received from the elderly participants and their families, the flaws of the case file were identified, and it was modified into its final form. The personnel worked for another 2 months with the modified case file. Then, the final evaluation was performed.

Phase 4 (post-change evaluation)

This phase involved using the quantitative (i.e., SERVQUAL questionnaire) and qualitative (i.e., interview, focus group discussion, and field note-taking) methods to collect post-change qualitative and quantitative (i.e., services quality) information and compare them with the situation before the execution of change plans. For the quantitative data, the comparisons were made using descriptive statistics (e.g., frequency, mean, and percentage) and paired t-test. A p-value of less than 0.05 was considered statistically significant. Table 1 tabulates examples of feedback and revision in the personnel empowerment cycle.

Results

The present study was carried out on 8 health care workers, 1 physician, 1 secretary, 1 maintenance worker, and 54 healthy seniors and their families. The health care workers had a mean age of 32.4±2.7 years and mean work experience of 8.3 years. In addition, 51.8% and 48.2% of the elderly participants were male and female, respectively, with a mean age of 64.3±3.9 years. The family members were reported with a mean age of 34.4±2.6 years and were mostly (62.5%) women. A great number (41.3%) of the family members were the children of the elderly participants.

The main barriers to the implementation of the healthy aging program at the center were the

Table 2. Comparison of service quality from the perspective of healthy elderly participants and their families before and after changes in health center

Dimension of service quality	Healthy elderly participants (n=54)			Family members (n=54)		
	Pre-change	Post-change	Paired t-test (P-value)	Pre-change	Post-change	Paired t-test (P-value)
Tangibles (mean±standard deviation)	12.3±2.5	26.1±4.1	0.001	11.9±2.6	25.1±3.9	0.001
Reliability (mean±standard deviation)	15.5±3.7	28.4±4.2	0.001	14.8±2.5	26.5±4.7	0.001
Responsiveness (mean±standard deviation)	10.1±2.9	25.1±3.9	0.001	10.5±2.6	25.4±4.1	0.001
Assurance (mean±standard deviation)	12.7±2.1	23.6±4.3	0.001	12.9±2.8	21.4±4.1	0.001
Empathy (mean±standard deviation)	12.2±2.7	26.7±4.4	0.001	11.5±2.4	24.2±4.6	0.001
Total	63.0±9.4	130.1±14.7	0.001	61.8±9.0	122.6±13.5	0.001

personnel's lack of clear perception of the concept of healthy aging, absence of a suitable structure for running a healthy aging program, and personnel's inability to run a healthy aging program. The results of the interviews (Table 2) showed that the intervention made the following changes:
"dissatisfaction of the elderly and their families" changed to "satisfaction";
"regulation-based care" changed to "organized care";
"poor awareness of healthy aging" changed to "good perception of the healthy elderly and their needs";
"no education for the healthy elderly" changed to "regular training program based on the needs of the elderly";
"incapable personnel" changed to "personnel with capability and skills to work with the healthy elderly";
"no relationship with the families" changed to "participation of the family in the care of the healthy elderly".

There are some examples of remarks made by the personnel, elderly participants, and family members participating in the study as follows:
Elderly 4: *They just ask questions and write, as if I'm not sitting here* (poor communication with the elderly).
Elderly 8: *They don't let me tell my problem and what I want. They just fill out the form* (poor needs assessment).
Elderly 9: *They don't say anything to our family either. They just bring us here and then take us away* (not using the family in the care program).
Personnel 8: *I am not motivated to work with the healthy elderly, because the system only wants me to fill out files and checklists and send monthly statistics to the office. Also, I do not even know what a healthy elderly individual means because I have not been trained about it* (lack of motivation and training).
Personnel 2: *At the moment, we don't have any specific program for the elderly who are healthy and don't have any disease* (lack of a healthy aging program).
Personnel 6: *When caring for the elderly, we just follow the doctor's instructions. It is the doctor who must be held accountable. We just do what the doctor says* (no sense of responsibility and lack of independence in care planning).
Personnel 7: *Our health system does not have a holistic and forward-looking view about the elderly and only wants to be done with everyday tasks, and there is no planning at all* (lack of a holistic view).
Family member 4: *Here, they don't do much for my mother. They say your mother has no problem, bring her for examination whenever she gets sick* (not working for the healthy elderly subject).

As it can be observed, the personnel were not motivated enough to work with the healthy elderly participants, and they had not received the necessary training in this regard. Therefore, they lacked the ability to plan for care and provide independent care with a sense of responsibility. Furthermore, the families were not actively involved in care for the elderly subjects. In addition to qualitative changes, the scores of the SERVQUAL questionnaire (Table 1) also showed a significant difference between the pre-change and post-change phases (P=0.001) indicating an improvement in service quality.

Discussion

The present study aimed to improve the quality of healthy aging care in a public health center. According to the participants' opinions of the current study, this goal can be achieved through personnel empowerment, modification of the center's structure and physical space, and promotion of care services for the healthy elderly. Moreover, success in this regard can be measured in terms of the satisfaction of the elderly and their families, their participation in care, and awareness, professional independence, and accountability of the personnel.

The preparation of the right conditions for providing high-quality healthy aging care is one of the major duties of the people in charge of elderly care policy-making. According to Venkatapuram et al. (2017), quality aging services can be considered an element of health equity (20). However, Yasobant has stated that elderly-related programs and policies are still very limited (21). Sowa et al. (2016) believed that there should be clear guidelines focused on healthy aging (22). The majority of elderly care models have been designed for therapeutic settings. A good example of this is the Nurses Improving Care for Healthsystem Elders (NICHE) model (23), with components, such as organizational structures, physical environment, and patient- and family-centered approaches (24).

Some of the findings of the present action study are similar to the components of the NICHE model. These similarities include for example the role and importance of physical environment and organizational structures in providing the healthy elderly with quality care, importance of the personnel's ability to work with the elderly, and significance of getting the family involved in care. A number of models, such as the Geriatric Resource Nurse and Hospital Elder Life Program, have been developed for the prevention of complications in hospitalized elderly people (25, 26).

However, the program of the present study was designed for healthy elderly individuals to maintain and improve their health by teaching them the principles of healthy aging. This was achieved by the empowerment of health care workers and education of the elderly and their families in line with the WHO's recommendation for primary health care and first-level prevention. The results of the interview with the personnel showed that one of their main reasons for not implementing the healthy aging care program was their lack of a clear perception of healthy aging (Table 3). Researchers have suggested different aspects and components for healthy aging.

In a meta-synthesis study carried out by Song and Kong (2014), it was reported that the elderly define health as the ability to do tasks independently, no disease symptom or having them under control, ability to adjust, connection with others, and enough energy (27). After analyzing the concept of health from the perspective of the elderly, Asadi Noghabi et al. (2012) also stated that reaching a clear definition of health for the elderly is a critical prerequisite for providing appropriate care services for this group of age (28).

In the above-mentioned studies, several different dimensions have been defined for healthy aging. This difference is probably due to the difference in the culture of the subjects and level and breadth of services provided to the elderly in different health and social systems of different countries. Therefore, it can be concluded that the concept of healthy aging depends on the culture and degree of development of societies.

In the present study, one of the factors hindering healthy aging care was a lack of proper equipment and physical structure. Access to adequate physical space can play an effective role in improving the quality of services by giving service recipients and providers a positive view of their attempts (29). From this perspective, the physical environment of many Iranian public health centers is not good enough to induce a good feeling in visitors.

In a study carried out by Safi et al. (2014) on 325 individuals receiving services from public health centers in the north of Tehran, Iran, the participants believed that the highest quality gap was

Table 3. Comparison of concepts before and after changes in health center

Pre-change concepts	Post-change concepts
Poor motivation of personnel to work with healthy elderly participants	Interest and motivation to work with healthy elderly participants More interaction of personnel with healthy elderly participants and families
Personnel's lack of a clear perception of the concept and dimensions of healthy aging	Understanding the concept of healthy aging Identifying the needs of healthy elderly participants
Poor quality of care for healthy elderly participants	Organization of care for healthy elderly participants Use of special care files for healthy elderly participants
Lack of proper relationship with families	Monthly and regular visits of families to the center Relationship with families through home visits
Lack of training program for healthy elderly participants and their families	Regular training program for healthy elderly participants and their families
Dissatisfaction of healthy elderly participants and their families	Satisfaction of elderly participants and their families with service quality Desire of elderly participants and their families to return to the center
No sense of responsibility for healthy elderly participants	Sense of responsibility
Lack of professional independence	Independence in providing care for healthy elderly participants Personnel's increased self-confidence Skills to work with healthy elderly participants Making home visits
Poor responsiveness to the needs of healthy elderly participants and their families	Meeting the needs of healthy elderly participants Meeting the needs of their families
No family involvement in elderly care	Family involvement in elderly care Participation of healthy elderly participants in the care process
No follow-up care	Follow-up care through home visits Registration of care in the care file

associated with physical and tangible space (30). The results of a study conducted by Motaghed et al. (2017) on four health centers in the west of Tehran showed a large quality gap in all five dimensions of the SERVQUAL questionnaire (18). The present study could significantly reduce the gap between the elderly's perception and expectation of the quality of services provided in the center by improving the healthy aging care provided in the center. This was obtained by the modification of the center's physical structure to decrease the personnel's resistance and help them to get ready to participate in the design, execution, and evaluation of other changes.

One of the determinants of the quality of healthy aging care is the proper training and empowering human resources. Before the study, the personnel had not received any formal training on how to provide care services for the healthy elderly (Table 3). According to Jafari et al. (2008), the promotion of organizational learning could be an effective empowerment strategy for health care workers (31). Empowerment improves employee performance. In the present study, personnel empowerment through retraining and learning about healthy aging was a type of change strategy. In this strategy, firstly, a personnel training program was developed and executed, and then the elderly and their families were empowered through the trained employees.

One of the concepts of the present study was responsiveness. Initially, the center's personnel were not responding well to the needs of the healthy elderly and their families (Table 3). Similarly, a study

carried out by Tarrahi et al. (2012) on public health centers of Khorramabad, Iran, also reported that the highest quality gap was related to the responsiveness dimension (32). In the present study, the analysis of the SERVQUAL questionnaire showed a change in the responsiveness score from 10.11 in the pre-intervention stage to 25.13 in the post-intervention stage indicating a significant increase in this dimension of service quality.

Another concept emerged in the present study was accountability to healthy seniors and their families (Table 3). Health promotion is the process by which individuals, groups, and communities are empowered to address their own health problems. One of the main pillars of health promotion is accountability or sense of responsibility. Although the health of an adult person is first and foremost his or her own responsibility, maintaining and enhancing people's health are also among the most important duties of public health centers and their employees. The responsibilities to provide quality care, continue and follow up care, and educate the elderly are some aspects of this concept. In a study carried out by Nasiripour et al. (2012), it was reported that the employees of public health centers in Noor, Iran, had an average and above-average sense of responsibility (33). Beykzad et al. (2013) showed a positive relationship between the sense of responsibility and job satisfaction among nurses (34).

Another concept identified in the present study was independence in care planning for the healthy elderly (Table 3). This concept was derived from care organization by the personnel, use of care standards by the personnel, and doing specialized tasks with the healthy elderly. In a qualitative study by Skår (2010) in Norway, which was conducted through focused group discussions and in-depth interviews with 11 nurses, they reported four themes of "to have a holistic view", "to know the patient", "to know that you know", and "to dare" as the components of autonomy in working conditions for nurses (35).

Similar to the study carried out by Skår, in the present study, the holistic view about aging was identified as an infrastructural requirement for the care program. Perhaps one of the reasons for the absence of a healthy aging program in integrated care is the lack of such a broad and holistic approach; a flaw that limits the care program to ailing seniors only. Moreover, a holistic view allows the care program to be extended to not only the healthy elderly but also their families.

In a phenomenological study carried out by Oshodi et al. (2019), they conducted 48 semi-structured interviews with nurses. As a result, independence was identified as a key concept in the nurse's caring roles (36). Some of the obtained findings of the present study, such as the identification of teamwork and participation-oriented healthy aging care, improvement of knowledge, motivation, and performance of personnel as the main prerequisite for their empowerment, and home visits independently conducted, are consistent with the results of a study by Oshodi et al.

One limitation of this study was the mild resistance that the program received from the personnel because it could interfere with the center's routine activities. This issue was resolved by seeking support from the center's chief manager, concentrating the activities in the evening shift, and assuring the personnel that there would be no disruption in their duties or activities.

Implications for Practice

The results of the present study can be used to determine and elucidate the duties of the personnel of public health centers with regard to the education of the healthy elderly and their families. One of the key results of the present study was the creation of an active partnership among the health center, elderly participants, and their families, resulting in the improvement of care quality and satisfaction of stakeholders. This experience can be used in designing similar clinical programs for similar public health centers.

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Conflicts of Interest

The authors declare that there is no conflict of interest.

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