

## ■ Original article

## Barriers to participating in hydrotherapy in older women: A qualitative study

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### Abstract

**Background and Purpose:** Floating on water provides the opportunity for the elderly to exercise and take positions that may not be possible for them on the ground. The aim of this study was to explore the experiences of elderly women regarding barriers to hydrotherapy and how they can be ruled out.

**Methods:** This qualitative study was performed using content analysis method in Guilan, north of Iran. A total of 23 elderly women undergoing hydrotherapy based on physician's order were chosen through purposive sampling. Semi-structured interviews were conducted for data collection, which were analyzed using the method suggested by Graneheim and Lundman (2004). The study's rigor was ensured and ethical considerations were considered during data collection and analysis.

**Results:** Three main categories and nine subcategories, including internal barriers (lack of interest, insufficient knowledge, and doubt about its effectiveness), high expenses (expensive entrance fee, as well as expensive equipment and transportation), and environmental drawbacks (challenges of access, limited number of pools, and no companions), were developed during data analysis.

**Conclusion:** Various factors were reported as barriers to hydrotherapy. The assessment of these barriers and resolving them can help improve quality of life in elderly women.

**Keywords:** Barriers, Hydrotherapy, Elderly women, Qualitative research

### Introduction

Healthy aging is associated with a decline in sensory, motor, and specific cognitive functions (1). Decline of physiological function in the elderly is related to losing natural physical functions and memory, as well as other chronic conditions that can affect an individual's socio-economic condition and life style. Therefore, devising strategies for improving their health and quality of life and meeting their physical and psychological needs is

mandatory (2).

Elderly women face a number of medical problems that are quite different from younger women (3). In this respect, an exercise program tailored to age such as walking and swimming can have a significant impact on their health condition (4). Physical activity can promote muscle strength, flexibility, and balance and might improve quality of life of elderly people (5).

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A number of symptoms such as pain and impaired walking make it impossible for the elderly to perform physical activity on the ground. However, floating on water increases the elderly's ability to exercise (6). Floating on water, based on the principle of not tolerating body weight, can be used as an alternative to exercise on the ground (7-9).

Hydrotherapy is defined as exercise in warm water (10). In the current rehabilitation programs, hydrotherapy is defined as a treatment plan in pool designed for improving quality of life (11). This type of therapy is supervised by skilled personnel in a pool (12, 13).

The result of hydrotherapy is a significant increase in balance (14). In addition, in this type of therapy compression joint forces are lower, and consequently, injuries are rare (15). Nowadays, hydrotherapy is incorporated into a plethora of rehabilitation programs for improving back pain (16), ankylosing spondylitis (17), neurological diseases (6), and athletic abilities (18).

Despite the known effects of hydrotherapy, based on long-term experience of the researcher as a swimming instructor and lifeguard, few elderly women use it in Guilan, north of Iran. A number of articles show the effects of hydrotherapy on relieving chronic pain such as back pain (11), and results of many studies indicate the positive effects of regular participation in hydrotherapy on elderly women's independence for meeting daily needs (4, 16, 18). The present qualitative study aimed to explore barriers to hydrotherapy in elderly women in Guilan, north of Iran.

Since the majority of the available studies were conducted on barriers to regular physical exercise in elderly women using a quantitative method, conducting qualitative studies is required to explore the lived experiences and attitudes of the elderly on this issue (19). The findings of a qualitative study can be used for improving health and quality of life of elderly people through removing barriers to hydrotherapy. Thorough understanding of individuals' experiences helps perceive their values and beliefs, which is possible through understanding their lived experiences (20). The purpose of this study was to explore the experiences of elderly women on barriers

to hydrotherapy and how they can be eliminated.

## Materials and Methods

This qualitative study was conducted using content analysis during 2015-2016. Content analysis is a systematic coding-and-categorizing approach, which can be used to unobtrusively explore a large amount of textual information to ascertain the trends and patterns of communication (21). Pools were private or semi-governmental. Using a purposive sampling method, 23 elderly women undergoing hydrotherapy based on physician's order were selected. Moreover, based on pools' principles, women with any acute physical condition such as cardiac, musculoskeletal, or mental problems were not allowed to enter the pool. The maximum variation in sampling in terms of the age and educational level was considered. The data collection process lasted for eight months.

Face-to-face, semi-structured interviews were held for data collection. The interviews were conducted in an almost quiet environment out of water. Each interview session lasted 25-45 minutes. The first author conducted the interviews with a focus on women's experiences of hydrotherapy and barriers to this exercise. The focus of the interviews was on questions such as 'what is your motivation for participation in hydrotherapy?'. Probing questions such as 'what do you mean?' and 'will you explain it more' were also asked to dig into their thoughts. Data collection and analysis were performed simultaneously. Primary codes were developed and compared in terms of similarities and differences. Data collection was continued until data saturation was reached, that is, the data did not add to the variation of findings 23 (elderly women).

Content analysis was used for data analysis. This method is suitable for in-depth interpretation of data (22). Content analysis is a tool for the exploration of people's feelings, understandings, and methods used by individuals (23). To analyze the data, according to Granaheim and Lundman (2004), we transcribed and read the interviews several times to obtain an overall understanding of the study phenomenon, considered all the interviews as the unit of analysis and words, sentences, and paragraphs as meaning unit, abstracted

meaning units based on the latent meanings behind them via coding process, and developed categories through the comparison of the codes in terms of similarities and differences. The comparison of the categories and reflection on the latent meaning of the data led to the development of some themes (22).

To ensure the rigor of this study, the researcher conducted data analysis under the supervision of two other qualitative experts. They discussed the selected meaning units, coding process, and categories. Moreover, prolonged engagement, secondary data collection from some participants, and member check helped with the credibility of the study.

Furthermore, the accuracy of the collected data was approved by sharing them with the participants. Dependability was ensured through step-by-step data collection and audit trail by the experts in the field of qualitative research. Faculty members' confirmation of the data analysis and findings was in line with the conformability of this study. According to the experts' opinions, some cases were edited. The description of the details of the study process added to the transferability of the findings.

Permission to enter the research setting was granted by the authorities after the approval of the research proposal by Guilan University of Medical Sciences in Iran. The participants were informed of the study objectives and data collection process. The permission to tape-record the interviews was also obtained. In addition, the participants were informed of their rights during the study such as anonymity, confidentiality, and voluntary nature of participation in this study and the possibility of withdrawal at any time without being penalized. The participants were informed that they could request to access the findings after data collection and analysis. Those who agreed to participate in this study signed the written informed consent form. Lack of interest in some participants was resolved during interviews through the description of the study's objectives and provision of enough time during the interviews for gaining the participants' collaboration.

## Results

The age range of the samples was 61-73 years

with a mean of 67 years. A total of 15 women had elementary or high school education and the remaining had an academic degree.

The categories and subcategories are described below using the direct quotations of the participants (Table 1).

### **Internal barriers**

Lack of interest, insufficient knowledge, and doubt about effectiveness of hydrotherapy were the barriers to this type of therapy.

#### - Lack of interest

Lack of interest was a barrier to hydrotherapy in this study. *"From my perspective, participation in any program should be based on the individual's interest. I am interested in fishing, but I am not interested in swimming"* (P 11, 61 years old). *"While hydrotherapy has many advantages for my health, I am not interested in swimming"* (P 5, 67 years old).

#### - Insufficient knowledge

Insufficient knowledge and information about hydrotherapy was another barrier to hydrotherapy. The participants were not informed of the advantages of hydrotherapy and its effect for the promotion of their health. Therefore, they needed more information on hydrotherapy and its effect on the aging process. *"I have no idea on how hydrotherapy can affect my health"* (P 20, 71 years old). Some of them stated that the information provided to them

**Table 1.** Overview of the categories and subcategories based on elderly women's experiences regarding the barriers to hydrotherapy

Categories	Subcategories
Internal barriers	Lack of interest Insufficient knowledge Doubt about its effectiveness
High expenses	High entrance fee Expensive equipment Costly transportation
Environmental problems	Challenges of access, Limited number of pools No companions

on the effect of hydrotherapy was ambiguous. “I do not know what I should exactly do to achieve the good effects of hydrotherapy. I am scared that I follow the instructions wrongly and hurt myself” (P 7, 68 years old).

- Doubt about its effectiveness

Doubt about the effectiveness of hydrotherapy was another barrier. “Well, I feel that I can do the exercise myself at home and I do not need hydrotherapy” (P 4, 65 years old). “Since I do not believe in the effect of hydrotherapy, I am not interested in it” (P 13, 66 years old).

- Expensiveness

The cost of hydrotherapy including entrance fee, equipment, and transportation were mentioned by the participants as barriers to participation in hydrotherapy.

- High entrance fee

Entrance fee for participation in hydrotherapy was very high for the participants. “Participation in hydrotherapy is expensive and needs a lot of money. I cannot afford it” (P 9, 64 years old). “If I have got no money, I cannot follow my health-related interventions. Hydrotherapy is expensive, though it has a lot of advantages” (P 1, 62 years old).

- Expensive equipment

The equipment required for hydrotherapy such as glasses was very expensive for the participants. “Hydrotherapy needs especial equipment that is expensive for me. They are broken and worn out easily and therefore I should buy new ones” (P 73, 19 years old). “The chemical disinfectants used in pool water damages our equipment, and therefore, I need to buy the new ones” (P 15, 66 years old).

- Costly transportation

Commuting costs hindered the elderly women to participate in hydrotherapy. “I have got no vehicle to travel to the pool. Therefore, traveling to this place is expensive for me” (P 10, 62 years old). “Commuting is expensive for me. Thus, I do the exercise at home and do not participate in hydrotherapy” (P 14, 69

years old).

### **Environmental problems**

The participants described environmental challenges and social issues, including limited access, few number of pools, and having no companions.

- The challenges of access

For some participants, access to pool was difficult. They needed support from the society to access the appropriate pool for hydrotherapy. “The main cause for my infrequent participation in hydrotherapy is that it is difficult to access the pool” (P 12, 68 years old). “The pool is built in a place that no one can access it easily. This is a main cause for the low rate of participation in hydrotherapy for me” (P 9, 64 years old).

- Limited number of pools

The majority of the elderly people complained of the limited number of pools in the city. From their perspective, there was a need to increase the number of pools for easy access and improving their comfort. “There is a limited number of pools here. It is difficult to access them, especially those that are far from my residence area, because I don't have a car” (P 1, 62 years old). “Since there is only one pool here, all the people gather here, and therefore, there is no comfort for me to do exercise in such an overcrowded pool” (P 9, 64 years old).

- No companions

The participants described lack of support from the society for improving people's health condition and participation in hydrotherapy. “My husband has died. I am alone and sometimes my children are rebellious to me. Although participating in hydrotherapy is required for health, the society does not support the elderly and does nothing for improving their health condition and quality of life. For instance, there is no appropriate transportation for us” (P 23, 71 years old).

### **Discussion**

In this study, we explored the barriers to

hydrotherapy among elderly women in Guilan, north of Iran. Our findings showed limited participation of the elderly in hydrotherapy. Former quantitative and qualitative studies showed the reasons for the scarce participation of this population in physical activities for improving their health and quality of life (24). However, a study by Mehotra and Batish reported that 25% of individuals did not participate in exercise programs outside their home (25). Such a difference stems from cultural and economic differences between societies.

### ***Internal barriers***

Lack of interest and insufficient knowledge regarding hydrotherapy and doubt about its effectiveness were stated as barriers to hydrotherapy. Some participants pinpointed lack of interest in hydrotherapy, which is considered as a therapeutic activity in water. Other studies also showed lack of interest in participation in physical exercise. In a study by Moschny et al., more than one-thirds of respondents had no interest in participating in physical exercise activities (26).

In this study, some participants did not have sufficient knowledge on the effect of hydrotherapy and did not consider it necessary for improving their health. The findings of the study by Matz et al. also found lack of knowledge as a barrier to physical exercise (24). Moreover, Pourghane et al. stated that insufficient knowledge was a barrier to participation in the cardiac rehabilitation programs (27). Insufficient knowledge on the effect of hydrotherapy in some people can be both caused by low educational level and lack of interest for search of information in the field.

Some participants were doubtful about the effectiveness of hydrotherapy in improving their health. In fact, many elderly people believe that exercise is not suitable for their age (4). Water-based exercise can significantly influence the quality of life in advanced ages (14), and some personal barriers to hydrotherapy can be controlled and prevented (4). One method for overcoming internal and personal barriers is the creation of motivation in the elderly and provision of sufficient information on the advantages of physical exercise

and hydrotherapy for quality of life. In this respect, Moody et al. described the role of a skillful educator for providing appropriate information to this population on the effects of hydrotherapy (28).

### ***High expenses***

Some participants found economic issues, including high entrance fee, as well as expensive equipment and transportation, as barriers to hydrotherapy. Some studies showed that many elderly people have low income and are not supported by their family. Therefore, they have challenges with living expenses. Also, some elderly women are financially dependent on their family (25). Similar studies found commuting costs, difficult access to athletic facilities, and inappropriate transportation as the barriers to participation in physical exercise activities among the elderly (24). The high costs for participation in hydrotherapy (28), transportation to the pools (29), and limited access to appropriate places for physical activities (30) were reported as the barriers to participation in physical exercise. In a study by Pourghane et al., concerns on the expenses and distance to the nearest cardiac rehabilitation center were stated as barriers to participation in cardiac rehabilitation programs (31). In a study by Cook et al., having access to appropriate facilities and resolving transportation issues were mentioned crucial for improving individuals' participation in such programs (4).

### ***Environmental problems***

Environmental and social barriers including the challenges of access, limited number of pools, and having no companions were the barriers to hydrotherapy. It has been mentioned that difficult access to centers for physical activity affects participation in exercise programs (26, 32). Insufficient facilities were reported by Cook et al. as barriers to doing physical exercise (4).

In some studies, social support was not mentioned as a barrier to participation in physical exercise (24). Such discrepancies stem from differences in economic conditions in different societies. However, in other studies, social support was stated as an important factor influencing the elderly's

attitude towards physical exercise and hydrotherapy (28). Living independently and far away from family members as a source of social support can affect the elderly's participation in physical exercise. In the studies by Moschn et al. (26) and Van et al.(33), lack of support was mentioned as a barrier to individuals' participation in physical exercise.

Since the elderly's access to facilities for regular physical exercise (34) and sufficient social support play important roles in the regular presence of these individuals in physical exercise programs (24), all the mentioned barriers should be considered while planning for the elderly's participation in hydrotherapy.

## Conclusion

Internal barriers (e.g., insufficient knowledge), high expenses (e.g., expensive equipment), and environmental problems (e.g., limited of access) were reported in this study as barriers to hydrotherapy. In some participants, lack of sufficient information was associated with low educational level, inadequate financial resources, and limited number of pools in the area. Since hydrotherapy can significantly affect the elderly's quality of life, the barriers to their participation in hydrotherapy should be eliminated. This was the first study on the barriers to hydrotherapy in the elderly in Iran. Further studies are required in other cultures and contexts for exploring the elderly women's experiences on this issue.

## Conflicts of interest

None declared.

## Authors' contributions

P. Pourghane, PhD, is an assistant professor in Department of Nursing, Faculty of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran. Her areas of research include education, cardiac rehabilitation, qualitative studies, and content analysis. She performed data collection and data analysis and was responsible for the study conception, design, drafting of the manuscript, and

making critical revisions to the paper for important intellectual content.

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