Barriers and facilitators of health self-management for the managers in long-term care facilities—a qualitative exploration based on Theoretical Domains Frame

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Research Article

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Abstract

**Background:** Long-term care development has become a global demand. Nurse directors play a crucial role in managing a long-term care facility's quality and costs. In terms of health self-management, they face many challenges. Health self-management of nursing service quality managers, however, is relatively unknown.

**Methods:** An interview outline were developed based on the framework of theoretical domains. 17 managers were selected for semistructured interviews using purposeful sampling and the snowball method. Nurses, nursing managers, and nursing directors participated in this study. Content analysis was conducted using transcripts of interview recordings, interview notes, reflection diaries, and other materials.

**Results:** Data saturation was reached after the 17th face-to-face interview. Five barriers topics and related sub-topics were categorised in ten domains of the Theoretical Domains Framework. The main barriers to healthy self-management were: (1) Negative emotional influence, (2) Limited time resources, (3) Fetters from professional roles, (4) Lack of positive reinforcement, (5) Concerns about physical red flags. In the ten TDF domains, six facilitators topics and related sub-themes were also identified. These key facilitators included: (1) Highlight the benefits of good habits, (2) Intention to balance life and work, (3) The impact of being considered a benchmark, (4) Fragmented exercise management, (5) Find the team, (6) Wear sports electronic equipment.

**Conclusion:** This study identified a wide range of barriers and facilitators of self-healthy behaviors in long-term care facilities. Managers may consider whether these barriers and facilitators operate in their work. To promote health self-management, provide ideas and references for future research.

Introduction

Health self-management can be defined as the tasks that individuals must perform in order to manage their chronic conditions, including managing medical care, managing roles, and managing emotions[1]. The goal of health self-management is to help individuals remain positive and emotionally satisfied in the face of chronic medical conditions[2]. Some studies pointed out that the lack of self-management ability is one of the important reasons for adults to be in a sub-health state[3].

With the world's population aging, long-term care is becoming an increasingly important issue. A long-term care facility (LTCF) provides nursing care and rehabilitation for people who are impaired mentally or who cannot live on their own due to disabilities, chronic diseases, or aging[4]. It is a general term for daily care and medical care services that need to be provided by informal caregivers or professional caregivers for a long period of time (6 consecutive months or more)[5]. The quality of nursing services directly influences the quality of long-term care facilities' services[6]. It has been found that nursing directors in long-term care facilities play an important role in cost management and quality assurance, and in nursing homes, serving as a director for more than a year was associated with a lower incidence of urinary tract infection in older adults ($\beta = -0.56, p < 0.05$) [7, 8]. In long-term care facilities, nursing supervisors face many challenges, and they are under pressure to create new revenue streams, increase budget allocations, improve cost efficiency, and provide nursing
services that address the issues of staff attrition and turnover[9, 10]. The most common health problems reported by nursing supervisors of long-term care facilities at work include musculoskeletal pain and osteoporosis, primarily lower back pain. [11–13]. Nursing supervisors' willingness to leave, service quality, and cost-effectiveness may be affected by barriers to self-care management[10, 14].

Currently, most nursing supervisor research focuses on enhancing and promoting their future capabilities to improve the quality of nursing home care[15, 16]. Little is known about how they manage their health. This study aims to conduct more comprehensive assessment of determinants of LTCFs in care by utilizing theoretical interview outlines to ensure we don't miss any important questions. The barriers and facilitators of health self-management by service quality managers and their recommendations for further intervention in health care.

**Materials And Methods**

**Theoretical Framework**

The Theoretical Domain Framework (TDF) is a framework designed and used in the healthcare setting to investigate the impact on healthcare providers' behaviour and to inform measures to implement evidence-based practice to change their behaviour [17, 18]. The refined version of TDF contains 14 domains and 84 theoretical facets (Appendix 1)[19]. The 14 TDF behavioral domains are designed to encompass all behavioral determinants and thus provide a comprehensive framework to guide the exploration of barriers and enablers of behavioral change [19]. The following describes how we apply TDF in data collection and analysis.

**Participant Recruitment**

During February 17 to May 28, 2022, a purposive, non-probability sampling plan was used to recruit nursing service quality managers (NSQMs) in long-term care facilities. Researchers hope to use this technique to provide a direct description of a phenomenon or event, and to obtain insights with rich information that cannot be obtained by any other method[20]. We anticipated obtaining a total sample of about 20 managers in long-term care facilities. Eligible participants were at least the head nurse of the elderly care facility, the head nurse or the director responsible for the quality of nursing services, had been employed by their agency for at least 6 months, and the time for the management of the post was \( \geq 1 \) year or more. All procedures and interview questions were approved by the institutional review board of the XXX Hospital.

**Data Collection Procedures**

After reading and discussing the relevant literature, and based on the TDF theoretical framework, the researchers developed research goals and interview procedures as a group. Two researchers with expertise in qualitative methods (LL and WW) field-tested preliminary interview questions. Based on feedback from field testers, final interview guidelines were developed based on whether the proposed interview questions adequately addressed the research question. (interview guidelines see Appendix 2)

The interview process began after participants signed consent forms. Researchers conducted the interview in an environment that was confidential and private. A semistructured, open-ended interview format provided
sufficient flexibility for exploring and validating participant responses[21]. Following the main questions, an interviewer probe and follow-up questions were presented.

Using a password-protected handheld device, we conducted all interviews in Chinese, and the audio was recorded. The transcript of the interview was transcribed verbatim by professional transcriptionists within 48 hours. Investigators (LL & WW) conducted the majority of on-site interviews. Weekly meetings were held to discuss the results of the interviews and data collection. Recruitment efforts were completed once saturation had been reached.

**Data analysis**

In the original study, all transcribed interviews were checked for accuracy. Content analysis method was used in this study[21, 22]. The coders (LL & XH) immerse themselves in the material in order to gain a holistic understanding of it. Following that, the coder according to the relevant TDF domains by simultaneously categorizing citations, the nomenclature of Barriers and facilitators factors is guided by the theoretical structure of the TDF relevant domains. Additionally, items that do not conform to any of the TDF domains are coded and placed into the "Other" category. Particularly important TDF domains were identified. First, four criteria with binary evaluations were selected from the TDF literature and applied at the belief statement level[19, 23]. Second, these criteria are used to classify TDF domains as high, medium, or low importance based on the number of criteria met. Areas with any belief statement satisfying 3 or 4 criteria were considered highly important; 2 medium importance and 1 or 0 low importance[23].

The two coders (LL & XH) discussed their respective encodings and used an iterative process to agree on encodings, encoding definitions, and any expansion or collapse of the encodings[24]. The third researcher (WW) reviewed for further comparison, and used to write the report[24, 25]. For the initial coding and codes, we used Chinese, and then translated them into English for comparison by a peer reviewer (WW), a fluent English and Chinese speaker.[24, 25]. Saturation was reached when the three coders found that participants' responses repeatedly repeated; no new themes emerged[26].

**Researchers' Background and Reflexivity**

Our team varies by educational background and profession. Four of the six researchers were nurses in a general hospital, one was a long-term care facility manager, and one was a medical doctor at a general hospital. They work in a healthcare facility and work with quality managers of care on a daily basis. At every stage of the project, from ideation to analysis and reporting, we discuss and reflect on our own positions and interpretations. Since we are all trained hospital staff, we discussed the concept of "manager" in depth and acknowledged that we were not simply laypeople, Each of us has our own biases and opinions. In this study, although subjectivity is a useful tool, ongoing group discussions of similarities and differences also helped us reduce the impact of subjectivity on the results.

**Results**
During data collection, 17 semi-structured interviews were conducted. In the participant sample, the mean (± SD) age was 45.2 ± 8.9 years, and the median years of management was 7 (range 3-22 years). Three participants had travelled to Singapore or Japan to study long-term care management (Table 1). The topic corpus consists of 71 topics (Appendix 3). According to priority themes and belief statements, ten of the 14 TDF domains were of high importance, three of Moderate importance, and one of low importance (Table 2). Finally establishes the thematic framework of barrier and facilitators shown in Figure 1 and Figure 2.

Barriers

Negative emotional influence

Participants indicated that this job requires a high degree of stress on patient safety, and a slight negligence may lead to adverse safety events. Highly tense nerves make people emotionally depressed.

I need a 24-hour phone standby status, because I may deal with various emergencies at any time, which may at noon, or at midnight. (M #9)

Dealing with troublesome affairs always consumes more energy and makes people more nervous. It may cause chronic diseases and plague the health of managers.

Because of some troublesome things, I often do not feel hungry, so I miss the normal meal time, and now I have a serious stomach problem. (M#13)

Limited time resources

Due to lack of managers, some institutions need combine multiple functional departments. Usually one manager needs to handle multiple departments.

Now I am not only the director of the nursing management department, but also the director of the medical department. The logistics management also needs to be part-time. (M#16)

Elderly care institutions need to meet the inspection and assessment of higher-level authorities, according to their own grade standards.

Now is the epidemic period of the new crown epidemic, and various inspections are even more numerous, Sometimes we have to recept several inspections a day. (M#5)

Fetters from professional roles

Because some participants put too much energy on supervising and strengthening the work of subordinates, and relatively limited the management work to their own scope of work, there was an irreplaceable illusion.
The ward work inspection needs to be carried out regularly, and it is necessary to participate in the nursing work of the ward, and to supervise and guide the cleaning workers in the ward. and no one can share it for me. (M#7)

I also want to be able to assign a secretary or a clerical staff to me, but no, I do all these data sorting and filing by myself, and I do these things during holidays. (M#11)

Lack of positive reinforcement

Many participants felt that if they were able to take appropriate actions to upgrade their energy and management skills, they might have a greater understanding and awareness of healthy self-management.

If a teacher can regularly teach us the skills and experience of health management, I will manage the limited energy and make the management more effective. (M#6)

Yes, it's been a long time since I stopped to read a book, or think deeply about a problem. Only thinking about meaning and self-precipitation can make my spiritual world full of vitality. (M#7)

Concerns about physical red flags

Many participants clearly feel that their physical functions are declining, among them, memory loss and fatigue are the most obvious differences from their previous physical state.

The most obvious feeling that I can't stay up late to work. If I don't sleep at 22:00 at night, my head hurts, and my memory is significantly lower than before. (M#15)

Almost all of the participants experienced chronic physical symptoms, such as neck and shoulder pain, stomach problems, dry eyes, low blood sugar, tinnitus, obesity, etc. These chronic physical illnesses make managers nervous.

I often have a swollen head and can't lift my neck up, if I can't stop working at my desk, I may experience severe head pain and even ringing in my ears. This happens periodically and there is no good solution. (M#11)

Facilitator

Highlight the benefits of good habits

Participants believed that body management requiring a scientific way to tackle it and form rules.

I will run for 45 minutes every day, because 45 minutes is to consume fat and achieve the effect of exercise. Deliberate practice promotes the formation of good habits. (M#14)
The acquisition of health requires long-term and unremitting efforts. Only by understanding the value of health can we truly appreciate the beauty brought by health.

The better the self-discipline, the better the figure, you will find that you can control any clothes, this feeling is very good, it will make me more and more confident. (M#3)

**Intention to balance life and work**

Many participants said that if they can balance life and work, allocate appropriate time and energy to life and work, and find happiness in life and satisfaction in work, they will be in a happy state of mind and body. These are exactly what managers want.

After dinner, I must walk or run for up to 5 kilometers, after a period of time, my sleep quality has improved, and I don't feel tired. (M#8)

Taking a little time to stray into life will help you better regulate your emotions and allow you to stay relaxed no matter in your work or life state. (M#12)

**The impact of being considered a benchmark**

After being labelled as managers, many behaviors of the participants will be followed and imitated by the people around them, which will make the participants pay more attention to their own health status.

In the workplace, I need to be energetic and decisive to deal with problems, and I need to have "aura" to be deterrent, so I need to maintain a healthy state first. (M#4)

I often reflect that if our organization can develop a healthy culture, and the influence of managers is the best entry point for the formation of a healthy culture. (M#17)

**Fragmented exercise management**

To avoid procrastination in planning caused by clutter, mini habits are easier to manage, and their benefits increase over time.

Just as people often say "shut your mouth and stretch your legs", although this is a healthy habit, it is not easy to stick to. Make your exercise plan specific to spending 10 or 20 minutes a day. (M#16)

I don't have a lot of time to exercise, but I set myself a goal of walking at least 15,000 steps a day to be completed during my commute. (M#15)

**Find the team**

Almost all participants said that by joining a running group, they could make the exercise last longer and have a stronger desire to develop healthy habits.
Now I have joined the "hundred-day running group", and I will check in the WeChat group every day, and everyone will supervise each other's running situation. (M#3)

The running team will set up small stops on the track, surpassing each stop and finally reaching the destination, making the sport attractive. (M#11)

**Wear sports electronic equipment**

Wearable sports electronic devices are full of technology, which provides great help to promote people's physical training and formulate scientific and reasonable training plans. Various wristbands, smart watches, and can be interconnected with smart phones, increasing the fun of sports.

The running track map and some indicators in the exercise can be displayed on the mobile phone, and can be shared on social platforms (such as WeChat, Weibo, etc.), everyone leaves a message to encourage, this kind of exercise is not boring. (M#16)

Since I have a sports bracelet, I can understand the speed in real time, how long it takes to reach a time node, and what my heart rate should be. I think my running is more scientific. (M#6)

**Discussion**

This study used face-to-face interviews supported by a structured theoretical framework (TDF) to identify and deepen understanding of the multifaceted barriers and facilitators of health self-management and how they affect health self-management practice. The findings revealed that managers identified five complex barriers and six facilitators as influencing the implementation of healthy self-management practices. These influencing factors are concentrated in 10 of the TDF domains, providing important evidence for improving NSQM health self-management. We further refined 11 themes and 23 sub themes, The logical connection between each theme and subtheme has been established, forming a thematic framework. It enables us to have a systematic understanding of the factors affecting NSQMs' healthy self-management.

In previous studies, heavy tasks and high staff mobility were the main difficulties faced by nursing service managers in long-term care institutions [27]. In this study, this difficulty was also a major obstacle to managers' self healthy behaviors. Most of the participants expressed that the obstacle factors of healthy self-management, such as "the influence of negative emotions", "limited time resources" and "lack of positive reinforcement", were related to their heavy management responsibility and high mobility of nursing staff in the institution.

The solution to this difficulty requires the joint efforts of the society and relevant government departments to provide more environmental, economic and policy support for healthy behaviors [28]. In this study, there is an interesting finding that almost all the nursing quality managers interviewed are registered nurses. This may be related to that registered nurses generally have solid nursing professional practice ability, and well-trained professional practice ability is a prerequisite for good leadership [29]. In the process of serving as the manager and leader of the elderly care institution, the registered nurses, on the one hand, recognized their leadership role in the institution's elderly care, but also experienced the contradiction between being valued by customers
and being belittled by the system [30]. This organizational obstacle has seriously affected the negative emotions of nursing leaders in the elderly care environment, thus making them more aware of their limitations in pursuing health goals.

In this study, almost all participants had chronic physical discomfort, such as neck and shoulder pain, stomach disease, dry eyes, tinnitus, etc. Concern about these physical danger signals makes managers feel nervous. Research shows that musculoskeletal disease is a common chronic physical problem for elderly care institution managers, and more than 70% of them have not received any education on work-related musculoskeletal disease [31]. At present, more and more organizations use health self-management applications to provide feedback on health related behaviors to employees, so that they can self regulate their healthy lifestyles and provide them with the autonomy to self regulate their health related behaviors [32].

Belief in behavior is an important precursor of intention and behavior. It not only affects the implementation of behavior, but also affects the persistence of behavior [33]. The participants of our study believe that the belief in "the benefits of good behavior habits", the motivation of "nurse leadership identity label", and the intention of "balancing life and work" can positively promote the healthy self-management of the elderly care institution managers.

Previous studies have shown that the workplaces of elderly care institutions are provided with perfect health promotion facilities, and employees can freely decide whether to use or not to use them to evaluate the effect of workplace health promotion plans. The results show that they can only be effective for a small number of people, and have little impact on the body weight index and the incidence of regular aerobic exercise [28]. This has also been confirmed in our research. Compared with the use of health promotion facilities, most participants prefer outdoor group sports. Because team sports have additional benefits, including social support, partnership and knowledge sharing [34].

It is worth mentioning that wearable sports electronic devices have been strongly advocated by the participants of this study. Participants believe that wearable sports electronic devices can provide timely tips during the exercise process, so that they can understand and adjust the best body state. The wearable sports electronic devices described in this study mainly refer to sports watches or sports bracelets. Research shows that sports watches have obtained effective and reliable information in the information measurement of young men's vertical jump height [35]. The use of a sports smart bracelet, combined with diversified sports exercises, can effectively enhance the enthusiasm of participants and participation in regular sports.

**Limitations**

The present study also has certain limitations. First, only perceptions and experiences of health self-management among NSQMs in long-term care institutions (southeastern China). Second, this was a short-term study, and we could not identify managers’ attitudes and behaviors toward future health self-management. Third, we were limited to a convenience sample of those who agreed to participate. Fourth, qualitative studies are not concerned with generalizability of results, and it is recommended that similar studies be conducted in other settings to make results more generalizable.
Conclusion

By using a structured methodological and theoretical system, we identified a range of determinants that influence health self-management. Our survey revealed a number of barriers and facilitations related to TDF, including social / professional role and identity; Optimism; Beliefs about consequences; Reinforcement; Intentions; Memory, attention & decision processes; Environment, context & resources; Social influences; Emotions; Behavioural regulation. We found no association of TDF (knowledge, skills, beliefs about capabilities, and goals) with determinants of health self-management. For managers of long-term care facilities, this is a more comprehensive evaluation to inform future research.

Declarations

Acknowledgments

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Authors' contributions

L.Huang designed the study, collected data, analyzed data, interpreted findings and wrote the manuscript. X. Guan designed the study, collected data, analyzed data, interpreted findings. W. Hu and Y. Jiang collected data, analyzed data, and prepared figures 1-2. J. Fu contributed to the interpretations of findings. W. Hong designed the study, provided project oversight and leadership. W. Hong is the corresponding author. All authors reviewed the manuscript.

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Availability of data and materials

The datasets generated and analysed during the current study are not publicly available due to the confidentiality agreement with the participants. The data is however available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Prior to the interviews, the participants were informed about their anonymity, confidentiality of their information, the research method and objectives, and their right to leave the study at will. The participants also signed a statement to confirm that
informed consent was obtained from all subjects for study participation. The procedures were all performed in accordance with the Declaration of Helsinki (World Medical Association Declaration of Helsinki, 2013). Ethics approval was granted by Taizhou First People's Hospital, Zhejiang Province, China (approval number: 2022-KY003-01).

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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References


Tables

Table 1  Demographics of participants (N =17)
<table>
<thead>
<tr>
<th>Manager No.</th>
<th>Gender</th>
<th>Age (years)</th>
<th>Marital status</th>
<th>Years of management</th>
<th>Education</th>
<th>Overseas study experience</th>
<th>Institution</th>
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1Table2 Summary number of priority criteria met in the 14 domains of theoretical domains and importance framework (TDF) for each domain; sorted by importance of target behavior)
<table>
<thead>
<tr>
<th>TDF domain</th>
<th>^2 Frequency of belief statements meeting at least 1 of the 4 prioritisation criteria</th>
<th>^3 Number of different prioritisation criteria met by belief statements within the domain (denominator = 4)</th>
<th>^4 Level of importance in determining the target behaviours</th>
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<td>Behavioural regulation</td>
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**Instruction**

1. Prioritisation criteria applied (at the belief statement level) to identify Theoretical Domains Framework (TDF) domains of importance [23, 24]

2. Frequency, in this context, relates to the number of different participants who express a belief rather than the number of times it is mentioned.

3. Frequency: More than one third of the sample reported beliefs (barriers or contributing factors)
Personal importance: Expresses belief using emphasis language in one or more descriptive quotes

Direction of effect: Different perceptions among participants about beliefs as barriers or enablers

Professional inconsistency: Participant holding diametrically opposed views on a belief

The number of different priority criteria satisfied by belief statements within the domain was 3 or 4 defined as "High"; 2 defined as "Moderate"; and 1 defined as "Low"

**Figures**

![Theme Framework of Barriers](image)

**Figure 1**

Establish a theme framework of barrier
**Figure 2**

Establish a theme framework of facilitator

**Supplementary Files**

This is a list of supplementary files associated with this preprint. Click to download.

- Appendix1DomainsofTDF.doc
- Appendix2.Theinterviewguide.doc
- Appendix3TDFdomainthemesbeliefandfrequency.doc