






Presenting a Model of the Impact of Elderly Exercise and Health-Oriented Lifestyle on Life Expectancy of the Elderly with the Mediating Role of Social Marketing

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ABSTRACT

The aim of this study is to present a model of the impact of elderly exercise and health-oriented lifestyle on life expectancy of the elderly, with the mediating role of social marketing. The research method is qualitative and based on the thematic analysis approach. Based on qualitative research, the participants in this study included academic elites and experts in the field of elderly exercise. The sample selection in the qualitative section was done theoretically and in a judgmental manner. The estimated sample size was based on the theoretical saturation of the extracted components of the research. The measurement tool was an open interview, and the findings were analyzed using MAXQDA software. Based on the findings, the components of the position of elderly exercise include cultural position, sports support, sports infrastructure, sports security, and social position. The components of life expectancy of the elderly include creative decision-making, goal-setting, spirituality, and constructive communication. The components of a health-oriented lifestyle for the elderly include personal health, mental health, social health, and functional health. The components of social marketing in elderly exercise include access to facilities, media role, participatory engagement, planning, and education. Therefore, it is suggested that in order to achieve the strategic goals of elderly exercise, attention should be paid to a health-oriented lifestyle and social marketing in elderly sports to achieve a hopeful society.

Keywords: *Elderly Exercise, Health-Oriented Lifestyle, Life Expectancy of the Elderly, Social Marketing.*

1. Introduction

Today, exercise is one of the most important, attractive, and effective behaviors in the world. Exercise reduces stress and mitigates reduced mobility. Reduced mobility is one of the most common harms of old age. Aging is a gradual process accompanied by physiological changes and a decline in physical and mental abilities in daily life, making it essential to pay attention to various aspects of elderly life and strive to enhance their adaptability (1). Older adults are usually characterized by a range of features, including age, changes in social roles, and alterations in functional abilities (2). In Iran, according to statistics from some studies on physical activity in the elderly, aging is significantly associated with a decline in physical activity levels. The level of physical activity in women in this age group is higher than in men (3). Exercise in the elderly enhances and maintains physical balance, increasing individuals' ability to live independently, thereby reducing their dependency on others. Additionally, physical activity decreases the likelihood of falls in the elderly due to imbalance and, owing to having a better level of muscular and bone health and increased sense of balance resulting from appropriate physical activity, the probability of fractures is lower. These individuals also exhibit better cognitive functioning (3, 4).

In most developed Western countries, the onset of old age is considered to be from 60 to 65 years; however, different countries and communities consider the start of old age to range from the mid-40s to the 70s, depending on the level of advancement of the countries (5). As death approaches, the focus of hope significantly differs from earlier stages. In examining hope in the elderly, an interesting fundamental area is understanding from which sources and domains hope in life arises and is maintained at this stage of development. In other words, what domains and factors give meaning to an individual's life and what dimensions of hope in the life of the elderly are composed of (6). A healthy lifestyle, information development, case management, growth centers, adult daycare, housing, and transportation are complementary to institutional services and long-term care services to continuously support individuals (7). Seeking and finding hope in life helps the elderly identify their main concerns in life and adopt flexible and adaptive strategies to achieve their life goals. The increasing number of elderly in Iran has drawn attention to new topics concerning them. The

construct of hope is defined as a thought process through which individuals actively pursue their goals (4). As disabilities in old age become more common with increasing age, the role of exercise in maintaining and improving elderly health and social vitality becomes prominent (8). Old age refers to the age range of 60 to 65 years and above, marking the final stage of the human life cycle (9). Aging is an unstoppable process, and only by maintaining a healthy life and special care can this period be turned into a desirable and enjoyable time, accompanied by health. Adopting health-promoting behaviors in the elderly increases life expectancy, improves health, and enhances quality of life (6). Health-promoting behaviors are classified into six dimensions: nutrition, physical activity, stress management, health responsibility, interpersonal relationships, and spiritual growth. Health-promoting behaviors in the elderly have a potential impact on advancing their health and hope in life and similarly reduce healthcare costs (10). Physical needs during old age are very important, and psychological problems arising from aging also cause changes in the lifestyle of this group. In old age, due to aging-related changes, an individual may need help from others to meet basic needs. In this regard, educating the elderly and their families about health and healthy lifestyles is crucial, as it can control or delay the complications arising from aging and maintain the health of the elderly (4). Multiple factors, including attention to the position of the elderly, creating special organizations for the elderly, budget allocation, modeling from other cases, designing long-term programs, and creating process strategies, are among the most important factors advancing elderly sports (8).

Lifestyle changes in old age are very important. Studies have shown that another determinant of the quality of life of the elderly is employment status. Employed retirees have better quality of life, and again have a positive impact on improving quality of life. Elderly workers who have involuntarily lost their jobs are in poor physical and mental health (11). Scientific advances have enabled many activities that were previously done with body energy and as part of individuals' daily work to be performed by machines. Increased stress resulting from this creates time and patience for physical activity, another way to reduce mobility (12). Thus, actions such as social marketing in elderly sports to improve quality of life become important. In social

marketing, we seek to influence people's behavior. Social marketing, as a planned process, can be used to change the behavior of the target audience by offering benefits, reducing barriers, and using encouragement and persuasion. Generally, social marketing aims to achieve one of four goals: acceptance of new behavior, rejection of potential behavior, modification of current behavior, or abandonment of old behavior in the audience (13).

In the context of elderly sports, we aim for the goals of dynamic aging. Dynamic aging is the process of optimizing opportunities for health, participation, and security to enhance the quality of life of people approaching old age. Therefore, the goal of dynamic aging is to increase healthy lifespan and enhance its quality for all people, including the weak, disabled, and those in need of continuous care (14). According to the dynamic aging theory, the presence of the elderly in society and their interaction with the young can have a significant impact on their sense of life satisfaction and usefulness. Sports activities, even if they do not increase lifespan, enhance the period of dynamism and vitality. A health-promoting lifestyle contributes to a positive quality of life, and individuals with such a lifestyle can maintain their health and functionality with minimal illness or disability. Studies in England have shown that health-promoting behaviors lead to healthy aging and increased hope in life among the elderly (15). If the elderly can equip themselves with skills and abilities that empower them, they can protect themselves against health-threatening risks. One of the most effective ways to empower the elderly is to adopt a healthy lifestyle. Health-promoting personal behaviors are the most important and effective factor in maintaining and enhancing the health of the elderly. Adopting health-promoting behaviors in old age increases life expectancy, improves health, and enhances quality of life, and on the other hand, reduces the incidence and severity of diseases and disabilities and healthcare costs. Attention to the promotion of elderly health is necessary (12).

In this regard, Niazi et al. (2022) in a study on physical activity and quality of life in the elderly showed that there is a significant relationship between physical activity and quality of life, physical condition, marital status, and life satisfaction among the elderly. Therefore, physical activities can have different effects on muscle strength, the individual's ability to perform daily tasks independently, and

improving quality of life (4). Gandomi et al. (2022) in examining the dimensions of social marketing in students' tendency towards sports activities and weight control showed that the priorities of social marketing dimensions in students' tendency towards sports activities and weight control include public, proposal, accessibility, participation cost, creating partners, policy and strategy, and social communication (16). Ghamati et al. (2021) in identifying factors affecting the continuous participation of the elderly in physical leisure activities showed that personal factors, structural factors, facility factors, cultural-social factors, and economic factors are the most important influencing factors on the leisure activities of Iranian elderly (17). Vahedian et al. (2021) in a meta-analysis of studies on factors influencing health-oriented lifestyles in Iran showed that the socioeconomic variable has the greatest impact on health-oriented lifestyles (18). Sun et al. (2022) in examining healthy lifestyle and life expectancy in the Chinese population showed that the estimated increase in life expectancy for men and women is mainly due to a reduction in mortality from cardiovascular diseases (7). Zhang et al. (2022) in studying the trend of healthy life expectancy in the elderly in China from 1994-2015 showed that complications can shift between compression, expansion, and dynamic balance over a long period due to different combinations of mortality and health improvement (19). Given the limited data in this study, whether and how disease transmission will manifest in the future is open and requires further research. Obidovna et al. (2022) in studying physical activity and its impact on human health and longevity showed that the real social duty of modern society is to improve the population, strengthen preventive measures to prevent diseases, intensify pathologies, and weaken the body (20). Sirisuwan et al. (2022) in studying the impact of active aging and health literacy on quality of life among the elderly in northeastern Thailand showed that the quality of life of the elderly should be prioritized (21). Peng et al. (2021) in examining the trend of change in life expectancy for the Chinese elderly and rural-urban inequality showed that age patterns underpin rural-urban inequality in elderly life expectancy in China, and also describe the main reason for slower improvement in life expectancy among the Chinese elderly compared to developed countries. Improving young and old survival and unifying existing health services is key to reducing rural-

urban bias and achieving rapid increases in life expectancy among the elderly in China (22).

In fact, improving health status and enhancing the quality of life in today's world have led to increased longevity and consequently an increase in the number of elderly people worldwide, highlighting the importance of aging and attention to the mental and physical health of the elderly more than ever before. In fact, participation in sports by the elderly results in better physical and mental health, higher cognitive functioning, and reduced loneliness. One of the major reasons for public health deficiencies and insufficient resources for health promotion and primary prevention, and overall health improvement for the elderly, is the lack of a direct focus on healthy sports and health-oriented lifestyles with the mediating role of social evaluation on life expectancy. The research background has not yielded a conclusion, and examining the effect of each component can lead to diverse results. Providing facilities for physical activities and reducing limitations is essential. Currently, the country's sports are lacking in the field of elderly sports. Most previous studies have generally addressed the issue of elderly sports or identified improving and inhibiting factors in elderly sports and have less focused on changing elderly behaviors. In the present study, the researcher aims to answer the question: What model of elderly exercise and health-oriented lifestyle with the mediating role of social factors on elderly life expectancy can be proposed?

2. Methods and Materials

2.1. Study Design and Participants

This research is qualitative. The research strategy in this study was based on grounded theory using thematic analysis. The statistical population included experts and specialists in the field of elderly sports. Criteria for the initial list of experts included having an academic degree, relevant scientific publications, managerial positions, and practical experiences in elderly sports. The sampling method was non-probabilistic, purposive sampling with maximum diversity. The sample size in this study, based on the theoretical saturation index, was 16 individuals. Theoretical saturation occurs when the researcher cannot add any more information to the existing data, and repetitive patterns emerge, at which point sampling ceases as additional

samples do not contribute to further expansion or explanation of the research.

2.2. Data Collection

Additionally, data collection in this study was conducted through both library and field methods. Initially, literature and previous research were reviewed using books, journals, relevant theses, regulations, related documents, and websites. After preparing the interview guide, the statistical sample was approached, and the necessary data were collected using open interviews. It is worth noting that due to the novelty of the research and potential data limitations, a triangulation approach was used. Given the triangulation method (using multiple sources including library resources, focus groups with experts, and interviews with specialists), diverse sources were utilized for data collection.

2.3. Data Analysis

To calculate reliability using the intra-subject agreement method of two coders, a sports management specialist who was involved in the research stages and had adequate knowledge about the study was asked to participate as a research coding partner. Necessary training and techniques for coding were provided to the research partner. Subsequently, the researchers, along with the partner, coded two interview samples, and the percentage of intra-subject agreement was calculated.

The total number of codes registered in three interviews was 57, with a total agreement of 27 codes. Additionally, the inter-coder reliability for the interviews conducted in this study was 0.90. Therefore, since the reliability is greater than 0.60, the trustworthiness of the coding is confirmed, and it can be said that the reliability of the current interview analysis is appropriate. The intra-subject agreement rate is 0.90, which is suitable.

3. Findings and Results

In total, in-depth interviews were conducted with 16 experts in sports management and elderly sports specialists.

In this study, open, axial, and selective coding methods were used to analyze the data obtained from the interviews. In this method, after data collection and their transcription, parts of the written texts such as phrases or sentences were

selected and numbered as coded information. In this study, codes were used to divide the textual data into understandable parts such as paragraphs, phrases, or words.

The codes were chosen to be non-redundant and non-repetitive (Table 1).

Table 1

Results of Coding

Variable	Component	Statements
Position of Elderly Sports	Cultural Position	<ul style="list-style-type: none"> - Special attention to the position of elderly sports in social media - Development of sports culture among the elderly and emphasis on public sports - Utilizing the capacity of social networks to emphasize elderly sports - Raising awareness about the benefits of sports and physical activities - Holding scientific and sports conferences specifically for the elderly - Effort and perseverance of the elderly against functional limitations
	Sports Support	<ul style="list-style-type: none"> - Allocating appropriate budgets for the development of elderly sports - Support from governmental and private organizations for the development of elderly sports - Development of non-governmental organizations to support elderly sports - Using charity capacities to enhance elderly health
	Sports Infrastructure	<ul style="list-style-type: none"> - Suitable paths and routes for elderly sports - Appropriate infrastructure for elderly walking - Suitable sports spaces in parks for elderly use - Availability of suitable transportation systems at different times of the day
	Sports Security	<ul style="list-style-type: none"> - Quality of safety measures in sports places for the elderly - Use of safe tools and equipment in sports environments - Ensuring the security of open spaces during elderly sports - Creating a secure environment based on elderly sports standards
	Social Position	<ul style="list-style-type: none"> - Socializing the elderly through adherence to sports regulations - Participation in sports activities and promoting cultural-social values - Publicizing elderly sports to improve quality of life - Creating social motivation for active participation of the elderly in sports activities
Elderly Life Expectancy	Creative Decision Making	<ul style="list-style-type: none"> - Using appropriate solutions to overcome problems - Availability of diverse solutions to address social issues - Using different strategies to achieve life goals - Using creative approaches to perform sports activities
	Goal Setting	<ul style="list-style-type: none"> - Using past experiences in decision-making - Feeling of success in achieving life goals - Confidence in achieving specific goals - Pursuing personal goals and plans with an emphasis on perseverance
	Spirituality	<ul style="list-style-type: none"> - Importance of mental and spiritual health in life - Helping others in necessary situations - Importance of the environment and interaction with it - Ability to face difficult situations with reliance on God
	Constructive Communication	<ul style="list-style-type: none"> - Respecting others and emphasizing respectful interactions - Honesty and truthfulness in communications with surrounding people - Attention to the personalities of individuals in communication - Finding similarities with others and understanding proper communication
Health-Oriented Lifestyle	Personal Health	<ul style="list-style-type: none"> - Observing safety principles in daily life - Having sufficient and quality sleep throughout the day - Undergoing medical examinations at different times - Consuming fruits and vegetables and avoiding fatty foods - Weight control and maintaining a normal body mass index
	Mental Health	<ul style="list-style-type: none"> - Coping with stress and controlling emotional and nervous pressures - Self-awareness and having adequate knowledge of internal characteristics - Positive attitude towards life and the surrounding environment - Flexibility in facing life problems and issues
	Social Health	<ul style="list-style-type: none"> - Establishing positive relationships with others - Respecting oneself and others

Social Marketing in Elderly Sports	Functional Health	<ul style="list-style-type: none"> - Gaining social support in facing problems - Establishing positive relationships to promote social development - Observing social values and norms - Accompanying others in sports activities - Emphasis on sports activities in daily matters - Using walking instead of transportation tools - Maintaining limb flexibility through sports activities - Inclination to rely on one's physical strength and avoid physical support from others - Preparing for elderly sports in various places
	Access to Facilities	<ul style="list-style-type: none"> - Accessibility of the elderly to numerous sports venues - Low pricing on services for the elderly - Providing discount cards for participation in sports venues
	Media Role	<ul style="list-style-type: none"> - Media emphasis on active leisure through sports for the elderly - Correcting elderly sports behavior through media and emphasizing health aspects - Creating health-oriented programs with an elderly sports approach in social media - Highlighting elderly sports in the media
	Participatory Engagement	<ul style="list-style-type: none"> - Using elderly opinions to promote sports participation - Utilizing experiences of elderly athletes to attract other elderly - Developing and improving the quality and quantity of elderly sports associations - Presenting proper behavior in dealing with the elderly in public sports - Facilitating interactions or networking among the elderly
	Planning	<ul style="list-style-type: none"> - Using strategic planning to develop elderly sports - Emphasizing social marketing principles to solve elderly sports issues - Planning to hold sports festivals specifically for the elderly - Implementing sports programs in elderly centers with a sports participation approach
	Education	<ul style="list-style-type: none"> - Educating elderly-specific sports in media and social networks - Training and empowering sports experts in elderly sports - Teaching necessary skills and expertise for elderly participation - Special training for nurses to learn sports principles

4. Discussion and Conclusion

This study aimed to present a model of elderly exercise and health-oriented lifestyle on the life expectancy of the elderly with the mediating role of social marketing. According to the findings, the cultural position is one of the components of the position of elderly sports, which can play an important role in the status of elderly sports. This component includes factors such as special attention to the position of elderly sports in social media, development of sports culture among the elderly and emphasis on public sports, utilization of social network capacities to highlight elderly sports, raising awareness about the benefits of sports and physical activities, holding scientific and sports conferences specifically for the elderly, and the effort and perseverance of the elderly against functional limitations. An increase in positive feelings in life can lead to better efficiency among individuals. Given this, the problems that the elderly experience in the last stage of their lives can significantly impact their life expectancy during this period. Therefore, it is very important to identify, control, and

measure the factors affecting hope in the lives of the elderly, as well as its predictors and correlates, to help this group in society achieve a suitable position for elderly sports through an appropriate lifestyle and necessary dimensions. Consequently, this group can become active and productive members of society.

Another component of the position of elderly sports is sports support. This component shows how support for elderly sports can be provided. In fact, through programs such as allocating appropriate budgets for the development of elderly sports, support from governmental and private organizations for the development of elderly sports, development of non-governmental organizations to support elderly sports, and utilization of charity capacities to enhance the health of the elderly. Several key factors, including attention to the position of the elderly, creating a specific organization for the elderly, budget allocation, modeling from other countries, designing long-term programs, and creating process-oriented strategies, are the most important factors facing elderly sports in Iran (8).

Another component of the position of elderly sports is sports infrastructure. Physical activity in the elderly, besides maintaining mobility and endurance and reducing the incidence of diseases, creates vitality, youthful energy, and a healthy life. Therefore, equalizing opportunities is a process through which public systems of society, including the physical environment, transportation, health and social services, and cultural and sports facilities, become accessible and usable for all individuals. The infrastructure component shows that infrastructures have a significant impact on the position of elderly sports. Some of the most important factors related to this component include the suitability of paths and routes for elderly sports, appropriate infrastructure for elderly walking, suitability of park sports spaces for elderly use, and availability of suitable transportation systems at different times of the day.

Sports security is another component of the position of elderly sports. This component includes factors such as the quality of safety measures in sports places for the elderly, the use of safe tools and equipment in sports environments, ensuring the security of open spaces during elderly sports, and creating a secure environment based on elderly sports standards.

In the context of elderly sports, we aim for the goals of dynamic aging. Dynamic aging is the process of optimizing opportunities for health, participation, and security to enhance the quality of life of individuals approaching old age. Therefore, the goal of dynamic aging is to increase healthy lifespan and enhance its quality for all people, including the weak, disabled, and those in need of continuous care (14).

Another component of the position of elderly sports is social position. The presence of the elderly in society and their interaction with young people can have significant impacts on their sense of life satisfaction and usefulness. Intergenerational interaction through intergenerational programs that promote volunteer work among young people and the elderly is a suitable method for all generations to increase self-esteem and life satisfaction, reduce loneliness, and improve depression in the elderly, and to develop children's personality, strengthen young people's value system, and their positive attitude towards the elderly (17, 23). This social position refers to the socialization of the elderly through adherence to sports regulations, participation

in sports activities, and promoting cultural-social values, publicizing elderly sports to improve quality of life, and creating social motivation for active participation of the elderly in sports activities.

Studies have shown that adopting health-promoting behaviors in the elderly increases life expectancy, improves health, and enhances quality of life (6). Health-promoting behaviors are classified into six dimensions: nutrition, physical activity, stress control, health responsibility, interpersonal relationships, and spiritual growth. Health-promoting behaviors in the elderly have a potential impact on advancing their health and hope in life and similarly reduce healthcare costs (10).

Creative decision-making is one of the most important components of the elderly's life expectancy, which includes using appropriate solutions to overcome problems, having diverse solutions to address social issues, using different strategies to achieve life goals, and using creative approaches to perform sports activities.

A health-promoting lifestyle contributes to a positive quality of life, and individuals with such a lifestyle can maintain their health and functionality with minimal illness or disability. Studies conducted in England have shown that health-promoting behaviors lead to healthy aging and increased life expectancy in the elderly (15). If the elderly can equip themselves with skills and abilities that empower them, they can protect themselves against health-threatening risks. One of the most effective methods for empowering the elderly is to adopt a healthy lifestyle. Performing health-promoting personal behaviors is the most important and effective factor in maintaining and enhancing the health of the elderly. Adopting health-promoting behaviors in old age increases life expectancy, improves health and quality of life, and on the other hand, reduces the incidence and severity of diseases and disabilities and healthcare costs. Therefore, attention to the promotion of elderly health is necessary (12).

Another component affecting the life expectancy of the elderly is goal setting. Goal-oriented individuals are happier and have better physical health compared to others. They solve their problems more efficiently and avoid other stressors in life, thus enjoying life more. Using past experiences in decision-making, feeling successful in achieving life goals, having confidence in achieving specific

goals, and pursuing personal goals and plans with emphasis on perseverance are the main factors in goal setting.

Spirituality is another component of the elderly's life expectancy. This component shows how the importance of mental and spiritual health in life, helping others when necessary, caring for the environment and interacting with it, and the ability to face difficult situations with reliance on God can lead to spirituality and enhance the life expectancy of the elderly. The spiritual dimension of health is naturally not a material phenomenon but belongs to the realm of ideas, beliefs, values, and ethics that arise from the human mind and conscience, especially idealistic ideas. Idealistic ideas have created health ideals, which in turn have produced operational strategies for public health, aiming to achieve a result that has both material and spiritual dimensions. If the material part of this strategy benefits people, then the spiritual and immaterial part will naturally manifest itself in people and communities as the preservation of cultural and social patterns. The spiritual dimension of health plays a very important role in motivating people to achieve their desired outcomes in all aspects of life.

The findings showed that constructive communication is another factor affecting the life expectancy of the elderly. This component refers to factors such as respecting others and emphasizing respectful interactions, honesty and truthfulness in communications with surrounding people, attention to individuals' personalities in communication, and finding similarities with people and understanding proper communication.

Understanding and recognizing the needs of the elderly and striving to meet these needs and respecting their preferences in designing spaces specific to the elderly can improve their quality of life and help achieve the goals of successful aging (24).

Lifestyle refers to the methods by which social classes and rank groups create a type of life and includes cultural behavior patterns and a set of beliefs. Lifestyle is a way of looking at life that expresses its special social experiences and its relationships with other social groups. Lifestyle represents a social class but is not equivalent to it; it is of a behavioral nature, guiding tendencies and providing the opportunities for life to manifest itself (25).

Personal health is one of the components of a health-oriented lifestyle for the elderly. Personal health refers to

observing safety principles in daily life, having sufficient and quality sleep throughout the day, undergoing medical examinations at different times, consuming fruits and vegetables, avoiding fatty foods, and controlling weight and maintaining a normal body mass index. Sports, as one of the factors ensuring the physical and mental health of individuals in society and one of the most important forms of leisure time, is considered a valuable psychological component. Despite the numerous benefits that sports and physical activity bring to individuals and society, one of the most important challenges in planning and policymaking in contemporary societies is the prevalence of sedentary culture and comfort-seeking among people (26).

Another component of a health-oriented lifestyle for the elderly is mental health. Mental health refers to coping with stress and controlling emotional and nervous pressures, self-awareness and having adequate knowledge of internal characteristics, having a positive attitude towards life and the surrounding environment, and flexibility in facing life problems and issues. Mental health includes the ability to think correctly, adapt to life capabilities, solve problems, and pursue goals. Healthy individuals are not free from negative feelings such as depression and anxiety but respond appropriately to such situations when they encounter them. They may experience anxiety during an important exam or feel sad when facing failure. However, their emotional responses are not so prolonged that they entirely negatively affect their performance. Physical health and mental health are intertwined; physical illness may affect and lead to depression, which can disrupt an active social life. Conversely, emotional factors can also deteriorate physical health. Anger and hostility can lead to inflammation and increase the likelihood of disease or heart attack. Likewise, depression and anxiety can impair the immune system, creating physical health problems.

The findings showed that another component of a health-oriented lifestyle for the elderly is social health. This component includes establishing positive relationships with others, respecting oneself and others, gaining social support in facing problems, establishing positive relationships to promote social development, observing social values and norms, and accompanying others in sports activities. Since environmental-social support and the financial situation of the elderly affect their staying in the community, these

factors are defined as social and financial empowerment in empowerment programs. Access to various formal and informal social support networks helps the elderly, and empowerment programs reinforce this access by providing the opportunity for family and community participation, enabling the elderly to stay in the community longer and thus have a better quality of life. Parsamehr and Rasoulinejad (2015) in examining the relationship between health-oriented lifestyle and social health among the people of Talesh city showed that the average health-oriented lifestyle and social health were significantly higher among men than women and among married individuals compared to single ones (27). There was a direct and significant relationship between health-oriented lifestyle and its dimensions and social health. In other words, the more health-oriented lifestyle individuals have, the higher their social health will be, and strengthening and expanding a health-oriented lifestyle in society will lead to increased social health.

Finally, functional health is also a dimension of a health-oriented lifestyle for the elderly, referring to factors such as emphasizing sports activities in daily matters, using walking instead of transportation tools, maintaining limb flexibility through sports activities, and the inclination to rely on one's physical strength and avoid physical support from others. One way to eliminate or prevent movement poverty is to have an active lifestyle (4, 12).

Based on the components of social marketing in elderly sports, including access to facilities, media role, participatory engagement, planning, and education. Gandomi et al. (2022) in examining the dimensions of social marketing in students' tendency towards sports activities and weight control showed that the priorities of social marketing dimensions in students' tendency towards sports activities and weight control include the public, proposal, accessibility, participation cost, creating partners, policy and strategy, and social communications (16). It is hoped that trainers, teachers, and sports factors in the country will use this approach to enhance the health of students. In social marketing, we seek to influence people's behavior. Social marketing, as a planned process, can be used to change the behavior of the target audience by offering benefits, reducing barriers, and using encouragement and persuasion. Generally, social marketing aims to achieve one of four goals: acceptance of new behavior, rejection of potential

behavior, modification of current behavior, or abandonment of old behavior in the audience (13). Since one of the components is access to facilities, attention to the factors facilitating elderly sports in various places, accessibility of the elderly to numerous sports venues, low pricing on services for the elderly, and providing discount cards for participation in sports venues is essential.

Another component of social marketing in elderly sports is the media role. The media role can be implemented by emphasizing active leisure through sports for the elderly, correcting elderly sports behavior through the media, and emphasizing health aspects, creating health-oriented programs with an elderly sports approach in social media, and highlighting elderly sports in the media. An effective social marketing strategy is based on solid research. At the planning stage, the research goal is to learn more about the market and the target group. Common methods used at this stage include surveys, focus groups, and interviews. To provide information about customers' understanding levels, focus groups, knowledge level studies, attitude and performance surveys, marketing information, and media analysis can be used. Using focus groups throughout the entire social marketing process, from planning to producing materials and educational messages, can be practical.

Another component of social marketing in elderly sports is participatory engagement. Participatory engagement can be increased by using the opinions of the elderly to promote sports participation, utilizing the experiences of elderly athletes to attract other elderly, developing and improving the quality and quantity of elderly sports associations, presenting appropriate behavior in dealing with the elderly in public sports, and facilitating interactions or networking among the elderly. Increasing elderly participation in sports requires the presence and existence of many factors, many of which stem from the environment and some depend on individual factors that require a behavioral change approach to the topic of sports. Considering that the level of participation does not match the existing infrastructure, efforts should be made to find ways to change elderly behavior. There are many concepts in behavior change. Based on the findings, another component of social marketing in elderly sports is planning. Therefore, in the planning component, strategic planning should be used to develop elderly sports, emphasize social marketing

principles to solve elderly sports problems, plan to hold sports festivals specifically for the elderly, and implement sports programs in elderly centers with a sports participation approach to social marketing in elderly sports.

An effective social marketing strategy is based on solid research. At the planning stage, the research goal is to learn more about the market and the target group. Common methods used at this stage include surveys, focus groups, and interviews. To provide information about customers' understanding levels, focus groups, knowledge level studies, attitude and performance surveys, marketing information, and media analysis can be used. Using focus groups throughout the entire social marketing process, from planning to producing materials and educational messages, can be practical.

Finally, education is also a dimension of social marketing in elderly sports. Education can be conducted through processes such as educating elderly-specific sports in media and social networks, training and empowering sports experts in elderly sports, teaching necessary skills and expertise for elderly participation, and special training for nurses to learn sports principles.

Authors' Contributions

B.M. conceptualized the study, designed the research methodology, and supervised the overall project implementation. F.A., the corresponding author, conducted the open interviews, transcribed and analyzed the data using MAXQDA software, and led the drafting and revising of the manuscript. M.R.K. assisted in the recruitment of participants, contributed to the literature review, and supported the data collection process. All authors participated in discussing the findings, critically reviewed the manuscript for important intellectual content, and approved the final version for publication.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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