ORIGINAL RESEARCH ARTICLE

Health Promotion Activities Among Older Women: Insights from Pender's Health Promotion Model

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ABSTRACT

Aims: The study examines factors associated with older women's participation in health promotion activities.

Methods: A cross-sectional study was conducted in a community care centre to identify healthy activities among older women. Data were collected from 154 participants using questionnaire developed between June 7th, 2023 and May 13th, 2024.

Results: The study involved participants with an average age of 68.8 ± 4.2 years, 75.3% of whom were married. Notably, 83.8% reported poor health, and 88.3% had chronic diseases. Strong correlations were found between perceived benefits, barriers, self-efficacy, social support, and activity-related affect with educational level, income, health status, and chronic diseases (F=929.369), while no correlations existed with age and marital status. Additionally, 61.7% rarely engaged in in health promotion activities. Multiple regression analysis revealed health status (β = 1.484) and perceived benefits (β = 0.655) as key predictors of participation, highlighting the influence of demographic factors.

Conclusion: This study highlights factors influencing older women's participation in health promotion activities. Many reported poor health and chronic diseases, with key predictors including health status and perceived benefits. Over half engaged infrequently in wellness activities, indicating a need to address barriers. These findings underscore the importance of tailored health promotion strategies for this demographic.

Key words: Pender's model, older women, health promotion activities

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INTRODUCTION

Older women constitute a significant proportion of the world population. Their numbers are increasing day by day. The number of women aged 60 and over is expected to reach to more than one billion people in 2050. Worldwide, there are about 123 women Per 100 men aged 60 years and older.[1] On average, women live longer than men in nearly every country worldwide. In the early 1900s, there were 102 men (aged 65 and above) for every 100 older women.[2] With the growing population of older women facing specific health challenges, applying Pender's model is vital for promoting healthier lifestyles and improving overall well-being. Pender's Health Promotion Model is essential for addressing the unique health needs of them. It emphasizes the interaction of personal, behavioural, and environmental factors that formation health behaviours.[3] Community healthy activities take numerous benefits to improve older women spiritual satisfaction, physical function, and sense of accomplishment.

Through focusing on constructs like perceived benefits and self-efficacy, the model aids in identifying determinants of health engagement and facilitating targeted interventions.[4] The World Health Organization has recently affirmed that the concept of health promotion stands as the most effective method for improving human health.[5] Engagement in health promotion actions is influenced by various factors, including personal experiences, cognitive processes, family dynamics, cultural context, and societal influences. Furthermore, involvement in these activities for a duration of 12 weeks or longer is crucial for realizing lasting health benefits, as such programs have demonstrated significant improvements in the mental, physical, and spiritual well-being of older women.[3]

Older women often experience poor health, which affects their ability to function independently and effectively, regardless of any existing medical conditions. Measures to prevent disability and promote the health of older women can be enhanced through health-promoting strategies that address a variety of health issues and diseases, including cardiovascular disease, type 2 diabetes, and hypertension.[6] Chronic diseases are the most serious health issues affecting older people, and inadequate management can lead to comorbidities, permanent damage and thus increase the burden on national health care systems.[7,8] Therefore, women's medical needs are greater than those of men, making health promotion and disease prevention important to maintain physical and mental function.[3]

Health promotion is a disease-preventive approach that guides individuals toward self-actualization, helping them improve or maintain their health and actively adopt new positive behaviours.[9,10] Healthy behaviours typically refer to activities that prolong life expectancy in older women by preventing disease, avoiding injuries, and promoting physical fitness through the implementation of global recommendations that initially emphasize walking for 150 minutes per day. Specifically, these behaviours include regular healthy eating, dental hygiene, regular health check-ups, commitment to physical activity, and avoidance of smoking and alcohol.[5] Many medical experts have confirmed that improving the health of older women is achieved not only through medications but also by implementing healthy daily lifestyle behaviours.[3]

Furthermore, the application of Pender's model is considered one of the strategies for implementing health promotion and disease prevention programs that aim to change older women's knowledge, attitudes, and behaviours.[5] The explanatory constructs and predictors of health behaviour in study model include five dimensions: perceived benefits, barriers, self-efficacy, personal influences, and behavioural emotions. Recent studies have identified several constructs as the strongest predictors of self-care and dietary behaviours.[11] The rationale for conducting this study is that by focusing on Pender's model comes through exploring the influencing factors and assessing the relationships that affect women's participation in healthy promotion actions.

The health model was adopted to explore different the healthy behaviours and provide realistic results.[12] In Iraq, the total number of women 55 years and above in Iraq is about 53 out of the total number of people who are considered 55 years old and above. Older women in Iraq are under severe pressure.[13] Which supports the need for this age group of women to receive more attention to promote their health condition, especially with the lack of studies that have addressed this topic and that have relied on the Pender's model as a framework for it. For this reason, this study aims to investigate health promotion activities among older adults' women through application of Pender's health promotion model.

METHODOLOGY

Study Design: A cross-sectional study was conducted using a questionnaire to collect data in a community centre care in Kerbala city, Iraq. These care centre provide health promotion activities include: physical exercise, mental stimulation games, and nutritional education mealtimes. When the study was conducted, there were about 260 older women using this centre. The study was conducted for the period from Jun 7th, 2023 to May 13th, 2024.

Participants: The study incorporated a convenience sample of 154 women who visited a care centre in the city of Kerbala, selected from a pool of 260 women who fulfilled the inclusion criteria.

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were selected from a pool of 260 women who fulfilled the inclusion criteria, using a non-probability (convenience) sampling method that facilitated the process of obtaining appropriate samples that were accessible and readily available to the researcher.

The inclusion criteria for this study encompassed regular participation in healthy activities at least once a week, sustained engagement for a duration exceeding twelve weeks, and the capability to communicate and actively participate. Conversely, the exclusion criteria included difficulties in coherent communication, severe mental disorders such as dementia, and women who cannot walk to the centre.

Measure: To achieve study objectives, the questionnaire of this study was adapted through a literature review.[12,14,15] The questionnaire consisted of three parts: demographic data, which include age, educational level, marital status, income, presence of chronic diseases, and self-reported health status; health promotion activities through using single item. Participants were asked, "How often do you participate in health promotion activities at the community care center?" to indicate the frequency with which they engaged in these activities using a five-point Likert scale, rated from very rarely, rarely, sometimes, frequently, to very frequently, that scored from (1 to 5). Part III focused on five dimensions of Pender's health model.

This section consisted of items related to perceived benefits, perceived barriers, self-efficacy, social support, and activity-related effects that included (19 items), (17 items), (10 items), (14 items), and (9 items) respectively. All elements were assessed using a 5-point Likert scale, with ratings ranging from 1 (indicating low confidence, completely disagree) to 5 (indicating high confidence, completely agree). The negatively worded items were reverse-coded in the perceived barriers axis as opposed to the other axis. Higher scores indicated greater benefits by older women.

Validity and Reliability: Numerous items in this questionnaire have been adapted and refined to enhance its validity, aligning it more closely with the study's objectives. To assess the face and content validity of the questionnaire, the researchers employed the Content Validity Index (CVI), which included evaluating the relevance of each item with a panel of six experts. During the CVI evaluation, no item was deemed irrelevant, with all items scoring above 0.88. To ensure the validity of each question and whether the question reflects the information it aims to measure, as well as to ensure the suitability of the questionnaire, a pilot test was performed with a sample of 40 older women using an initial version of the questionnaire. After reviewing only four items for appropriateness. The questionnaire's reliability and internal consistency were assessed using Cronbach's alpha coefficient. The internal consistency of the subscales demonstrated acceptable levels, with results ranging from 0.72 to 0.94. These findings indicate satisfactory reliability within each domain.

Data collection: Data was collected through the use of a questionnaire form. The participants were given a short explanation and discussion about the study's aim and method. The researchers explained to older women through using of structured interviews and questionnaire techniques as a mean of data collection to investigate women participation in healthy activities and explore the factors influencing older women's participation in these activities based on Pender's model, while each interview took (15-20) minutes. In addition, informed consent was obtained and confidentiality and privacy were guaranteed. The data collection started from Jun 7th, 2023 to May 13th, 2024.

Statistical Analyses: The analysis was conducted using the SPSS Statistical Package for the Social Sciences (Version 28). Descriptive statistics, such as frequency, percentages, mean scores, and standard deviations, were utilized. Various statistical tests were employed, including the independent samples t-test for comparing two distinct groups, the One-way ANOVA test for comparing three or more groups, and Pearson correlation analysis to explore the relationship between older women engagement in health activities and the Pender's model for health promotion questionnaire. Multiple linear regression analysis was used to identify predictors associated with the participation of them in healthy activities. Statistical significance was determined at a threshold of p=0.05.

Ethical approval: The researchers secured consent from the Ethics Committee of the University of Kerbala, College of Nursing, Iraq, under scientific code (IRAQ. CONUOK. RESEARCH.REC. 023.012). Prior to the interview, participants were briefed on the study's purpose and ethical considerations, which included anonymity, voluntary participation, the right to withdraw, and the confidentiality of information.

RESULTS

The participants in this study had an average age of 68.8 ± 4.2 years, with 75.3% of them being married. Furthermore, 83.8% of the participants stated their health status as poor, and the majority (88.3%) had chronic diseases, as in Table 1.

The study found significant correlations between various factors and participants' perceived benefits, barriers, self-efficacy, social support, and activity-related affect. Key correlations were observed with educational level, monthly income, health status, and chronic diseases, with statistical values indicating strong relationships (e.g., F=929.369). However, no significant correlations were found between these factors and participants' age and marital status. (see Table 2).

The study revealed that 61.7% of women rarely participate in wellness activities. It also found significant correlations between older women's participation in health promotion and factors like perceived benefits, barriers, self-efficacy, social support, and activity-related affect, all statistically significant (p = 0.000), as in (Table 3).

The study used multiple linear regression analysis based on Pender's Model to identify factors influencing older women's participation in health promotion activities. Significant predictors included marital status, educational level, income, health status, and perceived benefits, with health status and benefits having the greatest impact (β = 1.484 and β = 0.655). Additionally, age, chronic diseases, perceived barriers, and self-efficacy negatively influenced participation rates (β values between -0.232 and -1.504). Overall, both demographic traits and Pender's Model elements significantly affect older women's engagement in health-promoting activities, as in Table 4.

Table1: Demographic Factors and Health Promotion Behaviors Among Older Women (N = 154)

Variable	Participants (%)
Age (Mean Age: 68.8 ± 4.2 years)	
65-69	117 76.0)
70-74	7 (4.5)
75-79	30 (19.5)
Marital status	
Single / divorced	10 (6.5)
Widowed	28 (18.2)
Married	116 (75.3)
Educational level	
Less than high school	78 (50.6)
High school	63 (40.9)
Bachelor's degree	13 (8.5)
Monthly income	
Not enough	96 (62.3)
Enough to some extent	45 (29.2)
Enough	13 (8.4)
Health status	
No good	129 (83.8)
Good	25 (16.2)
Chronic diseases present	136 (88.3)

Table 2: Demographic Factors and Health Promotion Behaviors Among Older Women (N=154)

Variable	Perceived benefits	Perceived barriers	Self-efficacy	Social support	Activity related affect
Age	F= 2.092	F= 5.121	F= 2.092	F= 2.131	F= 2.267
	P.= .127	P.= .007	P.= .127	P.= .122	P.= .107
Marital status	F= 2.170	F= 9.367	F= 2.170	F= 2.210	F= 2.351
	P.= .118	P.= .000	P.= .118	P.= .113	P.= .099
Educational level	F= 929.369	F= 133.934	F= 929.369	F= 1218.933	F= 938.121
	P.=. 000	P.=. 000	P.=. 000	P.=. 000	P.=. 000
Monthly income	F= 929.369	F= 83.729	F= 929.369	F= 1218.933	F= 938.121
	P.=. 000	P.=. 000	P.=. 000	P.=. 000	P.=. 000
Health status	t= -7.629	t= 13.463	t= -12.456	t= -9.812	t= -7.325
	p.= .000	p.= .000	p.= .000	p.= .000	p.= .000
Chronic diseases	t= -8.417	t= 7.972	t= -7.838	t= -7.662	t= --6.720
	p.= .000	p.= .000	p.= .000	p.= .000	p.= .000

S=Statistical; M=mean; SD= Standard deviation; F = One way ANOVA test; t= independent samples t-test; p: p value for comparing between the studied categories; *: Statistically significant at p = 0.05.

Table 3: Correlation between Older women's Engagement in Health Promotion Activities and the framework of Pender's Health Promotion Model (N=154)

Participate in Health Promotion Activities	N (%)	Perceived benefits	Perceived barriers	Self-efficacy	Social support	Activity related affect
		Statistical Analysis p value				
Very rarely	43 (27.9)	r= -.652**	r= .618**	r= -.652**	r=-.614**	r=-.644**
Rarely	52 (33.8)					
Occasionally	38 (24.7)					
Frequently	12 (7.8)					
Very Frequently	9 (5.8)					

r: Pearson coefficient. *: Statistically significant at p = 0.05

DISCUSSION

Our study aimed to assess the level of participation of older' women in health activities and explore the factors that influence their participation in these activities based on the Pender's model through community health practices.

The findings of this study provide critical insights into health promotion activities among older women, particularly through the application of Pender's Health Promotion Model. The average age of participants was 68.8 years, with a significant proportion (83.8%) reporting poor health and 88.3% having chronic diseases. This demographic profile is consistent with existing literature that highlights the prevalence of chronic conditions among older adults, which often complicates their health management and engagement in health-promoting activities.[16]

Table 4: A multiple regression analysis model was utilized to investigate predictors and factors that impact the engagement of older adult women in health promotion activities, guided by Pender's Health Promotion Model framework (N = 154)

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
Age	-.232	.082	-.164	-2.845	0.005
Marital status	.268	.116	.139	2.313	0.022
Educational level	.539	.103	.380	5.227	0.000
Monthly Income	.368	.125	.211	2.944	0.004
Health status	1.484	.171	.422	8.678	0.000
Chronic Diseases	-.492	.204	-.161	-2.419	0.017
Perceived benefits	.655	.164	.347	3.987	0.000
Perceived barriers	-1.504	.142	-.652	-10.594	0.000
Self-efficacy	-1.328	.537	-.578	-2.470	0.015
Social support	-.328	.588	-.148	-.558	0.578
Activity related affect	.619	.850	.306	.728	0.467

a. Dependent Variable: Participant
B: Unstandardized Coefficients; Beta: Standardized Coefficients; t: t-test of significance; Sig.: Significant.

The study identified significant correlations between participation in health promotion activities and various psychosocial factors, including perceived benefits, barriers, self-efficacy, social support, and activity-related affect. These findings align with previous research emphasizing the importance of these factors in influencing health behaviors among older adults. For instance, social support has been shown to enhance motivation and adherence to health-promoting activities, while perceived benefits can significantly increase participation rates.[12]

This study found that more than half of the sample (61.7%) had low participation in health promotion activities, and that perceived benefits, barriers, and self-efficacy were the strongest interpreters for women's participation (β = -0.652, β = 0.347, and β = -0.578, p less than 0.05, respectively), older women being less probable to participate. Systematic reviews have shown that perceived benefits, along with the absence of barriers faced by older women and their interest in daily activities when attending community exercise programs, have a positive impact on muscle strength, joint flexibility, and social relationships.[17,18]

A study was conducted in Iran which focused on preventing loneliness in old women by enhancing community participation, addressing social relation-ships through used Pender's Model in order to improve, anticipate, and modify related behaviours related to loneliness. Perceived barriers and benefits were statistically significant in reducing their feelings of loneliness.[19] In the same context, the systematic review.[20] showed that older women's beliefs about motivation to exercise, perceived benefits, and barriers were the most influential factors in their participation.

Although social support and activity-related influences were not significant predictors in our study, it is essential to increase community awareness about the benefits of healthy activities that enhance women's health and mental and emotional well-being. This aligns with a study conducted among older adults in India, where the prevalence of dependency in activities of daily living was approximately 48.4%.[21]

Self-efficacy an important factor in determining long-term changes and complex activities in health behaviours in older women.[22] Our results demonstrate the significance of self-efficacy in older women's community activities, highlighting the need to focus on future initiatives that will increase social participation. Also, several previous studies have indicated that self-confidence is a predictor of important health outcomes for older women, such as prevention of high blood pressure, healthy habits, and oral hygiene.[23,24] In the same context, our study agreed with some study confirmed the importance of self-confidence in promoting activities for older women, and also showed that those who have greater self-confidence become more committed to participating in healthy activities and have a greater ability to manage their health in the future.[14,25]

Using multiple linear regression analysis based on Pender's Health Promotion Model, the study identified significant predictors of participation, including health status and perceived benefits, which had the greatest impact (β = 1.484 and β = 0.655, respectively). This highlights the importance of improving health status and effectively communicating the benefits of participation to enhance engagement in health promotion activities.[26]

Our results revealed significant differences in Pender's Health Promotion Model scores related to age, marital status, education level, monthly income, and self-reported health status. This is consistent with findings from[27], which highlighted associations between perceived barriers, benefits, and self-efficacy with demographic variables. Women who regularly visit community health centers typically exhibit better health knowledge, positively influencing their health behaviors[28]. Additionally, self-confidence was higher among healthier participants, and those concerned about their health were more active in household, work, and leisure activities.[15] Regarding marital status, married women

reported lower perceived barriers compared to single or divorced women, likely due to spousal support. Research from China suggests that such support encourages older women to engage in leisure activities and improves their mental health.[29] In our study, approximately 50.6% of participants had low educational levels, and 62.3% had insufficient income, contributing to their disinterest in health behaviors. This aligns with findings from Mosul, Iraq, where low economic conditions and high illiteracy hinder participation in health promotion activities among older women.[30]

The findings highlight the need for tailored health promotion strategies for older women. Interventions should enhance perceived benefits, reduce barriers, and foster social support to boost participation in health activities. Healthcare providers must address the challenges of chronic diseases and low self-efficacy in program design. Future research should evaluate the effectiveness of these interventions across various populations to improve engagement in health promotion for older women.

Conclusion

This study highlights the complex interplay of factors influencing older women's participation in health promotion activities. With a significant portion of participants reporting poor health and chronic diseases, the findings reveal strong correlations between perceived benefits, barriers, self-efficacy, social support, and activity-related affect with educational level and income. Notably, more than half of women infrequently engaged in wellness activities, underscoring the need to address these barriers. Multiple linear regression analysis identified health status and perceived benefits as key predictors of participation, while age and chronic diseases exhibited negative influences. These insights emphasize the importance of tailored health promotion strategies for older women.

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