Older Adults' Perceptions of Factors Related to Non-Participation in Health Center Programs: A Descriptive Study Using the PRECEDE-PROCEED Model

Abstract

Aims: Participation of older adults in health programs is important for health promotion and active aging. This study aimed to describe the reasons for non-participation in programs offered at health centers, as reported by older adults, within the predisposing, enabling and reinforcing domains of the PRECEDE-PROCEED model.

Materials & Methods: This cross-sectional descriptive study was conducted in 2023 among 473 older adults (response rate 94.6%; 473/500) covered by 10 urban and rural health centers in Rafsanjan, selected by multistage stratified random sampling. Data were collected by interviewer-administered, researcher-developed questionnaire (37 items: 12 predisposing, 18 enabling, 7 reinforcing) in which each potential reason was rated from 0 (very low) to 4 (very high); higher scores indicate a stronger reported reason for non-participation. Content validity and reliability (Cronbach's alpha 0.75–0.86) were established. Only descriptive statistics were used; actual participation was not measured.

Findings: Domain scores were low overall. Mean ± SD scores were 10.52 ± 6.60 (of 48) for predisposing, 10.52 ± 8.23 (of 72) for enabling and 4.21 ± 3.30 (of 28) for reinforcing items, equivalent to 21.9%, 14.6% and 15.0% of the maximum possible score (mean item scores 0.88, 0.58 and 0.60 on the 0–4 scale). The highest-rated reasons within each domain were multiple physical health problems (1.65 ± 1.45; 32.1% rated high/very high), lack of a companion (1.23 ± 1.33; 19.0%) and lack of family support (0.88 ± 1.06; 8.7%).

Conclusion: Physical health problems, lack of a companion, long distance and lack of family support were the highest-rated reasons within their domains. These reported perceptions do not establish causes of non-participation, but they suggest that programs may need to accommodate physical limitations and improve awareness of services (predisposing factors), ease transportation and accompaniment (enabling factors), and involve families and the media (reinforcing factors). These possibilities should be tested in studies that measure actual participation.

Keywords: Aging, Geriatrics, PRECEDE-PROCEED model, Program Evaluation, Community Participation

Introduction

Aging is a critical phase of human life, and the growing older population is considered one of the most significant economic, social and health challenges of the 21st century. Iran is also experiencing population aging [1]. According to the United Nations, people aged 65 years and older are the fastest-growing age group in the world [2]. Aging is accompanied by physical, psychological and social changes that may increase dependency and health care costs [3]. The proportion of older adults in Iran is projected to reach 14.4% by 2030 and 31.2% by 2050, exceeding the global and Asian averages [1]. The increase in the older population leads to a rise in the prevalence of chronic diseases and disabilities [4]. Older adults often have several illnesses simultaneously, which contributes to disability and complicates treatment. Because older adults are considered a vulnerable and dependent segment of the population, addressing their health care needs is essential [5, 6].

The United Nations emphasizes that older adults should have appropriate access to health services to maintain or regain well-being and physical health, or to prevent or delay disease. Aging increases the demand for and cost of health services, making older adults among the largest users of health services in most industrialized and developing countries [4].

Providing health services to older adults is an important responsibility of public and private health systems, and removing barriers to older adults' access to services is a stated priority. A lack of integration of services may lead to adverse outcomes such as redundant services, inconsistent care recommendations, medication errors and even death [7].

Integrated older-adult care programs are currently being implemented in health centers across Iran. The World Health Organization has proposed this strategy for countries of the Eastern Mediterranean Region, and its operational program is based on three principles: involving older adults in the development process, enhancing their physical and mental health, and providing supportive and empowering environments [8]. The program is designed for medical and non-medical professionals and uses minimal risk factors and clinical indicators for early identification of disease, appropriate treatment and timely referral [9].

Older adults are assessed for hypertension, cardiovascular diseases, nutritional disorders, diabetes, vision and hearing impairments, depression, sleep disorders, osteoporosis, urinary incontinence, tuberculosis, dementia, falls, balance problems and immunization [9]. A study of the challenges of integrated older-adult services identified weak participation of older adults as one of the significant challenges of this program [6]. Active participation of people in health programs is considered one of the main prerequisites for their success [6].

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Use of health services results from a complex interaction of factors related to the individual's health and the availability of services [4]. Various theoretical models of service use and participation, drawing on economic, psychological, social, behavioral and epidemiological approaches, have been developed to describe the variables involved [4].

One framework used for health program planning is the PRECEDE-PROCEED model, developed by Green and colleagues [10, 11]. In the PRECEDE phases, predisposing, reinforcing and enabling factors are assessed as part of an educational and ecological diagnosis; PROCEED addresses policy, regulatory and organizational constructs for implementation and evaluation [10, 11]. The model assumes that health behaviors have multiple influences and therefore that programs should be multidimensional [10]. In this study the model was used only as a framework for organizing the reasons reported by older adults.

The World Health Organization identifies research on ageing and health as a priority for the development of evidence-informed policy [12]. Evidence on the quantity and quality of health service use by older adults is needed for resource allocation and planning [13]. Studies of service use and participation help to identify contextual barriers and facilitators, which can inform better service planning and management [13].

The aim of this study was to describe the reasons for non-participation in health-center programs, as reported by older adults in Rafsanjan, organized according to the predisposing, enabling and reinforcing domains of the PRECEDE-PROCEED model.

Methods

Study design and setting

This cross-sectional descriptive study was conducted in 2023 among older adults covered by urban and rural health centers in Rafsanjan, Iran. The study is reported in line with the STROBE recommendations for cross-sectional studies.

Sampling

Sampling procedure

This study employed a multistage sampling approach to recruit older adults from urban and rural healthcare centers in Rafsanjan, Iran. In the first stage, six urban and four rural healthcare centers were selected by lottery, with urban and rural centers sampled separately. In the second stage, the required sample size was allocated to each selected center proportionally to the number of older adults registered at that center. In the final stage, eligible older adults were randomly selected from the registration lists of the selected centers according to the sample size allocated to each center.

The sample size was estimated at 384 using the Krejcie and Morgan table[14]; to improve precision, 500 older adults were approached. Of these, 473 completed the questionnaire (response rate 94.6%). while 27 refused to participate.

Participants

Inclusion criteria were: **age ≥ 60 years, registration/coverage by a selected health center, ability to be interviewed, and willingness to participate.** Exclusion criteria were a documented diagnosis in the health record of dementia, Alzheimer's disease or another major neurocognitive disorder, or of a severe mental disorder (e.g., psychotic disorder) that prevented the person from responding. **Older adults with severe depression that caused functional impairment, as documented in the health record, were excluded.**

Older adults who were unable to perform daily living activities because of severe, debilitating illness and who were highly dependent on care were also excluded. **Cognitive status and functional status were assessed by reviewing the participants' health records.**

Outcome measure and data collection tool

The outcome of interest was the importance older adults attributed to each potential reason for non-participation, as rated by the older adult. For each item, respondents rated how important each potential reason is for their own non-participation in the programs offered at the health center

The tool was a researcher-developed questionnaire based on the constructs of the PRECEDE-PROCEED model. To generate the items, the research team reviewed the literature on factors related to older adults' participation in health service programs and interviewed ۱۵ older adults and their family members. The resulting list of factors was categorized into predisposing, enabling and reinforcing factors.

Validity and reliability

Content validity was assessed qualitatively and quantitatively. The items were reviewed by 8 experts in health education and health services management, who judged the relevance and necessity of each item. The content validity ratio (CVR) and content validity index (CVI) were calculated. Items were retained if the CVR met the Lawshe minimum for 8 experts (0.75) (15) and the CVI was at least 0.79

Of the initial pool of 45 items, 8 were removed because of low CVR or CVI (below the thresholds of 0.75 and 0.79, respectively), and none were reworded, leaving 37 items. For the retained items, the CVR ranged from

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0.75 to 1.00, with mean values of 0.81 (predisposing), 0.79 (enabling) and 0.89 (reinforcing). The mean CVI was 0.94 (predisposing), 0.92 (enabling) and 0.95 (reinforcing).

The final questionnaire included 12 predisposing, 18 enabling and 7 reinforcing items.
For item reduction, the questionnaire was completed by 20 older adults using a 5-point importance scale (1 = not important at all to 5 = very important), and an impact score (frequency of endorsement × mean importance) was calculated for each item. A cut-off of 1.5 was used, which corresponds, for example, to 50% of respondents endorsing an item with a mean importance of 3; all items scored 1.5 or above and were retained

Item Impact Score = Frequency × Importance
Where:

- **Frequency** = proportion of older adults who rated the item 4 or 5 on the 5-point Likert scale (expressed as a proportion, 0 to 1)
- **Importance** = mean importance rating of the item (1 = not at all important, 5 = extremely important)

Retention threshold: Impact Score ≥ 1.5 (equivalent to a frequency of 50% and a mean importance of 3)[16].

To assess reliability, the questionnaire was administered to 25 older adults outside the study population. Cronbach's alpha was 0.75 for predisposing, 0.86 for enabling and 0.80 for reinforcing items, indicating acceptable internal consistency.The questionnaires were completed by interview after the study objectives were explained and confidentiality was assured

Scoring

In the final questionnaire, each item was answered on a 5-point scale (very low = 0, low = 1, average = 2, high = 3, very high = 4) indicating how strongly the reason was reported to limit participation; higher scores therefore indicate a stronger reported reason for non-participation. Domain scores are the sum of item scores (possible range 0–48 for the 12 predisposing items, 0–72 for the 18 enabling items and 0–28 for the 7 reinforcing items). Because the domains have different numbers of items, domain scores were also expressed as a mean item score (0–4) and as a percentage of the maximum possible score.

Statistical analysis

Data were analyzed using **SPSS version 22**. Descriptive statistics were used: frequencies and percentages for categorical variables and mean and standard deviation for item and domain scores. Items within each domain were ranked by mean score, and the proportion of respondents rating each item high or very high (scores 3–4) is reported. Domains were compared descriptively using standardized scores. Missing data were not imputed; percentages and means were calculated from available responses for each item (income was missing for 11 participants, and one participant had missing responses for the enabling and reinforcing items, so Tables 4 and 5 are based on n = 472, except for three enabling items with n = 473 (see Table 4)).

Ethical considerations

The study was approved by the ethics committee of Rafsanjan University of Medical Sciences (IR.RUMS.REC.1402.056) and conducted according to the Declaration of Helsinki. Informed consent was obtained from all participants.

Results

Of 500 older adults approached, 473 completed the questionnaire (response rate 94.6%). The mean age of the participants was **70.01 ± 8.38 years**. Of the participants, 267 (56.4%) were women and 206 (43.6%) were men. The largest education category was illiterate (248; 52.4%), followed by primary education (148; 31.3%); together, 396 (83.7%) were illiterate or had primary education. Most participants (350; 74.0%) were married, 116 (24.5%) were widowed and 7 (1.5%) were single. About half (240; 50.7%) reported a medium income (income was missing for 11 participants; 2.3%). A history of hypertension was reported by 271 participants (57.3%) (participants could report more than one condition); (Table 1).

Table 1. Demographic characteristics of the participants (N = 473)

Variable	Category	Frequency	Percentage (%)
Age group (years)	60–74	346	73.2
	75–80	63	13.3

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Variable	Category	Frequency	Percentage (%)
	Over 80	64	13.5
Sex	Male	206	43.6
	Female	267	56.4
Marital status	Married	350	74.0
	Widowed	116	24.5
	Single	7	1.5
Monthly income (million)	Below 10	142	30.0
	10 to 15	240	50.7
	Above 15	80	16.9
	Missing	11	2.3
Education	Illiterate	248	52.4
	Primary	148	31.3
	Secondary (guidance school)	28	5.9
	Diploma	28	5.9
	University	21	4.4
Occupation	Self-employed	99	20.9
	Housewife	259	54.8
	Employed	18	3.8
	Retired	97	20.5
Medical history (more than one possible)	Hypertension	271	57.3
	Diabetes	144	30.4
	Heart attack	29	6.1
	Stroke	15	3.2
	Arthritis	44	9.3
	No medical history	139	29.4

Percentages are based on N = 473. Medical conditions are not mutually exclusive.

Domain scores. Mean ± SD scores were 10.52 ± 6.60 for predisposing items (possible range 0–48), 10.52 ± 8.23 for enabling items (0–72) and 4.21 ± 3.30 for reinforcing items (0–28) (Table 2). Expressed as a percentage of the maximum possible score, these correspond to 21.9%, 14.6% and 15.0%, respectively, and the mean item scores were 0.88, 0.58 and 0.60 on the 0–4 scale. All domain scores were therefore low in absolute terms (below 25% of the maximum). The predisposing domain had the highest standardized score.

Table 2. Domain scores of reported reasons for non-participation, raw and standardized (N = 473)

Domain	Items	Possible range	Raw score, mean ± SD	Mean item score ± SD (0–4)	% of maximum score ± SD
Predisposing	12	0–48	10.52 ± 6.60	0.88 ± 0.55	21.9 ± 13.8
Enabling	18	0–72	10.52 ± 8.23	0.58 ± 0.46	14.6 ± 11.4
Reinforcing	7	0–28	4.21 ± 3.30	0.60 ± 0.47	15.0 ± 11.8

Higher scores indicate stronger reported reasons. Mean item score = raw score ÷ number of items; % of maximum = raw score ÷ maximum possible score × 100. Enabling and reinforcing domains: n = 472. SDs of the standardized scores were obtained by applying the same conversions to the raw-score SD (SD ÷ number of items; SD ÷ maximum possible score × 100).

Predisposing items. Among predisposing items, the highest-rated reasons were multiple physical health problems (mean 1.65 ± 1.45; 152 participants, 32.1%, rated it high or very high), lack of motivation (1.25

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± 1.16; 15.6%), lack of awareness of the services offered (1.16 ± 1.04; 10.1%) and lack of basic health equipment (1.13 ± 1.19; 15.2%) (Table 3).

Table 3. Reported predisposing reasons for non-participation in health-center programs, ranked by mean score (N = 473)

#	Item	Very low (0) n (%)	Low (1) n (%)	Average (2) n (%)	High (3) n (%)	Very high (4) n (%)	Mean ± SD (0–4)	High + very high n (%)
1	Multiple physical health problems	143 (30.2)	104 (22.0)	74 (15.6)	78 (16.5)	74 (15.6)	1.65 ± 1.45	152 (32.1)
2	Lack of motivation	156 (33.0)	140 (29.6)	103 (21.8)	53 (11.2)	21 (4.4)	1.25 ± 1.16	74 (15.6)
3	Lack of awareness of the services offered	159 (33.6)	137 (29.0)	129 (27.3)	39 (8.2)	9 (1.9)	1.16 ± 1.04	48 (10.1)
4	Lack of basic health equipment	197 (41.6)	109 (23.0)	95 (20.1)	53 (11.2)	19 (4.0)	1.13 ± 1.19	72 (15.2)
5	Preference for traditional medicine	175 (37.0)	134 (28.3)	129 (27.3)	23 (4.9)	12 (2.5)	1.08 ± 1.03	35 (7.4)
6	Fear of infectious diseases at the center	224 (47.4)	140 (29.6)	83 (17.5)	16 (3.4)	10 (2.1)	0.83 ± 0.97	26 (5.5)
7	High educational level of the older adult's children	264 (55.8)	114 (24.1)	50 (10.6)	27 (5.7)	18 (3.8)	0.78 ± 1.09	45 (9.5)
8	Lack of trust in service effectiveness	229 (48.4)	148 (31.3)	75 (15.9)	17 (3.6)	4 (0.8)	0.77 ± 0.90	21 (4.4)
9	Lack of trust in service quality	289 (61.1)	122 (25.8)	47 (9.9)	12 (2.5)	3 (0.6)	0.56 ± 0.82	15 (3.2)
10	Availability of virtual (online) alternatives	306 (64.7)	115 (24.3)	42 (8.9)	7 (1.5)	3 (0.6)	0.49 ± 0.77	10 (2.1)
11	Not knowing the address/location of the center	319 (67.4)	114 (24.1)	27 (5.7)	10 (2.1)	3 (0.6)	0.44 ± 0.75	13 (2.7)
12	High educational level of the older adult	326 (68.9)	116 (24.5)	27 (5.7)	4 (0.8)	0 (0.0)	0.38 ± 0.63	4 (0.8)

Table 3: Scoring: very low = 0 to very high = 4; higher scores indicate a stronger reported reason for non-participation. SD, standard deviation. Percentages are calculated on n = 473.

Enabling items. Among enabling items, the highest-rated reasons were lack of a companion to accompany the older adult (1.23 ± 1.33; 90 participants, 19.0%, high or very high), long distance between home and center (1.14 ± 1.22; 16.1%) and services not meeting older adults' needs (0.91 ± 0.98; 6.6%) (Table 4). Most communication, dignity and confidentiality items had mean scores below 0.25.

Table 4. Reported enabling reasons for non-participation in health-center programs, ranked by mean score (n = 472; items 1, 2 and 12: n = 473)

#	Item	Very low (0) n (%)	Low (1) n (%)	Average (2) n (%)	High (3) n (%)	Very high (4) n (%)	Mean ± SD (0–4)	High + very high n (%)
1	Lack of a companion to accompany the older adult	198 (41.9)	101 (21.4)	84 (17.8)	46 (9.7)	44 (9.3)	1.23 ± 1.33	90 (19.0)
2	Long distance between home and center	189 (40.0)	136 (28.8)	72 (15.2)	46 (9.7)	30 (6.3)	1.14 ± 1.22	76 (16.1)
3	Services not meeting older adults' needs	207 (43.9)	139 (29.4)	95 (20.1)	25 (5.3)	6 (1.3)	0.91 ± 0.98	31 (6.6)

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#	Item	Very low (0) n (%)	Low (1) n (%)	Average (2) n (%)	High (3) n (%)	Very high (4) n (%)	Mean ± SD (0–4)	High + very high n (%)
4	Irregular presence of physicians	234 (49.6)	122 (25.8)	77 (16.3)	29 (6.1)	10 (2.1)	0.85 ± 1.04	39 (8.3)
5	Monotonous services (lack of variety)	224 (47.5)	152 (32.2)	79 (16.7)	16 (3.4)	1 (0.2)	0.77 ± 0.86	17 (3.6)
6	Superficial (insufficiently thorough) services	262 (55.5)	120 (25.4)	70 (14.8)	11 (2.3)	9 (1.9)	0.70 ± 0.94	20 (4.2)
7	Crowding at health centers	265 (56.1)	123 (26.1)	64 (13.6)	15 (3.2)	5 (1.1)	0.67 ± 0.90	20 (4.2)
8	Waste of time at the center	257 (54.4)	134 (28.4)	65 (13.8)	13 (2.8)	3 (0.6)	0.67 ± 0.86	16 (3.4)
9	Shortage of service providers	287 (60.8)	107 (22.7)	52 (11.0)	20 (4.2)	6 (1.3)	0.63 ± 0.93	26 (5.5)
10	Services available only during office hours	296 (62.7)	98 (20.8)	62 (13.1)	16 (3.4)	0 (0.0)	0.57 ± 0.84	16 (3.4)
11	Low-quality services	291 (61.7)	127 (26.9)	46 (9.7)	5 (1.1)	3 (0.6)	0.52 ± 0.77	8 (1.7)
12	Lack of adequate space for wheelchairs	324 (68.5)	103 (21.8)	21 (4.4)	15 (3.2)	10 (2.1)	0.49 ± 0.89	25 (5.3)
13	Inadequate sanitary facilities	330 (69.9)	110 (23.3)	22 (4.7)	5 (1.1)	5 (1.1)	0.40 ± 0.72	10 (2.1)
14	Poor communication with physicians	384 (81.4)	72 (15.3)	13 (2.8)	3 (0.6)	0 (0.0)	0.23 ± 0.52	3 (0.6)
15	Lack of respect for older adults' dignity	383 (81.1)	76 (16.1)	12 (2.5)	0 (0.0)	1 (0.2)	0.22 ± 0.50	1 (0.2)
16	Poor communication with care providers	387 (82.0)	75 (15.9)	9 (1.9)	1 (0.2)	0 (0.0)	0.20 ± 0.46	1 (0.2)
17	Lack of confidentiality by staff	393 (83.3)	65 (13.8)	14 (3.0)	0 (0.0)	0 (0.0)	0.20 ± 0.47	0 (0.0)
18	Poor communication with center staff	412 (87.3)	55 (11.7)	5 (1.1)	0 (0.0)	0 (0.0)	0.14 ± 0.37	0 (0.0)

Scoring: very low = 0 to very high = 4; higher scores indicate a stronger reported reason for non-participation. SD, standard deviation. Percentages are calculated on n = 472, except for items 1, 2 and 12 (companion, distance, wheelchair space), for which n = 473.

Reinforcing items. Among reinforcing items, the highest-rated reasons were lack of family support (0.88 ± 1.06; 41 participants, 8.7%, high or very high), lack of encouragement from mass media (0.82 ± 1.03; 6.6%) and lack of peer support (0.70 ± 0.56; 0.2%) (Table 5).

Table 5. Reported reinforcing reasons for non-participation in health-center programs, ranked by mean score (n = 472)

#	Item	Very low (0) n (%)	Low (1) n (%)	Average (2) n (%)	High (3) n (%)	Very high (4) n (%)	Mean ± SD (0–4)	High + very high n (%)
1	Lack of family support	234 (49.6)	113 (23.9)	84 (17.8)	31 (6.6)	10 (2.1)	0.88 ± 1.06	41 (8.7)
2	Lack of encouragement from mass media	241 (51.1)	121 (25.6)	79 (16.7)	17 (3.6)	14 (3.0)	0.82 ± 1.03	31 (6.6)

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#	Item	Very low (0) n (%)	Low (1) n (%)	Average (2) n (%)	High (3) n (%)	Very high (4) n (%)	Mean ± SD (0–4)	High + very high n (%)
3	Lack of peer support	165 (35.0)	284 (60.2)	22 (4.7)	1 (0.2)	0 (0.0)	0.70 ± 0.56	1 (0.2)
4	Lack of support from the treating physician	285 (60.4)	120 (25.4)	50 (10.6)	7 (1.5)	10 (2.1)	0.60 ± 0.89	17 (3.6)
5	Lack of perceived impact of services	289 (61.2)	128 (27.1)	43 (9.1)	9 (1.9)	3 (0.6)	0.54 ± 0.79	12 (2.5)
6	Lack of encouragement from health care providers	328 (69.5)	120 (25.4)	24 (5.1)	0 (0.0)	0 (0.0)	0.36 ± 0.58	0 (0.0)
7	Dissatisfaction with services received	343 (72.7)	105 (22.2)	22 (4.7)	2 (0.4)	0 (0.0)	0.33 ± 0.58	2 (0.4)

Scoring: very low = 0 to very high = 4; higher scores indicate a stronger reported reason for non-participation. SD, standard deviation. Percentages are calculated on n = 472.

Discussion

The present study examined the reasons for non-participation in programs offered at primary healthcare centers among older adults. Participation in health promotion programs is an important aspect of healthy aging and a recognized right of older adults [17]. However, use of and engagement with health services may be influenced by several interrelated factors, including physical and mental health, attitudes, and social factors[18].

The Precede–Proceed model provides a framework for understanding and addressing behavioral and environmental factors in the planning, implementation, and evaluation of health promotion programs[10, 11]. In the present study, reported reasons for non-participation were examined across the predisposing, enabling, and reinforcing domains of this model. Among the three domains, predisposing factors received the highest standardized score (mean item score 0.88 on the 0–4 scale), although all domain scores were low and no statistical comparison between domains was performed, so this difference should be interpreted cautiously. It may suggest that participants perceived individual-level considerations, such as physical health, motivation, awareness, and trust, as particularly relevant to their non-participation. These findings highlight potential areas for intervention, although they should be interpreted as participants' reported perceptions rather than evidence of causal determinants of participation.

Multiple physical health problems received the highest rating among the reasons for non-participation within the predisposing domain. This finding is consistent with the study by Clarke and colleagues among adults aging with long-term physical disabilities, which identified pain, physical health problems, and mobility limitations as important barriers to social participation [19]. Although the population in that study differs from the general older adult population, the findings highlight how physical health challenges and functional limitations may restrict participation in community-based activities. Physical limitations may make attending and engaging in health center programs more difficult, particularly when transportation, mobility assistance, or other forms of support are unavailable. Accordingly, accessible facilities, appropriate transportation arrangements, flexible program delivery, and adaptations for individuals with mobility limitations may help address these reported barriers.

Lack of awareness of available services was also identified as a reason for non-participation. Within the PRECEDE–PROCEED model, awareness and knowledge are considered predisposing factors that may influence health-related behavior. Previous qualitative research among older adults has shown that some individuals may be unaware of available health promotion programs or may have limited understanding of their purpose, highlighting the relevance of awareness and communication in participation decisions [20]. Similarly, research on older adults' access to community health and social care information has identified difficulties in obtaining clear and accessible information about available services [21]. In addition, a qualitative study on fall prevention programs identified informing older adults about the benefits of participation as a potentially useful strategy for encouraging engagement [22]. Taken together, these findings suggest that providing clear, accessible, and relevant information about available programs and their potential benefits may warrant greater attention when designing services for older adults.

Trust in the services provided was another reported consideration. Gholipour and colleagues identified general distrust in the health system, limited public involvement in program development, and discrepancies between the priorities of the health system and those of the public as potential barriers to

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participation in health programs [23]. Similarly, Nodehi and colleagues emphasized the importance of public trust in the health system and perceptions of its efficiency in facilitating community participation in health services [24]. Taken together, these findings suggest that transparent communication, respectful interactions, and greater responsiveness to older adults' needs may help strengthen confidence in primary healthcare services. Further research is needed to determine how trust relates to actual participation in these programs.

Fear of contracting infectious diseases was another reported reason for non-participation. Concerns about infection, particularly during the COVID-19 pandemic, have been associated with changes in healthcare-seeking behavior, including reduced attendance at healthcare facilities and a preference for remote service delivery[25]. Although these concerns may remain relevant to some older adults, their importance may vary according to the perceived risk of infection, the nature of the service, and the availability of alternative delivery options. Clear communication about infection prevention measures and appropriate service-delivery options may help address these concerns.

Within the enabling domain, lack of a companion and long distances to healthcare centers received the highest ratings among the reported reasons for non-participation. These findings are consistent with previous studies suggesting that geographical accessibility and practical support influence older adults' use of health services [26, 27]. Having a family member, caregiver, or other companion may facilitate attendance, whereas the absence of such assistance may make participation more difficult [18, 28]. These findings underscore the potential importance of addressing transportation and accompaniment needs when designing programs for older adults, particularly for those with mobility limitations or limited access to informal support. Where feasible, outreach services, transportation assistance, and community-based delivery options could be considered and evaluated.

Unmet health needs were also reported as a reason for non-participation in healthcare center programs. Previous studies have identified service quality as an important consideration in older adults' satisfaction with healthcare and engagement in programs designed for them [29]. Contemporary approaches to healthcare quality increasingly emphasize responsiveness to patients' preferences and needs [30]. In this context, involving older adults in the planning and evaluation of health center programs may help ensure that services are relevant, acceptable, and responsive to their priorities. Obtaining feedback from older adults could also help identify gaps between the services currently offered and the services they perceive as necessary.

Although the quality of communication with physicians and healthcare staff, as well as the physical environment and available equipment, received comparatively lower ratings as reasons for non-participation, these aspects should not be considered unimportant. Previous studies have highlighted the relevance of respectful communication, preservation of dignity and self-esteem, and appropriate facilities and equipment in older adults' use of healthcare services [31]. Differences between these findings may reflect variation in study populations, healthcare settings, cultural expectations, or the ways in which participants report barriers. In the present study, the relatively lower ratings indicate that these issues were less prominent in participants' reported reasons for non-participation than other factors; they do not establish that communication or environmental conditions have no influence on service use. Healthcare centers should therefore continue to consider these aspects when assessing and improving the accessibility and acceptability of their programs.

Within the reinforcing domain, family support and encouragement received the highest ratings. This finding is consistent with previous research identifying family encouragement and support from healthcare professionals as reinforcing factors for older adults' engagement in health-promoting activities [32]. Family members may provide practical assistance, reassurance, and social motivation, while communication through mass media may help increase awareness of available health services [33]. These findings suggest that family engagement and appropriate communication strategies could be considered when developing interventions to encourage participation.

This study contributes to the literature by examining older adults' reported reasons for non-participation in primary healthcare center programs using the predisposing, enabling, and reinforcing constructs of the Precede–Proceed model. By organizing reported barriers within a structured theoretical framework, the study provides a basis for identifying issues that may warrant further investigation and for informing the development of contextually appropriate interventions.

Conclusion

Among the reasons for non-participation reported by older adults, the highest-rated were multiple physical health problems (predisposing domain), lack of a companion and long distance to the health center (enabling domain), and lack of family support (reinforcing domain). These are reported perceptions and do not establish what causes non-participation; they indicate which factors may deserve attention when

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