



## Original Article

# Self-Care Activities and Behavioral Intention toward Self-Care in Older Adults Suffering from Knee Osteoarthritis in Yazd, Iran

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## ABSTRACT

### Article history

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**Introduction:** Elderly patients suffer disproportionately from a number of chronically painful conditions, with arthritis leading the list. Osteoarthritis (OA) is the most common joint disorder and the most prevalent cause of joint pain across the spectrum of middle age to elderly. Enhancing behavioral intention toward self-care for OA, previously known as proximal predictor of self-care, is one of the fundamental strategies to improve self-management. The purpose of this study was to investigate to what extent a correlation between behavioral intention and self-care attempts exists; and status of intention toward self-care and self-care behaviors among older adults who are suffering from OA in Yazd city, Iran.

**Methods:** A cross-sectional study was conducted and 87 elderly subjects (mean age of  $64.59 \pm 3.72$  year-old) referred to selected medical centers in Yazd were randomly included. The data collection instrument was a questionnaire designed for the study which includes demographic variables, behavioral intention, and self-care behaviors categories of items. Data were analyzed with SPSS18 using suitable statistical tests.

**Results:** The mean score of behavioral intention and self-care behaviors was  $44.71 \pm 4.63$  (range: 11-55) and  $44.75 \pm 5.84$  (range: 12-60) respectively. The results revealed that intention to use cane and swimming were less prevalent, intention to use suitable shoes, however, was at the highest interest among patients. It was approximately the same about reported self-care behaviors. The results also showed a significant correlation between behavioral intention and self-care behaviors ( $p = 0.00$ ).

**Conclusion:** Despite demonstrably prevalent intention and self-care behaviors, there are various self-care behaviors under-looked yet, such as swimming and using the cane, which need to be more closely addressed in educational programs.

**Keywords:** Intention, Aging, Osteoarthritis, Self-Care Behaviors, Iran

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### Introduction

Joint and skeletal diseases are mainly common chronic conditions in both developed and developing countries (1). Osteoarthritis (OA) is the most common joint disorder and age-related joint pain; and leading skeletal system disease in middle age and elderly population in the world (2). This condition also encounters the most prevalent rheumatologic causes of disability and socio-economic disablement (3, 4). More than 20 million Americans have OA and the

number is expected to rise up to 70 million in the next decades (5). Despite bulk bodies of literature on OA, surprisingly, there has not yet been a unanimously definitive diagnostic criterion. It can be concluded from all the definitions that OA consists of several overlap diseases with different etiologies, however, with the same clinical outcomes (2). Knee is the most usual affected joint which the disease develops in; with the involvement of medial compartment 10-time

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more frequent than lateral (6). Knee OA is in the five main causes of physical disability in older adults (3). Proposed risk factors for developing OA include obesity, age, injury to joint, race, low bone density, hormonal problems and the job. In addition, repetitive use of knee is reported that may also predispose knee to developing OA. For instance, cultures in some traditional backgrounds favour squat toilet instead of toilet bowl; or kneeling and floor laying instead of sitting on chair (3). The strongest risk factor reported is age so that the prevalence of OA increases dramatically from 4% in those aged between 18 and 24 to 85% among people aged 75 to 79 (2, 7). A study showed that radiologic criteria of OA are detectable in 2% of general population under 45 year-old, but this considerably increases to 30% in 45-64 age-groups with more than double (68%) in the elderly (8). For example, Tompson et al. in addition to age, identified that body mass index (BMI), gender, race, family history of knee injury and knee surgery may also contribute to developing knee OA (9). Tel et al. showed that there is a significant positive correlation between self-care and quality of life among patients dealing with OA and a reverse relation between increasing disease duration, age and quality of life (10). Self-care behaviors are, for a long time, the well-known main-stream of management for OA in order to increase and maintain independency and quality of life. Adherence to these cost-effective modalities are not only important to warrant such the health and wellness, morbidity rate among patients has also been shown to be significantly dropped (12, 13). Behavioral intention is the reflection of the amount or extent of persons motivation to perform the behavior, in other words, it is an index of the persons' willingness to perform a particular behavior. Although the stronger intention essentially promises more successful behavior, but intentions may change over time and the longer the interval between intention and behavior, the more likely unforeseen events change the intention (17). Lacking studies in the area in Iran, the study aimed to explore the self-care intention and behaviors in older adults with knee OA referred to medical care centers in Yazd, Iran.

## Methods

### *Procedures*

The cross-sectional study was carried out on 87 subjects referred to three medical care centers in summer 2013. The aims of the study as well as study procedures were thoroughly explained to voluntary participants who gave written consent before participation. Trained interviewers attended in the randomly selected medical care centers and assessed face-to-face the eligible elderly people (65 year-old or more patients diagnosed as OA by registered physicians) to complete the questionnaire.

### *Measures*

A three-part questionnaire was applied for data collection. In Part I, demographic variables included

age, gender, occupation, educational level, marriage status, height, weight, income level, family size, family history of OA, OA-attributed morbidity duration and care giver status. The second part is subdivided into the behavioral intention involving 11 items; and OA self-care including 12 items. A 5-point likert type scale was used for response format for the behavioral intention and OA self-care subscale items scoring from 1 (strongly disagree) to 5 (strongly agree) with subscale score between 11 and 55; and 1 (not at all) to 5 (always) with subscale score between 12 and 60, respectively. Face validity of the scales was approved by a panel of experts and the internal consistency of the scale was measured in a pilot study by 20 eligible participants. The Cronbach  $\alpha$  of %75 and %70 was calculated for the behavioral intention and OA self-care behaviors subscales respectively.

### *Statistical analysis*

Data were analyzed with SPSS18 using the relevant tests of independent samples *t*-test, one way ANOVA and Pearson correlation coefficient test.

## Results

### *Demographic characteristics of participants*

The mean age of participants was  $64.59 \pm 3.72$  and the mean BMI was  $28.9 \pm 4.4$ . Of the participants %88.6 were female; %70.1 (61 subjects) were married and more than 90% (90.8) were living in urban areas. More than half of them were illiterate (%57.6) while only %3.4 had academic degree; and three from four (%74.4) were housewife.

### *Descriptive statistics of behavioral intention and self-care behaviors*

Table.1 summarizes participants' responses to behavioral intention. Most of subjects intended to suitable shoes and interested in complementary medicine, while swimming and cane were less likely attractive.

Table 2 shows the frequency distribution of participants' responses to self-care items. Far from other self-care activities, a bit more than 90 percent of participants preferred using suitable shoes as opposed to less than one eighth interested in swimming and cane.

### *Correlates of behavioral intention and self-care behaviors*

Results showed no significant correlation between demographic variables; and constructs of behavioral intention and self-care behaviors. Pearson correlation coefficient test was used to examine the association between behavioral intention and self-care behaviors and the results showed that there is a positive statistically significant correlation between them at 0.001 level ( $r = 0.529, p < 0.001$ ).

**Table 1. Frequency distribution of participant's responses to behavioral intention items**

Items	Completely agree		Agree		No idea		Disagree		Completely disagree		Item mean
	N	%	N	%	N	%	N	%	N	%	
1. Use suitable shoes	81	93.1	6	6.9	-	-	-	-	-	-	4.93
2. Meet a physician regularly	76	87.4	10	11.5	1	1.1	-	-	-	-	4.86
3. Take recommended complementary medicines.	73	83.9	12	13.8	1	1.1	-	-	1	1.1	4.79
4. Avoid kneeling down	70	80.5	16	18.4	-	-	1	1.1	-	-	4.78
5. Avoid using squat toilet	66	75.5	9	10.3	3	3/4	1	1.1	8	9.2	4.43
6. Avoid long time standing	41	47.1	42	48.3	3	3/4	-	-	1	1.1	4.40
7. Do recommended exercise	43	49.4	38	43.7	4	4/6	-	-	2	2.3	4.38
8. Pray in sitting status	59	67.8	15	17.2	5	5/7	-	-	7	8.0	4.38
9. Follow a weight reduction diet	19	21.8	28	32.2	20	23	-	-	20	23.0	3.30
10. Go swimming	10	11.5	23	26.4	9	10.3	-	-	45	51.7	2.46
11. Use cane during walking	58	66.7	-	-	9	10.3	8	9.2	11	12.6	2.00

**Table 2. Frequency distribution of participants' responses to self-care items.**

Items	Not at all		Seldom		Sometimes		Often		Always		Item mean
	N	%	N	%	N	%	N	%	N	%	
1. Using suitable shoes.	1	1.1	1	1.1	-	-	5	5.7	80	92.0	4.86
2. Taking medications regularly according to doctor order.	-	-	3	3.4	3	3/4	12	13.8	68	78.2	4.69
3. Seeing a doctor regularly.	1	1.1	1	1.1	2	2.3	19	21.8	63	72.4	4.65
4. Praying in sitting situation.	7	8.0	3	3.4	2	2.3	2	2.3	72	82.8	4.50
5. Avoiding use of squat toilet.	8	9.2	3	3.4	2	2.3	1	1.1	73	83.9	4.47
6. Doing rest if needed.	-	-	8	9.2	10	11.5	22	25.3	47	54.0	4.24
7. Using sofa or chair for sitting.	12	13.8	4	4.6	8	9.2	32	36.8	31	35.6	3.76
8. Avoiding long time standing.	2	2.3	16	18.4	17	19.5	23	26.4	29	33.3	3.70
9. Doing recommended exercises	7	8.0	13	14.9	23	26.4	21	24.1	23	26.4	3.46
10. Asking for help from family and friends if needed.	17	19.5	8	9.2	10	11.5	29	33.3	19	21.8	3.30
11. Using cane during walking	69	79.3	5	5.7	2	2.3	1	1.1	10	11.5	1.60
12. Going to swim	68	78.2	9	10.3	3	3.4	3	3.4	4	4.6	1.46

## Discussion

The study aimed at to determine and examine the behavioral intention toward self-care among patients with OA in Yazd. The mean score for behavioral intention ( $44.71 \pm 4.63$  out of 55) was at around self-care behaviors ( $44.75 \pm 5.64$  out of 60) seemingly at a desirable level among participants but prevalent morbidity resulting from chronic conditions may negatively affect the validity of our results, hence quite a detailed consideration of these issues in future studies (18). Interestingly, intention to use cane while walking was at the lowest level in each group, It may be explained in such a way that patients might consider cane as a symbol of being disabled, hence less self-confidence and socialization. Low frequency of exercises like swimming, more prevalent than using cane though, however, may have predominantly economic boundaries such as financial limitations and transportation issue. They might also have problems in starting to exercise owing to increased need of external stimulation. On the other hand, either in behavioral intention and self-care activity constructs, suitable shoes, interestingly, attracted majority of patients which could be attributed to the availability and also nice-feeling while stepping with such shoes.

Further analysis revealed that male participants intended more than female participants to regularly see their doctor; it may be true when considering much more accessibility of public and private transportation or having driving license for Iranian male than female older adults. In contrast to using cane, the intention to follow healthy weight decreases as patients become elder, due to, possibly, progressive age-related loss of their appetite. Consistent with previous studies (19, 20), the study showed a statistically significant positive correlation between intention and behavior. Fishbin and Ajzen, stated the intention is proximal predictor and formulator of real behavior (21). In addition, Milne demonstrated intention as the strongest predictor of behavior (22).

## Conclusion

Despite considerable intention to and subsequent self-care behaviors toward OA, there is less evidence of (intention to) some activities among older adult patients, such as swimming and effective use of cane. These areas of particular concern in this population are critically important to be explicitly addressed with so many effective ways to manage.

## Study limitations

Due to the nature of this study which is a cross sectional study, this feature limits the generalization of the results. In order to achieve a more complete and precise results, it is suggested to perform this study in a broader level. As the target groups were mostly illiterate, it is possible that they were facing problems in perceiving the questions and data collection through interview. Another limitation of this study was that measuring the self-care behavior was subject

to self-reporting and the presence of researcher at the time of responding might be more effective.

## Conflict of interest

None declared.

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