

## Validation of the Persian version of the Stanford Health Assessment Questionnaire (HAQ) in patients with rheumatoid arthritis

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### ABSTRACT

Evaluation of functional disability using proper instruments, like Health Assessment Questionnaire (HAQ) in patients with rheumatoid arthritis (RA), is necessary not only for quality of life assessment, but also as a useful marker for disease activity. HAQ has been translated into many languages. To validate the Persian version of Stanford HAQ. Persian version of the HAQ (PE-HAQ) with culturally necessary modifications of the arising, eating, hygiene, reach and activities category questions was administered to 872 RA patients (87% female; mean age 57.5 years; mean onset age 51.5 years; mean disease duration 6.1 years).

The arising, hygiene and activities scores were higher in the PE-HAQ than in the original HAQ, because futons and squat toilets are very common in Iranian culture and most of patients are bound to praying even in the standing position. Arising from a futon, squatting in a squat toilet and kneeling are generally more difficult for disabled individuals than are arising from a bed, getting on and off the toilet and doing chores, respectively. The overall disability index was higher in the PE-HAQ ( $0.89 \pm 0.84$ ) than in the original HAQ ( $0.82 \pm 0.79$ ), although the correlation coefficient was high ( $r=0.881$ ). The test-retest reliability value studied at a 10-day interval, showed a strong correlation coefficient of 0.90 measured on the two occasions. PE-HAQ showed excellent internal consistency (Cronbach's  $\alpha=0.892$ ). The PE-HAQ is a reliable and valid instrument that can be self-administered to Iranian RA patients to evaluate their functional disability.

**Keywords:** Stanford Health Assessment Questionnaire; Iran; Translation; Validation.

### INTRODUCTION

RA is a common rheumatic disease throughout the world. Quality of life in patients with RA is affected, for good or ill, by treatment effects. Health status now is readily and validly measurable, using the HAQ or other instruments [1]. Because RA is a chronic and progressive disease, the evaluation of a patient's functional disability is necessary not only for quality of life assessment, but also as a useful marker for disease activity [2]. To assess functional disability in RA patients, the self administered Stanford HAQ was developed in 1980 [3] and has been proved as a reliable instrument.

The HAQ is widely used and has been translated into many languages [2, 4–13]. To the best of our knowledge, this is the first validated Persian version -the Iranian official language- of the HAQ. In this article, we describe the reliability and validation of the

disability dimension of a Persian version of the HAQ for Iranian RA patients. Since the Stanford HAQ is a standard component of the Arthritis, Rheumatism and Aging Medical Information System (ARAMIS) [14 –18], it was decided to translate Stanford HAQ into Persian and to examine reliability and validity of this questionnaire in Iranian patients with RA.

### MATERIALS AND METHODS

Patients were 359 Azeri, 40 Arab and 473 Fars. All consecutive RA patients who visited the Sina Teaching Hospital outpatients' clinic at Tabriz Medical University and Rheumatology Research Center outpatients' clinic at Tehran University of Medical Sciences from August 1 to November 23, 2005 were invited to participate in the study. A total of 935 Iranian RA patients were originally enrolled. After excluding 63 patients who did

not answer the questionnaire (52 failed to answer, and 11 did not answer for unknown reasons), questionnaires from the remaining 872 patients were analyzed. All participants had a diagnosis of RA according to the 1987 revised American College of Rheumatology criteria, the currently accepted criteria for RA diagnosis and classification [19]. Disease duration was defined as the number of years from disease onset to August 2005. The study protocol conformed to the ethical guidelines of the Declaration of Helsinki. Patient informed consent was obtained after the nature of the procedures had been fully explained.

### Translation and modification of HAQ

The disability section of the HAQ assesses function in 8 categories: dressing and grooming, arising, eating, walking, hygiene, reach, grip, and activities. The standard "forward-backward" procedure was applied to translate original Stanford HAQ the questionnaire from English into Persian. Two independent bilinguals translated the items and two others translated the response categories and after cultural adaptation, a tentative version was provided. Subsequently, it was back translated into English. Both back translators are native Iranian and fluent in English. Then, the final version was provided. We added culturally appropriate modifications of 5 questions in the arising, eating, hygiene, reach and activities categories, and then back translated again. The question "Cut your meat" was substituted with "Use spoons and forks" because the majority of Iranian people don't usually use knives and forks. "Get on and off the toilet" was modified to "Go to a squat toilet by yourself", because in most Middle East countries, including Iran, most often squat toilets are used. A squat toilet or Turkish toilet is a toilet used by squatting, rather than sitting. Question "Get in and out of bed" was changed to "Get up and down from Iranian style futon (a mattress on the floor)", because traditional futons are still very commonly used in Iran for sleeping. "Reach and get down a 5 lb object (e.g. a bag of potatoes) from just above your head" was modified to "Reach and get down a 2.5 kg nylon pocket from just above your head", because the metric system is used in Iran. "Do provisional Persian version of the HAQ that included 15 original and 5 modified questions (Table 1).

Study details were explained to all patients during their clinic visits, and informed consent was received from each participant. The questionnaires were then given to participants by collaborating rheumatologists. Since patients were from different ethnicities including Azeri, Arab and Fars, and though their formal language was Persian-Iranian official language-, we had to consider the possibility of presence of different expressions or traditions. Hence, we asked all the 872 patients to rate each question with regards to whether they understood and were familiar with the task described (comprehensibility) in reflecting one's function on a 4 point scale (1: slightly comprehensible; 2: moderately comprehensible; 3: quite a bit comprehensible; 4: extremely comprehensible). The question was considered as comprehensible when patients answered 3 or above. Kurdi, Baluchi, Guilaki, Mazandarani and Lori ethnicities were considered as Fars.

Each participant was asked to complete the questionnaire at home and mail it back in preaddressed, stamped envelopes within 2 weeks. Test-retest reliability was assessed in 101 randomly selected patients, who completed the questionnaires at the clinic and were requested to complete the same questionnaires at home about 10 days later and mail them back in preaddressed, stamped envelopes. Follow-up telephone calls were made for patients who had forgotten to mail back the questionnaire. The disability index (HAQ score) was calculated in 2 ways. First, the 20 original questions were used to calculate the original HAQ score. Then the 15 original and 5 modified questions were used to calculate a tentative PE-HAQ score.

### Statistical analysis

The reliability of the disability scale was measured by the mean interitem  $r$  and by Cronbach's coefficient alpha. Correlation between original HAQ and PE-HAQ scores was assessed with comparisons of results on the original HAQ and the PE-HAQ. Test-retest reliability was assessed with Spearman's correlation coefficient. The statistical data chores such as vacuuming or yard work" was substituted by "Praying from the standing position (Kneeling)". This resulted in an evaluation was performed using the SPSS Version 10.0 program packet.

**Table 1.** Stanford Health Assessment Questionnaire including additional modified questions

<p><b>Dressing</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Dress yourself, including shoelaces and buttons?</li> <li>• Shampoo your hair?</li> </ul> <p><b>Arising</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Stand up from a straight chair?</li> <li>• Get in and out of bed?*</li> <li>• Get up and down from Iranian style futon (a mattress on the floor)?†</li> </ul> <p><b>Eating</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Cut your meat?*</li> <li>• Use spoons and forks?†</li> <li>• Lift a full cup or glass to your mouth?</li> <li>• Open a new milk carton?</li> </ul> <p><b>Walking</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Walk outdoors on flat ground?</li> <li>• Climb up five steps?</li> </ul> <p><b>Hygiene</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Wash and dry your body?</li> <li>• Take a tub bath?</li> <li>• Get on and off the toilet?*</li> <li>• Go to a squat toilet by yourself?†</li> </ul> <p><b>Reach</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Reach and get down a 5 pound object (such as a bag of sugar) from above your head?*</li> <li>• Reach and get down a 2.5 kg nylon pocket from just above your head?†</li> <li>• Bend down to pick up clothing from the floor?</li> </ul> <p><b>Grip</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Open car doors?</li> <li>• Open previously opened jars?</li> <li>• Turn faucets on and off?</li> </ul> <p><b>Activities</b></p> <p>Are you able to:</p> <ul style="list-style-type: none"> <li>• Run errands and shop?</li> <li>• Get in and out of a car?</li> <li>• Do chores such as vacuuming or yard work?*</li> <li>• Praying from the standing position (Kneeling)†</li> </ul>
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\* Original questions in Stanford Health Assessment Questionnaire.

† Modified questions for Persian version.

**Table 2.** Characteristics of the study population

Characteristics	Mean± SD*
Total number of patients	
Gender, n (%)	872
Male	113 (13)
Female	759 (87)
Ethnicity†	
Azeri	359 (41.15)
Arab	40 (4.6)
Fars	473 (54.25)
Age, years, mean ± SD	57.5 ± 11.2
Onset age, years, mean± SD	51.5 ± 13.3
Disease duration, years, mean ± SD	6.10 ± 5.9
Doctor's VAS for disease activity, mm	35.6 ± 22.9
Patient's VAS for pain, mm	41.4 ± 30.1
Patient's global assessment,	49.5 ± 27.2
CRP, mg/dl	1.8 ± 2.1

\* Values are mean ± SD unless otherwise noted.

†Kurdi, Baluchi, Guilaki, Mazandarani and Lori ethnicities were considered as Fars.

VAS = visual analog scale; CRP = C-reactive protein.

## RESULTS

The demographic characteristics of the 872 Iranian RA patients enrolled in this study are listed in Table 2. Eighty-seven percent of the patients were female. The mean age at the time of the study was 57.5 years, mean RA onset age was 51.5 years, and mean disease duration was 6 years. Internal reliability as measured by Cronbach's alpha was 0.892, above the conventionally accepted value of 0.80. As seen in table 3, none of the 20 items significantly increased or decreased the standardized alpha if eliminated from the scale.

Table 4, shows the inter-scale and subscale versus total disability index correlations. From the standpoint of coherence, all of the components should have substantial positive

correlations with the index. A negative or very low correlation would suggest that a given component is inappropriate to the particular index and is measuring something different, while a perfect correlation would indicate that the remainder of the components is unnecessary [2]. As seen in table 4, the correlations were strongly positive, but were insufficient to enable any 1 component to replace the index. Extremely high correlations would suggest the possibility of redundancy between components and the possible elimination of 1 or more in the interest of conciseness. A component that correlates very poorly may belong in another index or may have limited usefulness for other psychometric or design reasons [2].

**Table 3.** Internal reliability of the Persian Health Assessment Questionnaire\* (872 cases)

Deleted variable	$\alpha$
Dressing	0.88
Arising	0.87
Eating	0.87
Walking	0.88
Hygiene	0.87
Reach	0.88
Grip	0.86
Activity	0.87

\*Effect on Chronbach's  $\alpha$  when individual component areas were deleted.  
Chronbach's overall coefficient = 0.892.

**Table 4.** Inter-scale and subscale versus total disability index correlation coefficients (Spearman) in the Persian Health Assessment Questionnaire

Category	Dressing	Arising	Eating	Walking	Hygiene	Reach	Grip	Activity	Disability index
<b>Dressing</b>	1.00								0.73
<b>Arising</b>	0.61	1.00							0.80
<b>Eating</b>	0.70	0.56	1.00						0.77
<b>Walking</b>	0.56	0.71	0.53	1.00					0.69
<b>Hygiene</b>	0.58	0.63	0.62	0.57		1.00			0.87
<b>Reach</b>	0.56	0.71	0.66	0.61	0.64	1.00			0.82
<b>Grip</b>	0.59	0.55	0.70	0.50	0.59	0.65	1.00		0.82
<b>Activity</b>	0.69	0.59	0.67	0.65	0.59	0.72	0.55	1.00	0.86

As can be seen in table 4, the interitem correlations were in the moderate range, with a mean of 0.62. To confirm the difference between the original HAQ and the PE-HAQ, the scores of each category, including the 5 modified questions were compared. The scores for the original HAQ and the PE-HAQ (mean  $\pm$  SD) were  $0.79 \pm 0.81$  and  $0.85 \pm 0.90$ , respectively, for arising;  $0.85 \pm 0.72$  and  $0.81 \pm 0.82$  for eating;  $0.81 \pm 0.89$  and  $0.91 \pm 0.95$  for hygiene;  $0.98 \pm 0.98$  and  $0.99 \pm 1.00$  for reach and  $0.85 \pm 0.79$  and  $0.94 \pm 0.97$  for activities. The correlation coefficients for these 5 categories were 0.83, 0.92, 0.80, 0.98, and 0.79 respectively.

The mean disability index of the original HAQ and the PE-HAQ were  $0.82 \pm 0.79$  and  $0.89 \pm 0.84$ , respectively, and the correlation coefficient between them was 0.91. The overall disability index of the original HAQ and the PE-HAQ showed good correlation ( $r = 0.881$ ).

Table 5, provides the “no answer” rate for each question. The no answer rate was higher for the toilet and squat toilet hygiene questions (15.8% and 5.8%, respectively) than for the other questions.

As shown in table 6, “go to a squat toilet” had a higher response than “get on and off the toilet”. This was also true for “get up and down from Iranian style futon” and “get in and out of bed” questions (data not shown). This discrepancy indicates that squatting in a Turkish style or squat toilet is more difficult than getting on and off the toilet for disabled RA patients. Test-retest reliability was assessed in 101 randomly selected patients as described in the Patients and Methods section. Two questionnaires were completed by eighty seven patients (87 out of 101, 86%) a mean of 10 days apart (Fourteen patients did not answer for unknown reasons despite telephone follow ups). The disability index for the clinic-administered questionnaire

(mean  $\pm$  SD) was  $0.91 \pm 0.96$ , while that for the at-home retest was  $0.87 \pm 0.83$ . A correlation coefficient of 0.90 between the 2 administrations demonstrated strong test-retest reliability.

The final version of the PE-HAQ incorporates all of these considerations and is shown written in Persian in Figure 1.

## DISCUSSION

Measurement of disability in patients with chronic illness has always been a subject of interest for all workers in this field. The HAQ [1] is an outcome assessment instrument developed and used by ARAMIS [16-17] that is widely used throughout the world. This study is a trial for the standardization of the HAQ to suit the Iranian culture that is significantly different from other American, European, Asian and African cultures. It is also different in terms of multi-ethnicity. The fact that the HAQ has been translated into many languages in non-English-speaking countries, including Japanese [2], Arabic [5], Italy [7], Germany [10], China [11], Korea [12], and Thailand [13], indicates the usefulness and reliability of this instrument. However, there is no established Persian version of the HAQ. We have translated and modified the HAQ into Persian, adapted it to the Iranian culture, and tested it for reliability and validity. In the context of the Iranian culture, 5 questions of the original HAQ were modified. These modifications were important for cross-cultural adaptation between Western countries and Iran, and it was necessary to compare the responses to these modified questions with those on the translated original HAQ. Similar modifications in the original HAQ have been done in other studies published from Korea [12], China [11], Japan [2] and Egypt [5], and it showed strong validity and reliability.

Responses to the modified eating and reach

questions showed very high correlations to those for the eating and reach questions on the original HAQ, with correlation coefficients of 0.92 and 0.98, respectively. However, responses to the modified arising, hygiene and activities questions were not satisfactory (correlation coefficients 0.83, 0.80, and 0.79, respectively). Furthermore, the “no answer” rates for the “toilet and squat toilet” (15.82 and 5.84 %, respectively), “bed and futon” (9.05 and 4.93%, respectively), and “do chores and praying from standing position” (5.84 and 4.12%, respectively) questions were exceptionally higher than those for other questions. This means that many patients did not answer either 1 of these questions, perhaps because they use both: “toilet and squat toilet”, “a bed and a futon”, and do both activities “chores and praying” on a daily basis. These questions were therefore further modified to “Get on and off the

toilet or go to a squat toilet (answer in your daily use)”, “get in and out of bed or Iranian style futon (answer in your daily use)” and “do chores such as vacuuming or praying from the standing position (answer in your daily use)”, so that patients can choose either corresponding item. Arising from a squat toilet is more difficult for disabled RA patients than getting on and out of the toilet, as shown in **TABLE 6**. Also, arising from an Iranian style futon is more difficult for disabled RA patients than getting out of bed. However, inter-scale and subscale versus total disability index correlations in the hygiene and arising category were comparable to those in other categories. In addition, overall disability index of the original HAQ and PE-HAQ was good enough ( $r = 0.881$ ), so this modification was considered to be practical and valid.

**Table 5.** No answer rate for each question in 872 patients

Category	n	%
Dressing		
Dress yourself	5	0.57
Shampoo your hair	16	1.83
Arising		
Stand up from a straight chair	7	0.80
Get in and out of bed*	79	9.05
Get up and down from Iranian style futon†	43	4.93
Eating		
Cut your meat*	12	1.37
Use spoons and forks†	5	0.57
Lift a full cup or glass	10	1.46
Open a new milk carton	3	0.35
Walking		
Walk outdoors	5	0.57
Climb up 5 steps	10	1.46
Hygiene		
Wash and dry your body	3	0.35
Take a tub bath	5	0.57
Get on and off the toilet*	137	15.82
Go to a squat toilet†	51	5.84
Reach		
Reach and get down 5 lb*	10	1.46
Reach and get down 2.5 kilograms†	7	0.80
Bend down to pick up	9	1.03
Grip		
Open car doors	10	1.46
Open previously opened jars	5	0.57
Turn faucets on and off	6	0.68
Activity		
Run errands and shop	6	0.68
Get in and out of a car	7	0.80
Do chores such as vacuuming	51	5.84
Praying from the standing position†	36	4.12

\* Questions for the original Health Assessment Questionnaire.

† Questions for the Persian Health Assessment Questionnaire.

**Table 6.** A discrepancy between answers of 2 questions ("Get on and off the toilet" and "Go to a squat toilet by yourself") in 872 patients

Go to a squat toilet by yourself						
	No answer	without any difficulty	with some difficulty	with much difficulty	Unable to do	Total
Get on and off the toilet						
No answer	10	2	57	66	2	137
Without any difficulty	10	12	75	353	124	574
With some difficulty	18	1	31	19	56	125
With much difficulty	12	0	10	5	6	33
Unable to do	1	0	2	0	0	3
Total	51	15	175	443	188	872

The final version of the PE-HAQ incorporates all of these considerations and is shown written in Persian in **Figure 1**. It consists of 20 questions, the same number that is in the original HAQ. Cronbach's alpha of 0.892, showed the internal consistency of the PE-HAQ to be similar to that reported in other studies; ranging between 0.86 and 0.97 [2, 5, 11, 20, 21]. A test that yields the same outcome under different conditions and on several performances ensures the consistency and the feasibility of this test, what was obvious in this modified questionnaire.

There was also a high correlation between the inter-scale and subscale versus total disability index correlation coefficients in the PE-HAQ. Furthermore, the correlation coefficient of the disability index between the original HAQ and the PE-HAQ was high enough. Also, there was very high test-retest reliability. These analyses confirm that the PE-HAQ is a reliable and valid instrument. The test-retest reliability of the PE-HAQ ( $r=0.90$ ) was comparable with previous reports. Test-retest correlation of the HAQ items in cross-cultural adaptation for Spanish, Portuguese, Swedish, French, Italian and British populations have been reported from 0.87 to 0.99 [22]; and, 0.829 and 0.92 for Arabic [5] and Japanese [2] versions, respectively.

We believe that the PE-HAQ should be a powerful instrument for international comparison of clinical RA assessment, including the response to certain therapeutic strategies or long-term observational study. In conclusion, we have created a Persian version of the HAQ and validated its cross-cultural equivalency. This instrument will be a valuable tool for the evaluation of functional disability in Iranian RA patients and for international comparison in the clinical studies of RA

patients. Translated HAQs in most Middle East countries should probably yield similar, and meanwhile, higher scores due to similar life style. Proper attention should be taken when data from these countries are pooled out.

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## Appendix1.

لطفا پاسخ هایی را که توانایی معمول شما را در هفته گذشته به بهترین شکل نشان می‌دهند، انتخاب کنید:

## 1. لباس پوشیدن

آیا شما می‌توانید:

الف. لباس هایتان را بپوشید، بند کفش ها و دکمه های لباس هایتان را ببندید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ب. موهای خود را بشویید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

## 2. بلند شدن

آیا شما می‌توانید:

الف. از یک صندلی بدون دسته بلند شوید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ب. به تختخواب (یا رختخواب) بروید یا از آن بلند شوید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

## 3. خوردن

آیا شما می‌توانید:

الف. از قاشق و چنگال به راحتی استفاده کنید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ب. یک لیوان یا استکان پر را تا دهان بالا ببرید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ج. یک قوطی شیر را باز کنید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

## 4. راه رفتن

آیا شما می‌توانید:

الف. در بیرون از منزل بر روی یک سطح صاف پیاده روی کنید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ب. از 5 پله بالا بروید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

لطفا هر کدام از وسایلی را که برای انجام فعالیت های یاد شده استفاده می کنید، علامت بزنید:

عصا (ر) □ حفاظ پیاده روی (ر) □ ظروف مخصوص آشپزخانه (خ) □

عصای آتل دار (ر) □ صندلی چرخدار (ر) □ صندلی مخصوص (ف) □

وسایلی را که برای لباس پوشیدن استفاده می کنید، نکر کنید (حلقه زیپ کش، گره زن دکمه، پاشنه کش)

سایر موارد (مشخص کنید).....

لطفا مواردی را که برای انجام آنها معمولاً نیاز به کمک فرد دیگری دارید، مشخص کنید:

لباس پوشیدن و شانه زدن □ خوردن □

تستشویی مو □ قدم زدن □

## 5. بهداشت فردی

آیا شما می‌توانید:

الف. کل بدن خود را بشویید و خشک کنید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ب. حمام بکنید (یا دوش بگیرید)؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ج. خودتان به دستشویی ایرانی بروید و بیرون بیایید (یا از دستشویی فرنگی استفاده کنید)؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

## 6. کشش

آیا شما می توانید:

الف. بسته ای مانند یک کیسه نایلون 2/5 کیلویی را تا سر خود بالا ببرید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

ب. خم شوید و لباس خود را از روی زمین بردارید؟

بدون هیچ گونه مشکل □ با کمی مشکل □ با سختی زیاد □ نمی توانم □

## 7. چنگ زدن

آیا شما می‌توانید:

الف. درب ماشین را باز کنید؟

بدون هیچ گونه مشکل ☐ با کمی مشکل ☐ با سختی زیاد ☐ نمی توانم ☐

ب. در مربایی را که قبلاً یک بار باز شده، دوباره باز کنید؟

بدون هیچ گونه مشکل ☐ با کمی مشکل ☐ با سختی زیاد ☐ نمی توانم ☐

ج. شیر آب را باز و بسته کنید؟

بدون هیچ گونه مشکل ☐ با کمی مشکل ☐ با سختی زیاد ☐ نمی توانم ☐

#### 8. فعالیت های دیگر

آیا شما می توانید:

الف. بیرون بروید و کار خرید را انجام دهید؟

بدون هیچ گونه مشکل ☐ با کمی مشکل ☐ با سختی زیاد ☐ نمی توانم ☐

ب. سوار ماشین شوید و از ماشین پیاده شوید؟

بدون هیچ گونه مشکل ☐ با کمی مشکل ☐ با سختی زیاد ☐ نمی توانم ☐

ج. موقع نماز خواندن، رکوع را انجام دهید؟ (یا کارهای مشابه مانند جارو برقی کشیدن انجام دهید؟).

بدون هیچ گونه مشکل ☐ با کمی مشکل ☐ با سختی زیاد ☐ نمی توانم ☐

**لطفاً هر کدام از وسایل یا کمک هایی را که برای انجام فعالیت های یاد شده استفاده می کنید، علامت بزنید:**

توالت پایه بلند (ب) ☐ وسایل دستگیره دار(ک) ☐

عسلی حمام (ب) ☐ دربار کنسرو (ج) ☐

ریل یا حفاظ حمام (ب) ☐ سایر موارد (مشخص کنید).....

**لطفاً مواردی را که برای انجام آنها نیاز به کمک فرد دیگری دارید مشخص کنید:**

نظافت و حمام ☐ چنگ زدن و باز کردن چیزها ☐

کشش ☐ پرسه زدن و کارهای منزل ☐

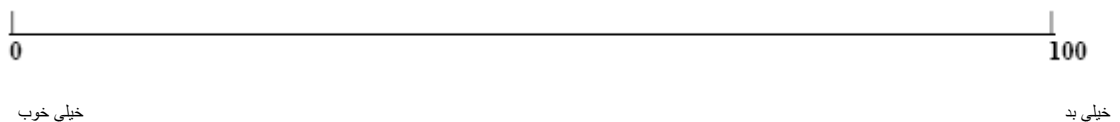
ما علاقمندیم بدانیم آیا درد این بیماری تأثیری روی شما گذاشته است یا خیر.

**طی هفته گذشته چقدر درد به خاطر بیماری تان داشته اید:**

لطفاً با رسم یک خط عمود روی نوار زیر، شدت درد خودتان را نشان دهید.



با در نظر گرفتن تمام راه ها بی که آرتریت روی شما تأثیر می گذارد، با رسم یک خط عمود روی نوار زیر، وضعیت سلامتی خودتان را نشان دهید.



**Figure 1.** Final version of the StanfordHealth Assessment Questionnaire written in Persian.