



Assessing Activity Limitations Caused by Rheumatoid Arthritis to Inform Appropriate Selection of Patient-Reported Outcomes Measures

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Background

- The symptoms of rheumatoid arthritis (RA), such as pain, stiffness, and fatigue, affect the daily activity of persons with RA. ¹
- Understanding the activity limitations (AL) caused by RA could help establish appropriate treatment targets for patients and encourage proper escalation of therapy. ^{2,3}

Objective

To comprehensively identify AL, including but not limited to impairments in physical function, experienced persons with RA and identify Patient-Reported Outcomes Measurement Information System (PROMIS) short form (SF) scales that can measure these limitations.

Method

Study design: Qualitative study

Data source: A web-based survey was conducted among adults with RA, who were members of PatientSpot (PS).

Data:

- An open-ended question asking what other activity limitation respondents experienced.
- Items in PROMIS Upper Extremity (UE) SF7a, Physical Function (PF) SF8b, Task Difficulty scale (TDS), PF SF10a, Fatigue SF7a, and Ability to Participate in Social Roles and Activities (PSS) SF4a ⁴⁻⁹ (the former three scales were used in the survey).

Data analysis:

Framework: International Classification of Functioning, Disability and Health (ICF)

- Four main categories (Body Structures; Body Functions; Activities and Participation; and Environmental Factors).
- Under Activity and Participation (A&P), there are 9 second-level subcategories (e.g., Changing and maintaining body position).
- Under second-level subcategory, there are third- (e.g., d430 Lifting and carrying objects) and fourth-level (e.g., d4301 Carrying in the hands) subcategories.

The concepts in the open-ended question and items in the scales were deductively coded against the fourth-level subcategories under the main category of A&P in ICF framework using link rules. ¹⁰ The fourth-level subcategories were mapped to third- and second-level subcategories and reported in result.

Results: Table 1. Subcategories under Activity and Participation (A&P) in ICF linked to the text response to open-ended question and items in PROMIS short form scales and the task difficulty scale (TDS)

Patients reported Second-Level Subcategories of A&P	No.	RA Patients Reported Third -Level Subcategories of A&P	UE SF7a	PF SF8b	PF SF10a	Fatigue SF7a	PSS SF4a	TDS
Learning and applying knowledge	-	Thinking *				1		
General tasks and demands	1	Undertaking a single task						
	2	Undertaking multiple tasks					1	
	3	Carrying out daily routine				2	2	
	4	Handling stress and other psychological demands						
	5	Other specified general tasks and demands						
	6	General tasks and demands, unspecified						
Mobility-Changing and maintaining body position	7	Changing basic body position			1			1
	8	Maintaining body position						2
Mobility-Carrying, moving and handling objects	9	Lifting and carrying objects	1	1	2			
	10	Moving objects with lower extremities						
	11	Fine hand use	2		3			3
	12	Hand and arm use	3	2				
	13	Fine foot use						
	14	Walking			4			
Mobility-Walking and moving	15	Going up and down stairs		3	5			
	16	Moving around			6			
	17	Moving around in different locations		4				
Mobility-Moving around using transportation	18	Driving						4
	19	Moving around using transportation, other specified and unspecified						
Self-care	20	Washing oneself	4		7	3		5
	21	Caring for body parts			8			6
	22	Toileting			9			7
	23	Dressing	5		10			8
	24	Eating						9
	25	Drinking						
	26	Looking after one's health				4		10
	27	Acquisition of goods and services	6	5	11			
Domestic life-Acquisition of necessities	28	Preparing meals						11
	29	Doing housework		6	12			
	-	Household tasks, other specified and unspecified		7		5		
Domestic life- Household tasks	30	Caring for household objects	7					
	31	Assisting others						
Domestic life-Caring for household objects and assisting others	-	Basic interpersonal interactions					3	
	32	Formal relationships						
	-	Informal social relationships					4	
	33	Family relationships					5	
	34	Intimate relationships						
	35	Interpersonal interactions and relationships, unspecified						
Interpersonal interactions and relationships-Particular interpersonal relationships	36	Acquiring, keeping and terminating a job						
	37	Remunerative employment						
	-	Work and employment, other specified and unspecified		8		6	6	
Major life areas-Work and employment	38	Recreation and leisure			13		7	
Community, social and civic life								

UE: Upper Extremity; PF: Physical Function; PSS: Ability to Participate in Social Roles and Activities; TDS: Task Difficulty scale;

*Codes in blue font and with underline mean they were not identified in the text response to the open-ended question ;

Cells filled in color showed the third-level subcategories in ICF linked to the items in each scale.

Results

- Eight-three participants responded to the open-ended question. Four participants (4.82%) reported there were no further AL at the top of the survey items.
- Diagnosed with RA for more than 5 years: 66.3%
- Aged between 45 and 65 years: 61.0%
- Female: 85.4%; White: 92.8%; Married: 48.8%
- Four-year college degree or higher: 53.7%
- Annual income of \$50,000 or more: 56.1%
- Thirty-eight unique third-level subcategories under the main category of A&P linked to the text response to the open-ended question by persons with RA.
- PF SF10a covered more third-level subcategories of A&P than UE SF7a plus PF 8b.
- Fatigue SF7a and PSS SF4a covered different domains of AL than UE SF7a plus PF 8b.

Limitations

- Participants were members of an online patient community (registry), potentially limiting the generalizability of findings to the general population of people with RA.
- This study did not assess the severity of the AL, which could impose different influence on patients’ life and treatment needs.

Conclusion

- This study identified 38 unique AL experienced by persons with RA based on third-level subcategories in ICF framework.
- Further, we found that PROMIS PF SF10a is a more effective and efficient tool than using both UE SF7a and PF SF8b to measure AL.
- Besides PROMIS PF scales, PROMIS Fatigue SF7a and PSS SF4a are potential options to measure AL among persons with RA in clinics.

References:



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