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Translation and psychometric properties of the Arabic version of the revised Patients' Attitudes Towards Deprescribing questionnaire

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Abstract

Objectives This study aims to validate an Arabic version of the revised Patients' Attitudes Toward Deprescribing (rPATD) translated tool and to describe polypharmacy patients' attitudes toward deprescribing in Jordan.

Methods rPATD translation was guided by ISPOR's Principles of Good Practice. A convenient sample of adult outpatients with polypharmacy was recruited from a major teaching hospital in Jordan. Reliability was assessed using Cronbach's alpha and the intraclass correlation coefficient (ICC). Validity was assessed using face and construct validity using confirmatory factor analysis.

Key findings A total of 358 questionnaires were collected from patients (mean age: 60.4 ± 12.03). Overall, polypharmacy patients were willing to stop one or more of their medications upon a physician's recommendations and were not concerned about deprescribing. Similar to the original rPATD tool, factor analysis resulted in four factors (burden, appropriateness, concern about stopping, and involvement). Internal consistencies for constructs ranged from 0.718 (appropriateness) to 0.85 (concerns about stopping). ICC ranged from 0.718–0.972, indicating good to excellent reliability.

Conclusions This study provided an Arabic translation of the rPATD with evidence of validity and reliability comparable to the original tool. The Arabic rPATD could be used for adult patients in Arabic-speaking countries to ultimately contribute to the global literature of deprescribing. Overall, the patients in this study showed a favourable attitude towards deprescribing through a shared decision-making process with their physicians. This can be seen as an opportunity to reduce the burden of polypharmacy and unnecessary medications.

Keywords Arabic validation; deprescribing; patient attitudes; polypharmacy

Introduction

Polypharmacy, the concurrent use of five or more medications,[1] is an increasing problem for both patients and healthcare providers.[2,3] Although sometimes inevitable, polypharmacy has many negative outcomes, including nonadherence, reduced quality of life, hospitalization and high rates of adverse drug reactions (ADRs).[4–7] Patients taking seven or more medications are at 82% increased risk of ADRs.[8] Polypharmacy has been estimated to cost the US government $50 billion every year.[9] With the growing concerns towards polypharmacy, it is essential to find approaches to minimize its clinical and economic burdens. Deprescribing is one of the promising strategies for managing polypharmacy and improving patient outcomes.[10,11] The term 'deprescribing' was first introduced in 2003 to help manage polypharmacy and improve health outcomes.[10,11] Deprescribing is defined as 'the process of withdrawal of an inappropriate medication, supervised by a health care professional, with the goal of managing polypharmacy and improving outcomes'.[12] Evidence suggests that deprescribing reduces the risk of drug-

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related problems such as ADRs, drug interactions and non-adherence.[4,13,14] Moreover, deprescribing reduces the financial costs related to medication use and ADR management.[10,13] Furthermore, deprescribing can potentially reduce the inappropriate use of medications and the suffering that results from taking numerous medications every day.[15,16] These benefits will ultimately lead to improved patient outcomes and increased patient satisfaction.[13] Some can argue that deprescribing may negatively affect therapeutic outcomes. However, studies have demonstrated that approximately 50% of medications for elderly patients can be discontinued or reduced in dose without significant change to therapeutic outcomes.[17–20]

The determining factors for the deprescribing of a medication are as follows: if the medication has ambiguous or no evidence of efficacy, if the medication has unfavourable risk–benefit outcomes, or if the patient has expressed a desire to discontinue the medication.[21] There are several guidelines for deprescribing in multiple therapeutic areas to help clinicians taper or stop medications safely.[22–25]

Despite the evidence that suggests the benefits of deprescribing and the availability of guidelines to implement it in practice, it has never been evaluated in the Middle East. The prevalence of polypharmacy in the Middle East was reported to be between 44.8 and 96% in different practice settings.[26–28] In Jordan, 44.8–72.9% of elderly patients were found to have polypharmacy.[29,30] Polypharmacy effects are not limited to elderly patients. Indeed, it has been reported that around half (47.5%) of the adults at outpatients clinics have polypharmacy.[31] Consequently, 91–96% of polypharmacy patients in Jordan had at least one potential drug–drug interaction.[29,32] Moreover, 27.7% of adult patients in Jordan were found to have unnecessary drug therapy. Annual costs of unnecessary medications, at the national level, were estimated to range between 7.4 million USD (payer's perspective) and 12 million USD (patient's perspective).[20]

The cumulative evidence from the Middle East, particularly in Jordan, of polypharmacy prevalence and its corresponding consequences among adult patients suggests a need for deprescribing. However, there is no evidence regarding patients' attitudes towards their polypharmacy and their desire for deprescribing. The revised Patients' Attitudes Towards Deprescribing (rPATD) questionnaire was developed by Reeve *et al*.[33] to capture patients' attitudes and beliefs towards deprescribing.

Objectives

The overall objective of this study is to validate an Arabic version of the revised Patients' Attitudes Towards Deprescribing (rPATD). The specific objectives are as follows: (1) to validate an Arabic version of the rPATD which can be used for adult patients, since polypharmacy prevalence is not limited to elderly patients in Arabic-speaking countries and (2) to describe patients' attitudes towards deprescribing in Jordan.

Methods

Questionnaire

In order to assess patients' attitudes towards deprescribing in Jordan, a validated self-administered questionnaire in Arabic is required. The rPATD questionnaire aims to capture attitudes and beliefs towards deprescribing with two versions, one that captures older adult patients' attitudes (22-items) and another which captures caregivers' attitudes (19-items).[33] In this study, only the former was used. The rPATD questionnaire has evidence of acceptable validity and reliability.[33] The older adult patients' rPATD version measures four constructs: burden (questions that assess the burden of their medication taking), appropriateness (patients' perceived benefits and harms to the medications they are taking), concern about stopping (patients' concerns if they stopped their medications) and involvement (patients' knowledge and involvement in decision-making about their medication therapy).[33] The questionnaire also has two global questions that showed low loading and cross-loading in the original rPATD; therefore, they were not included under any of the aforementioned constructs.[33] All rPATD responses are based on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Translation

The translation of the rPATD was carried out after permission was obtained from the original developer.[33] The translation process was guided by ISPOR's Principles of Good Practice for Translation and Cultural Adaptation.[34] The translation process is described in detail in Figure 1. A professor of Arabic language approved the final version to ensure that all questions were worded in standardized literary Arabic and therefore guarantee the questionnaires' usability by Arabic-speaking individuals with different dialects.

Study setting and participants recruitment

In the period from July to September 2018, a convenient sample of 358 outpatients with polypharmacy (i.e. five or more medications) was recruited from King Abdullah University Hospital (KAUH). The hospital has 678 beds in different tertiary care specialties and is affiliated with the Jordan University of Science and Technology in Irbid, Jordan. Research assistants recruited patients from different outpatient clinics at KAUH. The research assistants identified potential patients by checking patients' files following their registration at the outpatient clinics. Patients who met the inclusion/exclusion criteria (see below) were approached by the research assistants and were informed about the study objectives. All participants signed informed consent forms before being enrolled in this study. The inclusion criteria were (1) patients ≥18 years old, (2) patients taking five or more medications, and (3) patients who do not require a caregiver or assistance at home. We excluded patients with any signs of moderate or severe cognitive impairment. The Institutional Review Board (IRB) at KAUH approved this

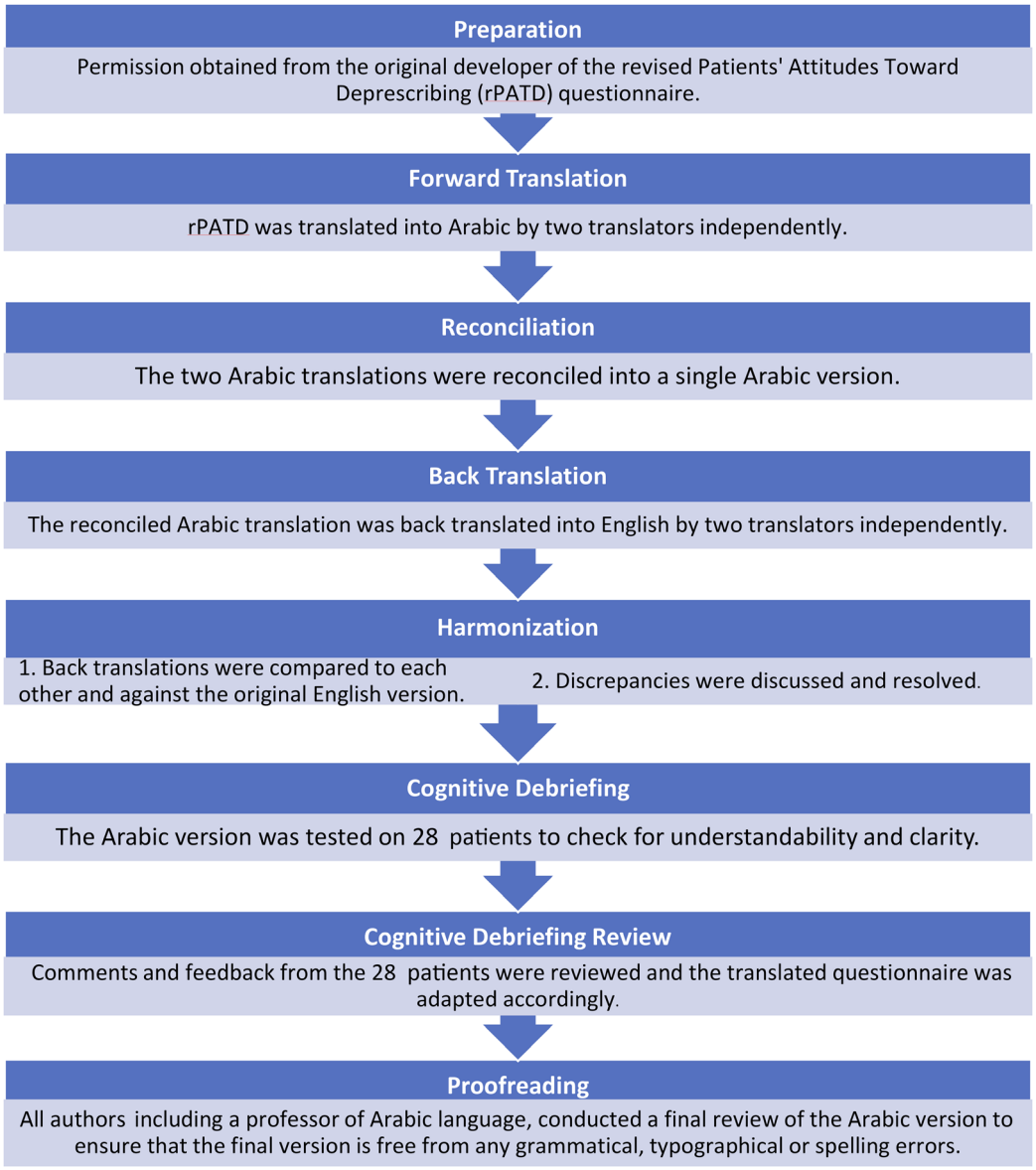

Figure 1 Translation process of rPATD into Arabic guided by ISPOR's Principles of Good Practice for the Translation and Cultural Adaptation.

study with a written informed consent form obtained from each participant.

Psychometric scale properties and data analysis

Reliability was assessed by measuring internal consistency and performing test–retest reliability. The internal consistency was assessed by Cronbach's alpha coefficient, and alpha equal to or greater than 0.70 was considered satisfactory.[35] As for the test–retest reliability, we administered the questionnaire twice during a 7–9 days interval to a pilot sample of 32 patients with polypharmacy. According to literature, the majority of studies with similar nature had 7–20 days time interval between the two administrations of tests.[36] The time interval between the two administrations of tests can drop down to 1–2 weeks if older patients are involved in the study.[37,38] Since the pilot sample included elderly patients and self-medication is common among adults in Jordan,[39] we decided to have a 7–9 day interval to minimize the chance of any changes to the medication lists of the 32 patients. Prior to the second questionnaire administration, we verified that there were no changes made to the participants' medications (i.e. number or dosage). The intraclass correlation coefficient (ICC) was used to assess the test–retest reliability of the questionnaires. ICC reflects the variation of data measured by one rater across two different trials of filling in the survey.[40]

Validity was assessed through face validity and construct validity. For the face validity, a sample of 28 patients from the general population answered the final version of the

Arabic rPATD questionnaire to assess the questionnaire's feasibility, readability, formatting, consistency of style and clarity of language. Responses from the general population face validity were not included in the final results. Construct validity of the translated questionnaire was done using confirmatory factor analysis (CFA). CFA was performed using principal component extraction with promax rotation. This validity testing aimed to ensure that the Arabic rPATD would yield constructs similar to the original rPATD and to validate its use for adult patients, since the original rPATD was validated for elderly patients.

Data analysis

All data analyses were performed using the Statistical Package for Social Science (IBM SPSS) version 25 (IBM Corporation, Armonk, NY, USA). The descriptive analysis consisted of mean scores with standard deviations and percentage frequency.

Results

A total of 358 questionnaires were collected from patients; around half of the respondents were females (51.7%), and the mean age of all the participants was 60.4 ± 12.03 years (Table 1). Most of the patients were medically insured (88%), and results showed an average of 6.7 medications per patient (Table 1).

Over 50% of the patients reported that taking medications was a burden and inconvenience. While participants generally stated that they were satisfied with their current medications (Table 2), they were nonetheless willing to stop one or more of their medications if their physician recommended so. The majority of the patients did not report a financial burden. Moreover, they did not report concerns regarding stopping any medications (Table 2). However, a considerable number of patients believed that their medications are causing adverse events (43.3%) or no longer working or needed (Table 2).

Over 60% of the respondents would not hesitate to stop any of their medications and would not get stressed about it or feel that their physicians are giving up on them (Table 2). While respondents appeared to trust their physicians' decisions regarding their medications, the majority of patients would like to be involved in these decisions (Table 2).

Table 1 Sociodemographic data of the respondents (n = 358)

Variable	n (%)
Gender	
Female	185 (51.7)
Male	173 (48.3)
Marital status	
Single/never married	40 (11.2)
Married	204 (57)
Divorced/widowed	114 (31.8)
Education[†]	
Primary education	145 (50.1)
Secondary education	73 (25.3)
Post-secondary education	71 (24.6)
Insurance	
Insured	315 (88)
No insurance	43 (12)
Age (mean ± SD)	60.4 ± 12.03
Number of medical conditions per patient (mean ± SD)	3.88 ± 2.17
Number of medications per patient (mean ± SD)	6.7 ± 1.88

[†]Missing values in this variable.

Validity assessment

In the face validity phase, patients did not find any of the statements to be unclear and stated that they understood the questions and could give semantic equivalences. However, they suggested that the questionnaire be reproduced in a larger font and with increased spacing between questions. Accordingly, we modified the formatting of the final version.

The Kaiser-Meyer Olkin (KMO) and Bartlett's test of Sphericity were used to examine the appropriateness of CFA. The Arabic rPATD obtained a KMO measure of 0.758 and the Bartlett test was significant ($P < 0.001$) suggesting adequacy of the sample and the suitability of data to proceed to CFA. With the exclusion of the two global questions, factor analysis resulted in four factors: burden, appropriateness, concern about stopping and involvement (Table 3).

Reliability assessment

Cronbach's alpha coefficient for the Arabic version of the rPATD ranged from 0.718 (appropriateness) to 0.850 (concern about stopping; Table 2). Cronbach's alpha coefficient results suggest acceptable to good internal consistency of the Arabic rPATD. A total of 32 participants were evaluated for test–retest reliability using ICC. The ICC of each item ranged from 0.718 to 0.972 indicating a good to excellent inter-rater agreement (Table 4).

Discussion

This study aimed to validate the Arabic translation and the psychometric properties of the rPATD questionnaire. Modern Standard Arabic was used to facilitate the questionnaire's use across Arabic-speaking countries, which geographically represent the majority of the population and area in the Middle East and North Africa. In this study, the Arabic version of the rPATD tool was validated using a convenient sample of adult patients with polypharmacy recruited from the outpatient settings of a major teaching hospital in Jordan. The Cronbach's alpha coefficients and the ICC for the four factors (burden, appropriateness, concern about stopping and involvement) exceeded the most commonly cited cut-off point of 0.7. Construct validity test using confirmatory factor analysis indicated a good model fit and resulted in comparable findings to the original English version. These findings provide significant evidence that supports the reliability and validity of the Arabic version of the rPATD as a tool to assess patients' attitudes towards

Table 2 Responses of the study sample to questionnaire statements (n = 358)

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Burden dimension (mean ± SD) = 3.34 ± 1.10					
B1 – I spend a lot of money on my medicines	96 (26.8%)	51 (14.2%)	12 (3.4%)	96 (26.8%)	103 (28.8%)
B2 – Taking my medicines every day is very inconvenient	124 (34.6%)	86 (24%)	3 (0.8%)	123 (34.4%)	22 (6.1%)
B3 – I feel that I am taking a large number of medicines	124 (34.6%)	89 (24.9%)	12 (3.4%)	111 (31%)	22 (6.1%)
B4 – I feel that my medicines are a burden to me	116 (32.4%)	89 (24.9%)	9 (2.5%)	120 (33.5%)	24 (6.7%)
B5 – Sometimes I think I take too many medicines	123 (34.4%)	83 (23.2%)	11 (3.1%)	114 (31.8%)	27 (7.5%)
Appropriateness dimension (mean ± SD) = 2.75 ± 0.95					
A1 – I feel that I may be taking one or more medicines that I no longer need	37 (10.3%)	47 (13.1%)	28 (7.8%)	165 (46.1%)	81 (22.6%)
A2 – I would like to try stopping one of my medicines to see how I feel without it	64 (17.9%)	58 (16.2%)	14 (3.9%)	122 (34.1%)	100 (27.9%)
A3 – I would like my doctor to reduce the dose of one or more of my medicines	79 (22.1%)	56 (15.6%)	41 (11.5%)	104 (25.3%)	78 (21.8%)
A4 – I think one or more of my medicines may not be working	39 (10.9%)	46 (12.8%)	39 (10.9%)	159 (44.4%)	75 (20.9%)
A5 – I believe one or more of my medicines may be currently giving me side effects	76 (21.2%)	79 (22.1%)	23 (6.4%)	118 (33.0%)	62 (17.3%)
Concern about stopping dimension (mean ± SD) = 2.31 ± 1.02					
C1 – I would be reluctant to stop a medicine that I had been taking for a long time	47 (13.1%)	50 (14%)	24 (6.7%)	138 (38.5%)	99 (27.7%)
C2 – If one of my medicines was stopped, I would be worried about missing out on future benefits	38 (10.6%)	56 (15.6%)	27 (7.5%)	139 (38.8%)	98 (27.4%)
C3 – I get stressed whenever changes are made to my medicines	33 (9.2%)	58 (16.2%)	22 (6.1%)	139 (38.8%)	106 (29.6%)
C4 – If my doctor recommended stopping a medicine, I would feel that he/she was giving up on me	28 (7.8%)	26 (7.3%)	55 (15.4%)	104 (29.1%)	145 (40.5%)
C5 – I have had a bad experience when stopping a medicine before	31 (8.7%)	35 (9.8%)	18 (5%)	157 (43.9%)	117 (32.7%)
Involvement dimension (mean ± SD)= 4.09 ± 0.80					
I1 – I have a good understanding of the reasons I was prescribed each of my medicines	200 (55.9%)	128 (35.8%)	7 (2%)	17 (4.7%)	6 (1.7%)
I2 – I know exactly what medicines I am currently taking, and/or I keep an up-to-date list of my medicines	173 (48.3%)	133 (37.2%)	12 (3.4%)	36 (10.1%)	4 (1.1%)
I3 – I like to know as much as possible about my medicines	155 (43.3%)	109 (30.4%)	8 (2.2%)	66 (18.4%)	20 (5.6%)
I4 – I like to be involved in making decisions about my medicines with my doctors	164 (45.8%)	122 (34.1%)	16 (4.5%)	38 (10.6%)	18 (5%)
I5 – I always ask my doctor, pharmacist or other healthcare professional if there is something I do not understand about my medicines	150 (41.9%)	120 (33.5%)	5 (1.4%)	66 (18.4%)	17 (4.7%)
Global questions					
G1 – If my doctor said, it was possible I would be willing to stop one or more of my regular medicines	213 (59.5%)	110 (30.7%)	10 (2.8%)	16 (4.5%)	9 (2.5%)
G2 – Overall, I am satisfied with my current medicines	120 (33.5%)	162 (45.3%)	17 (4.7%)	44 (12.3%)	15 (4.2%)

Table 3 Extracted factors from the Arabic version of rPATD

		Factor 1	Factor 2	Factor 3	Factor 4
Burden dimension. Cronbach's alpha coefficient =0.815					
B1	I spend a lot of money on my medicines أنفق الكثير من المال على أدويتي	[a]	0.363	[a]	[a]
B2	Taking my medicines every day is very inconvenient تناول أدويتي يومياً أمراً مزعج للغاية	[a]	0.799	[a]	[a]
B3	I feel that I am taking a large number of medicines أشعر أنني أتناول عدداً كبيراً من الأدوية	[a]	0.819	[a]	[a]
B4	I feel that my medicines are a burden to me أشعر أن أدويتي تشكل عبئاً عليّ	[a]	0.818	[a]	[a]
B5	Sometimes I think I take too many medicines أظن أحياناً أني أتناول الكثير من الأدوية	[a]	0.877	[a]	[a]
Appropriateness dimension. Cronbach's alpha coefficient = 0.718					
A1	I feel that I may be taking one or more medicines that I no longer need أشعر بأني قد أكون اتناول دواءً أو أكثر لم أعد بحاجة إليه	[a]	[a]	[a]	0.802
A2	I would like to try stopping one of my medicines to see how I feel without it أرغب في محاولة التوقف عن تناول أحد أدويتي لأرى كيف أشعر بدونه	[a]	[a]	[a]	0.583
A3	I would like my doctor to reduce the dose of one or more of my medicines أرغب أن يقوم طبيبي بتخفيف جرعة من واحد أو أكثر من أدويتي	[a]	[a]	[a]	0.625
A4	I think one or more of my medicines may not be working أعتقد انه من الممكن أن دواءً أو أكثر من أدويتي لم يعد يفيدني	[a]	[a]	[a]	0.726
A5	I believe one or more of my medicines may be currently giving me side effects أعتقد أن واحداً أو أكثر من أدويتي من الممكن انه يسبب لي أعراضاً جانبية حالياً	[a]	[a]	[a]	0.574
Concern About Stopping dimension. Cronbach's alpha coefficient =0.850					
C1	I would be reluctant to stop a medicine that I had been taking for a long time سأكون متردداً في إيقاف دواء كنت أتناوله لفترة طويلة	0.857	[a]	[a]	[a]
C2	If one of my medicines was stopped, I would be worried about missing out on future benefits إذا تم إيقاف أحد أدويتي فسأكون قلقاً من أن تفوتني فوائده في المستقبل	0.896	[a]	[a]	[a]
C3	I get stressed whenever changes are made to my medicines أشعر بالتوتر كلما حصل تغيّر على أدويتي	0.904	[a]	[a]	[a]
C4	If my doctor recommended stopping a medicine, I would feel that he/she was giving up on me إذا أوصى طبيبي بإيقاف أحد أدويتي فإنني سأشعر بأنه يئس من حالتي	0.502	[a]	[a]	[a]
C5	I have had a bad experience when stopping a medicine before كانت لدي تجربة سيئة عندما أوقفت أحد الأدوية في السابق	0.698	[a]	[a]	[a]
Involvement dimension. Cronbach's alpha coefficient =0.745					
I1	I have a good understanding of the reasons I was prescribed each of my medicines لديّ فهم جيد للأسباب التي وصف لأجلها كل دواء من أدويتي	[a]	[a]	0.698	[a]
I2	I know exactly what medicines I am currently taking, and/or I keep an up-to-date list of my medicines أعرف تماماً الأدوية التي أتناولها حالياً، و/أو أحتفظ بقائمة محدّثة لجميع أدويتي	[a]	[a]	0.715	[a]
I3	I like to know as much as possible about my medicines أرغب بمعرفة أكبر قدر ممكن من المعلومات عن أدويتي	[a]	[a]	0.825	[a]
I4	I like to be involved in making decisions about my medicines with my doctors أرغب في مشاركة طبيبي باتخاذ القرارات المتعلقة بأدويتي	[a]	[a]	0.525	[a]
I5	I always ask my doctor, pharmacist or other healthcare professional if there is something I don't understand about my medicines أسأل دائماً الطبيب أو الصيدلاني أو أحد أخصائي الرعاية الصحية في حال لم أفهم شيئاً عن أدويتي	[a]	[a]	0.752	[a]
G1	If my doctor said it was possible I would be willing to stop one or more of my regular medicines أنا على استعداد أن أوقف واحداً أو أكثر من أدويتي المعتادة إذا قال طبيبي ان ذلك ممكناً	[b]	[b]	[b]	[b]
G2	Overall, I am satisfied with my current medicines بشكل عام، أنا راضٍ عن أدويتي الحالية	[b]	[b]	[b]	[b]

[a], no factor loading or <0.3; [b], these items (i.e., global questions) were not included in the confirmatory factor analysis.

deprescribing in Jordan and other Arabic-speaking countries.

The rPATD was also translated into Danish,[41] Italian,[42] Amharic[43] and Malay[44] languages. The Danish version of the rPATD was translated using forward–backward translation. The Danish version was pilot tested on five patients, and the questionnaire was revised by modifying some items and including items related to demographics and health literacy characteristics.[41] The Italian version of the rPATD was translated and validated through back translation and the questionnaire was culturally adapted to the Italian settings by deleting item 14 because no pharmacists were participating in the hospital wards. Only face validity was conducted to assess the clarity and comprehensibility of the questions.[42] The Amharic version of the rPATD was translated using the forward–background translation to assess Ethiopian older adults attitudes' towards deprescribing.[43] However, the psychometric properties were not published or available for the aforementioned translated versions which makes it difficult to compare our results with the international context. Cronbach's alpha was only reported in the Malaysian version of the rPATD which was acceptable for all the tested factors (> 0.6) but was lower than our values.[44] In Singapore, only the English version of the PATD was administered to assess patients' attitudes towards deprescribing.[45] Using only the English version of the questionnaire excluded patients who were not competent in the English language and therefore missed important information about the local populations' readiness for deprescribing.[45]

Furthermore, the Arabic rPATD questionnaire was found to be reliable. Results of the test–retest reliability indicate the questionnaire's ability to produce consistent and reproducible outcomes. While the test–retest reliability of the original version of the questionnaire (in the English language) was fair to good,[15] the current Arabic rPATD produced good to excellent agreement. The discrepancy of ICC between the original rPATD and the Arabic version could be due to the different groups assessed. The original rPATD targeted elderly patients, while the Arabic rPATD targeted adult patients.

In this study, more than half of the patients felt that they were taking a large number of medications, and a considerable number of them felt that they were taking medication that they no longer needed. However, what seems to be more interwoven with the concept of the relationship between polypharmacy and medication deprescribing is that most of the patients reported that they would stop one or more of their medications if their physician said it was possible. Similar findings were reported in other studies with non-Arabic-speaking patients.[43,45–47]

Unlike results reported by Tegegn *et al*.,[43] a significant number of patients were not worried about spending money on medication. This is probably because the majority of them were covered by a full or partial health insurance. On the other hand, the results of patients' concern about stopping medications and involvement were similar to findings from other related studies.[43,45–47]

This is the first study to assess patients' willingness and readiness for deprescribing using a valid and reliable Arabic version of the rPATD. This tool can be used in the rest of Arabic-speaking countries with minor adjustments to fit with each country's specific healthcare context and cultural background. Moreover, the results of this study add up to the literature of deprescribing by providing the viewpoints of patients from a lower middle-income country using a relatively large sample size. Similar to results from other countries, our study showed that polypharmacy patients in Jordan have favourable attitudes towards deprescribing and are eager to stop one or more of their medications upon a physician's recommendations. This can be viewed as an opportunity to reduce the burden and the cost of unnecessary medications especially that a recent study conducted in Jordan showed that there is at least one unnecessary medication per every three patients.[20]

Table 4 Test–retest reliability as assessed by ICC for translated rPATD items

Items	Test–retest reliability		
	Time 1 (mean ± STD)	Time 2 (mean ± STD)	ICC
Burden Dimension			
B1	2.3 ± 1.56	2.5 ± 1.55	0.965
B2	2.7 ± 1.49	2.6 ± 1.46	0.962
B3	3.1 ± 1.56	3.5 ± 1.34	0.852
B4	2.5 ± 1.43	2.8 ± 1.41	0.972
B5	2.7 ± 1.57	2.6 ± 1.45	0.919
Appropriateness dimension			
A1	2.2 ± 1.20	2.4 ± 1.24	0.939
A2	2.7 ± 1.68	3.0 ± 1.53	0.928
A3	2.6 ± 1.41	2.8 ± 1.43	0.939
A4	2.2 ± 1.38	2.5 ± 1.32	0.900
A5	2.7 ± 1.57	2.8 ± 1.39	0.922
Concern about stopping dimension			
C1	2.3 ± 1.37	2.3 ± 1.44	0.949
C2	2.3 ± 1.32	2.3 ± 1.42	0.955
C3	2.2 ± 1.24	2.2 ± 1.41	0.952
C4	2.0 ± 1.43	2.2 ± 1.43	0.955
C5	2.3 ± 1.44	2.3 ± 1.34	0.931
Involvement dimension			
I1	4.7 ± 0.65	4.2 ± 1.04	0.759
I2	4.6 ± 0.71	4.5 ± 0.92	0.718
I3	4.5 ± 0.92	4.3 ± 0.97	0.767
I4	4.0 ± 1.26	3.9 ± 1.24	0.940
I5	4.4 ± 0.91	4.2 ± 1.11	0.817
Global questions			
G1	4.5 ± 0.95	4.3 ± 0.97	0.935
G2	4.1 ± 1.19	4.0 ± 1.32	0.872

ICC, intraclass correlation coefficient.

Strengths and limitations

The original rPATD assessed its validity among elderly patients. The strength of the present study is that it evaluated the validity of the Arabic rPATD among adult polypharmacy patients. Since evidence showed that polypharmacy is not limited to elderly patients, a validated tool to assess adult polypharmacy patients' attitudes towards deprescribing is necessary. This may, however, lead to some discrepancies in the findings. Another strength of the present study is that the

Arabic rPATD used standard Arabic language which can be understood by patients across 25 Arabic-speaking countries and native Arabic speakers residing in other countries. According to the World Health Organization, there are over 242 million Arabic native speakers.[48] Therefore, we expect this study to contribute and facilitate future research addressing deprescribing globally.

The current study has the following limitations. First, a convenient sample from only one hospital was recruited, which reduces the generalizability of the results. Also, self-selection bias may have occurred in this study and thus could have led to the exclusion of patients with low health literacy. However, since the primary objective of this study was to validate the psychometric properties of the Arabic translation, self-selection bias was unlikely to have affected the study results. Second, due to cultural and situational differences between Arabic-speaking countries in attitudes towards healthcare systems and healthcare professionals, the translation may need some adaptation to account for these differences. Third, the content validity of the Arabic rPATD was not assessed using a quantitative scale. It was, however, assessed through a discussion of a panel of experts in pharmacy practice and patient outcomes research.

Conclusions

In this study, over half of the patients felt that they are taking many medications and have favourable attitudes towards deprescribing through a shared decision-making process with their physicians. Moreover, this study provided an Arabic translation of the rPATD with evidence of validity and reliability comparable to the original tool. The Arabic rPATD could be used for adult patients in Arabic-speaking countries and native Arabic speakers residing in other countries and ultimately contribute to the global literature of deprescribing.

Declarations

Conflict of interest

The Author(s) declare(s) that they have no conflicts of interest to disclose.

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Authors' contributions

All authors state that they had complete access to the study data that support the publication.

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