

Lingual adaption of a questionnaire assessing risk factors associated with medication-related non-adherence: The Chinese Adherence Barriers Questionnaire (ABQ)

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Summary

OBJECTIVE

To lingually adapt the Adherence Barriers Questionnaire (ABQ) to Chinese in a population of patients with hypertension.

METHODS

Based on a forward-backward translation process, the ABQ was translated into Chinese and applied to 142 hypertension patients visiting one of the two largest hospitals in Jinghong, China. The ABQ's reliability was assessed using the Cronbach's α and the occurrence of potential barriers in the patient sample was evaluated.

依从性障碍问卷
(Adherence Barriers
Questionnaire)

RESULTS

All 142 interviewed patients were able to complete the ABQ. The questionnaire demonstrated a good internal consistency (Cronbach's α = 0.74). The majority of patients (61%) reported being affected by more than three different barriers. Co-payments and fear of side effects were the most frequently reported barriers.

CONCLUSION

The ABQ is a suitable tool to detect potential adherence barriers in Chinese patients.

Background & objective

Although treatment adherence is essential for realizing the potential benefits of a certain medication-based treatment, non-adherence depicts a major real-life treatment challenge¹. The Adherence Barriers Questionnaire (ABQ) has been developed to identify barriers to treatment adherence in individual patients and patient groups². It has been used and validated in English and German, and has been adapted to assess barriers of patients with a variety of indications²⁻⁴. As a Chinese version of the ABQ was missing so far, this study aimed to lingually adapt the questionnaire to Chinese. This was done in a Chinese population of patients with hypertension.

Methods

PATIENT SAMPLE

The cross-sectional survey was conducted at the Xishuangbanna Dai Autonomous Prefecture People's Hospital and the People's Hospital of Jing Hong City at Yunnan Province, the two largest hospitals in Jinghong city, China. The questionnaire was applied to 142 patients aged ≥ 35 years who have received anti-hypertensive medication for $\geq$ six months.

QUESTIONNAIRE DESIGN

Based on a forward-backward translation process, the ABQ was translated into Chinese (**Table 1**). Questionnaire responses were recorded on a 4-point Likert scale, with answer options ranging from “Strongly agree” to “Strongly disagree” and values from 1 to 4 or 4 to 1, depending on the item's phrasing. A higher score indicated a higher impact of a barrier on treatment adherence. Patients with an item score >2 were considered to experience the respective barrier.

ANALYSIS

The questionnaire's reliability was assessed using the Cronbach's α . The occurrence of potential barriers in the investigated patient sample was evaluated using descriptive statistics.

Table 1: Adherence barriers questionnaire items in English and Chinese

Item	Phrasing
#1	"I fully understand what my doctor, nurse or pharmacist have explained to me so far." “到目前为止, 我完全理解医生、护士或药剂师向我解释的内容。”
#2	"I can list the names of my medications and their scope without hesitation." “我可以立马说出我服用的药物名称及其适用范围。”
#3	"I trust my doctor and agree on my treatment plan with him/her." “我相信医生, 同意他/她为我制定的治疗计划。”
#4	"My medications help me only if I take them on a strict regular basis as recommended." “只有我严格遵医嘱定期服用, 这些药物才会起作用。”
#5	"Medications are all poison. If possible, one should avoid taking medication at all." “是药三分毒。我们应尽量避免服用药物。”
#6	"I feel basically healthy. Therefore, I am sometimes unsure whether I really need to take my medication daily." “我感觉身体基本健康。所以有时候, 我不确定是否真的需要每天服药。”
#7	"I take my medication every day automatically at a fixed time or at fixed occasions (e.g. at meal times, before bed, before brushing teeth)." “我每天定时定时(例如用餐时、睡前、刷牙前)自觉服用药物。”
#8	"I feel that co-payments for medication are a great burden." “我觉得药物自费部分是项很大的负担。”
#9	"I frequently forget things on an everyday basis." “日常生活中我时常忘记事情。”
#10	"In general, I often feel bad, and sometimes I feel discouraged and depressed." “总的来说, 我时常感觉糟糕, 有时还会感到气馁和沮丧。”
#11	"I frequently have problems when taking my medication (e.g. swallowing, dividing the tablets, opening the packaging) or it is difficult for me to adhere to the medication instructions (e.g. only take on an empty stomach, avoiding certain foods/alcohol)." “我服用药物时经常会出现一些问题(例如吞咽、切分药片、打开包装), 或者很难遵医嘱(例如, 只能空腹服用、忌某些食物/酒精)。”
#12	"I have to overcome barriers to access my healthcare (e.g. my doctor/pharmacy is far away, I am dependent on the help of others when I need to see my doctor)" “我在就医时遇到困难(例如医生/药店离家很远, 看病时, 我需要他人协助)。”
#13	"I require help on an everyday basis (specifically with regards to my drug therapy). However, I do not receive any." “日常生活中, 我需要别人帮助(特别是在药物治疗方面)。但是, 没有任何人帮助我。”
#14	"I am very afraid of the side effects of my medications." “我非常担心药物会产生副作用。”
#15	"In case I already noticed or in case I would notice side effects related to my medication: I have discussed/would discuss them with my doctor as soon as possible." “如果我已经注意到或者如果我可能会注意到药物可能会产生的副作用: 那么我就已经/会尽快咨询医生。”
#16	"In case I already noticed or in case I would notice side effects related to my medication: I have stopped/would stop taking my medications or took/ would take less of them." “如果我已经注意到或者如果我可能会注意到药物可能会产生的副作用: 那么我就已经停止/会停止服用药物或者已经减少/会减少用量。”

Results

Table 2: Patient characteristics

Characteristic	n (%)*
Age, mean (SD)	61.8 (10.3)
Sex	
Female	73 (51.4)
Male	69 (48.6)
Race	
Han	90 (63.4)
Ethnic minority	52 (36.6)
Residence	
Urban	94 (66.2)
Rural	48 (33.8)
Marital status	
Married/living with a partner	124 (87.3)
Single/divorced/widowed	18 (12.7)
Education	
Illiterate/elementary school	54 (38.0)
Secondary school & higher	88 (62.0)
Duration of hypertension	
≤ 5 years	53 (37.3)
> 5 years	89 (62.7)
Duration of medication use	
≤ 5 years	70 (49.3)
> 5 years	72 (50.7)
Number of tablets taken	
1 tablet per day	96 (67.6)
> 1 tablet per day	46 (32.4)

* Unless stated otherwise

PATIENT CHARACTERISTICS

All 142 interviewed patients were able to complete the ABQ. Mean age was 61.8 years and 51.4% of included patients were female (**Table 2**). A high proportion of included patients had hypertension for over 10 years (43.7%). Dose frequency was once per day for three quarters of patients, and the majority ingested less than two tablets per day (67.6%).

PSYCHOMETRIC PROPERTIES OF THE ABQ

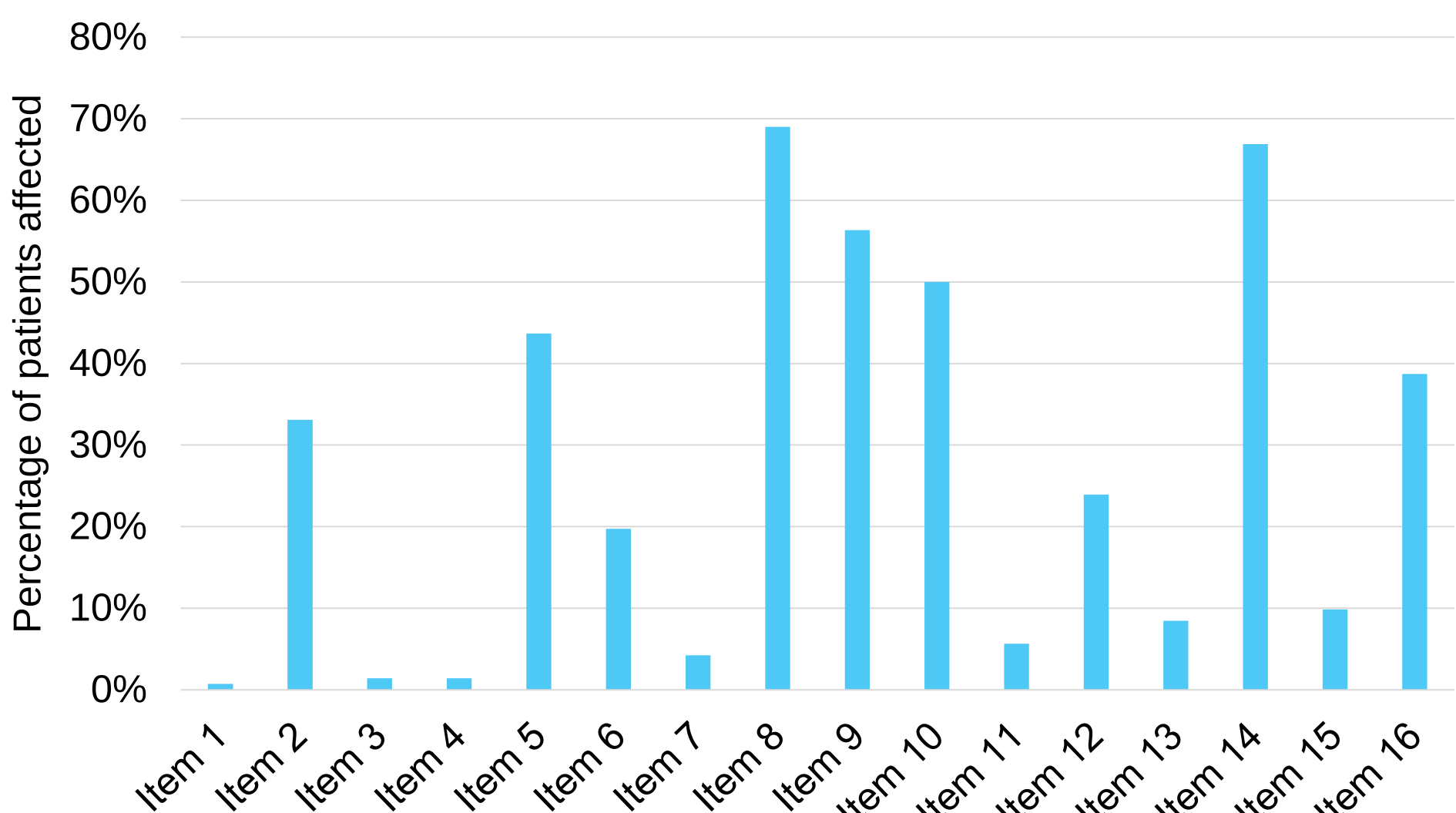
No missing data was detected as all 142 participants were able to answer the 16 ABQ items. Reliability testing revealed a Cronbach's α of 0.74, indicating an acceptable internal consistency.

IDENTIFIED BARRIERS

All except two patients experienced at least one of the barriers addressed by the ABQ. The majority of patients (61%) reported being affected by more than three different barriers. On average, a patient was affected by 4.3 barriers addressed by the ABQ. The most frequently reported barriers were co-payments (69% of patients; **Figure 1**), followed by fear of side effects (67%), forgetfulness (56%), and depressive moods (50%). A substantial number of patients believed that medications are poisonous and should be avoided (44%) and would stop their intake if they noticed side effects (39%).

Several barrier-related differences were observed in patient subgroups. For example, a higher proportion of older patients and those living in rural areas needed to overcome barriers to access their healthcare, while patients from urban areas were more likely to experience low moods, and naming their medications was more challenging for less educated patients.

Figure 1: Percentage of patients affected by each item



Conclusion

The ABQ is a suitable tool to detect potential adherence barriers in Chinese patients. A high barrier burden was shown in the sample of hypertension patients in China. Further research is needed regarding the presence of specific barriers and associated needs in patient subpopulations and how these can be addressed by the treating physician, as well as the tool's ability to detect changes over time.

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