

Reliability and Validity of a Thai Version of the General Practice Assessment Questionnaire (GPAQ)

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Background: The Assessment Questionnaire (GPAQ) is a questionnaire for patients to evaluate primary care in a number of key areas ranging from the access to care, the helpfulness of receptionists, the continuity of care, the doctors' communication skills, the patient's knowledge of self, the General Practice care plans after consultation, and overall satisfaction. All questions can be calculated as a GPAQ score allowing services to be analysed, developed, and improved.

Objective: The General Practice Assessment Questionnaire (GPAQ) was developed in the United Kingdom to evaluate the quality of general practice (i.e. primary care or family medicine). The aim of the present study was to translate and validate a Thai language version of GPAQ.

Material and Method: Cross-sectional study: the content validity was examined by three experts in the Family Medicine field, and then the original GPAQ was translated into Thai with permission from the National Primary Care Research and Development Centre, University of Manchester and Safran. The translation process followed the guidelines for cross-cultural adaptation of self-report measures, including forward translation, synthesis of the translation, back translation, cross-cultural adaptation and pre-testing. The pilot study was done by distributing the questionnaire to a sample of 30 people before revision of the questionnaire. The reliability and validity of the translated version was then examined by distributing the questionnaire to 2,600 people visiting the out-patient clinic at the Department of Family Medicine, Ramathibodi Hospital in October, 2005

Results: The response rate is about 70 percent. The results of the present study showed that the Thai version of GPAQ achieved good levels of reliability and validity, with the range of Cronbach's alpha coefficients being 0.7293-0.8324 in each aspect of GPAQ, namely access, doctor's communication skills, and patient enablement (understanding of self care after the consultation). However, a question about telephone consultations had to be excluded from the questionnaire to reach Cronbach's alpha coefficient of 0.8221.

Conclusion: After translation and cross-cultural adaptation the Thai version of GPAQ can be used as a patient-administered instrument to evaluate the quality of primary care in Thailand.

Keywords: General practice, Family medicine, Quality, Reliability, Validity

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Following the economic crisis in Thailand in the 1990s, the government reformed primary health

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care in an attempt to reduce medical care costs⁽¹⁾. There is an emerging of a new speciality in primary care so called Family Medicine even though it had never been developed in Thailand. Access to primary care has been hindered by the increasing specialization of Thailand's

physician workforce since 1969, despite having a lot of general practices everywhere, for example, small clinics, community hospitals, general hospitals, and tertiary care settings. Therefore, there is a need to identify and assess the quality of general practice in order to improve the services in every level.

The General Practice Assessment Questionnaire (GPAQ) is a standard questionnaire for patients to evaluate primary care in a number of key areas ranging from the access to healthcare, the helpfulness of receptionists, the continuity of care, the doctors' communication skills, the patient's knowledge of self care plans after consultation (enablement), and overall satisfaction. GPAQ was chosen to translate and validate into Thai because of its quality and application of use. GPAQ was developed by the National Primary Care Research and Development Centre at Manchester University and Dana Gelb Safran of the New England Medical Center Hospitals by starting from the best available questionnaire, the Primary Care Assessment Survey (PCAS)^(2,3) which had been extensively validated in the United States. In collaboration with the Health Institute in Boston, PCAS then was modified for use in British general practice. The modified questionnaire was called the General Practice Assessment Survey (GPAS). GPAS was used in large studies in the UK, and detailed research data on GPAS have been published⁽⁴⁻⁸⁾. For the new GP contract in the UK, GPAS then was modified to be GPAQ to make it shorter and applicable for patients. Besides, all questions can be calculated as a GPAQ score allowing services to be analysed, developed, and improved. Since its development, GPAQ has been widely used in quality survey for general practices. It has been translated and validated in many languages such as Chinese, Somalian, Arabic and etc.

In Thailand, even though there are several quality measurement questionnaires which had been developed for hospital accreditation (HA), surprisingly, there is not one that could identify the baseline characteristics of general practice specifically. The authors aimed to translate and validate a Thai version of GPAQ to be a tool to evaluate parts of the quality of primary care unit settings, clinics, General Practice or Family Medicine out-patient clinics in every hospital that needs to improve quality in primary care.

Material and Method

Content validation

The content validity was examined by three experts in the Family Medicine field in terms of defi-

nition, importance, conceptual basis and functional nature of content validity using the following process.

Process of content validation

1. Assessment instrument:

To emphasize how GPAQ could reflect the applicability of the assessment in primary care practice, for example, what could affect the obtained score, the interpretation of GPAQ score, and the importance of various elements. The relevance of content validity in all assessment questions was also emphasized in the following primary care aspects.

- Accessibility: question numbers 3-8
- Continuity Care: question number 9
- Comprehensive Care: question numbers 10-11

In conclusion, GPAQ is an aggregated showing its effectiveness to measure specifically domains and information for general practice. It also shows a good validation specifically for primary care service assessment.

2. Elements clarification of GPAQ:

To discuss the measurement process that can affect the obtained data, what should be included in the questionnaire such as demographic data, doctors' and patients' code, instruction and the situation in which the survey occurs. The conditional and dynamic nature of content validity is discussed and multiple elements of content validity, along with quantitative and qualitative methods are reviewed. However, there might be some parts which need to be adapted cross-culturally.

Finally, some recommendations for reporting and interpreting content validity are offered.

Cross-cultural adaptation of self-report measures of GPAQ into Thai

The original GPAQ consists of seven multi-item scales for quality of primary care ranging from the frequency of visit (item 1), the helpfulness of receptionists (item 2), the access to care (item 3-8), the continuity of care (item 9), the doctors' communication skills (item 10), Enablement (item 11), overall satisfaction (item 12), demographic data (item 13-18) and general comments (item 19)

The original GPAQ was translated into Thai with permission from the National Primary Care Research and Development Centre, University of Manchester and Safran. The translation process followed the guidelines for cross-cultural adaptation of self-report

measures⁽⁹⁾, including forward translation, synthesis of the translation, back translation, cross-cultural adaptation and pre-testing.

Stage I: Initial translation

The first stage was the forward translation. Two forward translations were made of the instrument from English language to Thai language separately as Translation1 (T1) and Translation2 (T2). Then the translations were compared, which reflected some ambiguous wording in the original and discrepancies in the translation process noted. Poorer word choices were identified and resolved in a discussion between the two translators.

Stage II: Synthesis of the translations

A synthesis of Translation1 (T1) and Translation2 (T2) was conducted to produce one common translation as Translation 12 (T12) with a written report documenting the synthesis process in Thai, each of the issues addressed and how they were resolved by a recording observer.

Stage III: Back Translation

Working from the Translation 12 (T12) version of the questionnaire and totally blind to the original version, a translator then translated the questionnaire back from Thai to English language. Finally the authors produced Back Translation 1 and Back Translation 2 version.

Stage IV: Expert Committee comprises a statistician, health professionals, language professionals and the translators as following: Validity

The expert committees then consolidated all the versions of the questionnaire and developed a pre-final version of the questionnaire for field testing. The committee therefore reviewed all the translations and reached a consensus on any discrepancies. The material at the disposal of the committee includes the original questionnaire and each translation (T1, T2, T12, BT1, BT2) together with corresponding written reports which explain the rationale of each decision in the Thai language.

Semantic Equivalence. The authors had a discussion of the word "General practice" because there could be 2 meanings in Thai. Therefore, the authors used both general practice and family practice terms for "General practice"

Idiomatic Equivalence. There were no difficult idioms to translate.

Experiential Equivalence. For cultural reasons, the authors changed the questions of ethnicity to the patients' hometown because there are not many ethnic groups in Thailand as in the UK, but the patients usually came from different parts of Thailand instead.

Conceptual Equivalence. In Thailand the parents usually lived with the oldest child, so there was a little confusion whether it was to be counted as their own accommodation or their children's in the demographic part.

Stage V: Test of the Prefinal Version: Reliability

The field test of the Pre-final Version was done in the Department of Family Medicine, Ramathibodi Hospital by testing 30 patients visiting the outpatient clinic at the Department of Family Medicine, Ramathibodi Hospital in October, 2005. Then there was an analysis of the result by using SPSS version 11.5. The results of the study showed that the Thai version of GPAQ achieved good levels of reliability and validity, with the range of Cronbach's alpha coefficients being 0.7041 - 0.8004 in each aspect of GPAQ, namely access, doctor's communication skills, and patient enablement (understanding of self care after the consultation). However, a question about telephone consultations (item 8) had to be excluded from the questionnaire to reach Cronbach's alpha coefficient of 0.8049.

Stage VI: Submission of Documentation to the Developers or Coordinating Committee for Appraisal of the Adaptation Process

Further Testing of the Adapted Version is in a process by using 2,600 patients to test and be surveyed to allow each doctor's evaluation by using 50 questionnaires per one doctor.

GPAQ-Thai version instrument

Finally, GPAQ, self-administered, contained questions to assess quality in primary care in 6 aspects (item1-11) as follows: the frequency of visit (item1), the helpfulness of receptionists (item 2), the access to care (item 3-7) without the question of telephone consultation, the continuity of care (item 8), the doctors' communication skills (item 9), enablement (item 10), overall satisfaction (item 11), demographic data (item 12-20) and general comments (item 21). For the demographic data, there is more information of patient's incomes and patient's right to health care service such as universal coverage, social welfare, or self-payment to be more applicable to the situation in Thailand, so there are 2 more items for the Thai-version of GPAQ

than the original version. For cultural reasons, the authors also changed the questions of ethnicity to patients' hometown because there are not many ethnic groups in Thailand as in the UK, but the patients usually came from different parts of Thailand instead.

Results

Two thousand six hundred patients who visited the Department of Family Medicine in October 2005 were included in the present study, with an average age of 48.39 years (the range of 15-89 years). The characteristics and demographic of the patients are shown in Table 1.

The questionnaire response rate was approximately 70 percent (n = 1970) depending on each single item from 1379 female and 591 male patients. GPAQ mean scores and standard deviations for each dimension as shown in Table 2 were as follows: access to the service (55.14 ± 12.83), helpfulness of receptionists (63.50 ± 14.57), continuity of care (65.79 ± 17.45), doctors' communication skills (68.97 ± 14.35), patient's knowledge of self care plan after consultation (80.76 ± 25.77), and overall satisfaction (80.66 ± 14.76).

For other information, 31.5% of patients reported seeing a doctor 3-4 times during the previous 12 month period. For access questions, the most popular requests were to extend clinic opening hours in the early morning (27%) and weekends (26.9%). Patients were able to see their own doctors (69.4%) or other doctors (74.75%) on the visiting day. However, 41.5% reported that they had to wait for more than 30 minutes before seeing the doctors. For continuity questions, 50.2% of patients reported always seeing their own doctors, while 10% reported never seeing their own doctors. 50% of patients rated the doctor's communi-

Table 1. The characteristics of patients (n = 2600)

Characteristic of patients	Number	%
Mean Age (SD) (year)	48.39 (10.77)	
range (year)	15-89	
Sex		
- Male	591	22.73
- Female	1379	53.03
- Total	1970	75.76
Status of patients		
- New patients	447	17.19
- Old patients	1464	56.31
- Total	1911	73.50
Chronic illness		
- Yes	608	23.39
- No	1160	44.61
- Total	1768	68.00
Hometown		
- Bangkok	772	29.69
- Countryside	1129	43.42
- Total	1901	73.11
Accommodation		
- Owner	1350	51.92
- Rent	540	20.77
- Total	1890	72.69
Occupations		
- Business owner/Employer	125	4.81
- Employee	418	16.08
- Governor	300	11.54
- Student	97	3.73
- Housewife	543	20.88
- Unemployed	14	0.54
- Disability	39	1.50
- Retirement	201	7.73
- Total	1737	66.81

Table 2. General Practice Assessment Score in Department of Family Medicine, Ramathibodi hospital: Total score = 100 (n = 1970)

Areas of Assessment	Mean score	SD	Range of score	Cronbach's alpha coefficients
Access	55.14	12.83	10.00-100.00	0.7322 (delete item8)
Receptionist	63.50	14.57	0.00-100.00	NA
Continuity of care	65.79	17.45	0.00-100.00	NA
Doctor's communication skills	68.97	14.35	17.14-100.00	0.9429
Enablement	80.76	25.77	0.00-100.00	0.8892
Overall satisfaction	80.60	14.76	0.00-100.00	NA
Total			0.8342	

NA: Non applicable because there is 1 item in those key areas

cation skills as 'good' and 65% thought that they were able to understand and cope with their illnesses better than visiting. For overall satisfaction, 64.2% of patients gave a 'very', or 'completely satisfied' rating.

The reliability test was done by using item-scale consistency for the access to care, doctors' communication skills and enablement because there are multi-item of questions in those parts. Then the inter-item consistency was tested for the overall questionnaire. The results of the present study showed that the Thai version of GPAQ achieved good levels of reliability and validity, with the range of Cronbach's alpha coefficients as the following: access to care (0.7332), doctor's communication skills (0.9429), and patient enablement (0.8892). However, a question about telephone consultations (item 8) had to be excluded from the questionnaire to reach Cronbach's alpha coefficient of 0.8342.

Discussion

Compared to the original version, the Cronbach's alpha coefficients of the scales for Thai-version GPAQ was 0.8342, which was above the generally accepted standard of 0.70 in every key area after a question about telephone consultations was excluded. It might be because there was still no telephone consultation service available in the public perception. From this point, the information about telephone consultation from this questionnaire could be used to develop telephone consultation service in the future.

Conclusion

After translation and cross-cultural adaptation the Thai version of GPAQ can be used as a patient-administered instrument to evaluate the quality of primary care in Thailand.

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References

1. Phoolcharoen W. Quantum leap: the reform of Thailand's health system. Bangkok: Health Systems Research Institute; 2004: 76.
2. Safran DG, Taira DA, Rogers WH, Kosinski M, Ware JE, Tarlov AR. Linking primary care performance to outcomes of care. *J Fam Pract* 1998; 47: 213-20.
3. Murray A, Safran DG. The primary care assessment survey: a tool for measuring, monitoring and improving primary care. In: Maruish M, editor. *Handbook of psychological assessment in primary care settings*. Mahwah, NJ: Lawrence Erlbaum Associates; 2000: 623-52.
4. Taira DA, Safran DG, Seto TB, Rogers WH, Kosinski M, Ware JE, et al. Asian-American patient ratings of physician primary care performance. *J Gen Intern Med* 1997; 12: 237-42.
5. Ramsay J, Campbell JL, Schroter S, Green J, Roland M. The General Practice Assessment Survey (GPAS): tests of data quality and measurement properties. *Fam Pract* 2000; 17: 372-9.
6. Campbell JL, Ramsay J, Green J. Age, gender, socio-economic, and ethnic differences in patients' assessments of primary health care. *Qual Health Care* 2001; 10: 90-5.
7. Bower P, Mead N, Roland M. What dimensions underlie patient responses to the General Practice Assessment Survey? A factor analytic study. *Fam Pract* 2002; 19: 489-95.
8. Bower P, Roland M, Campbell J, Mead N. Setting standards based on patients' views on access and continuity: secondary analysis of data from the general practice assessment survey. *BMJ* 2003; 326: 258.
9. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine* 2000; 25: 3186-91.

ความเที่ยงตรงและความเชื่อถือได้ของแบบสอบถามประเมินคุณภาพเวชปฏิบัติทั่วไป/เวชปฏิบัติครอบครัวฉบับภาษาไทย

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ที่มา: ความเที่ยงตรงและความเชื่อถือได้ของแบบสอบถามประเมินคุณภาพเวชปฏิบัติทั่วไป/เวชปฏิบัติครอบครัวฉบับภาษาไทย ซึ่งเป็นแบบสอบถามที่ได้รับการแปลมาจาก General practice assessment questionnaire (GPAQ) ซึ่งเป็นแบบสอบถามสำหรับการประเมินคุณภาพการให้บริการของสถานบริการปฐมภูมิ ในด้านต่าง ๆ ที่สำคัญได้แก่ การเข้าถึงบริการ การให้บริการของแผนกต้อนรับ ความต่อเนื่องในการดูแลรักษา ทักษะการสื่อสารของแพทย์ ความสามารถในการดูแลตัวเองของผู้ป่วยหลังการตรวจรักษา และความพึงพอใจโดยรวม โดยทุกหัวข้อ สามารถนำมาคำนวณเป็นคะแนนได้ โดยมีคะแนนเต็ม 100 คะแนน เพื่อให้สามารถนำไปเปรียบเทียบ วิเคราะห์ และนำไปสู่การพัฒนาคุณภาพเวชปฏิบัติทั่วไป/เวชปฏิบัติครอบครัว ต่อไป

วัตถุประสงค์: เพื่อประเมินความเที่ยงตรงและความเชื่อถือได้ของแบบสอบถามประเมินคุณภาพเวชปฏิบัติทั่วไป/เวชปฏิบัติครอบครัวฉบับภาษาไทย

วัสดุและวิธีการ: มีการตรวจสอบความเที่ยงตรงของแบบสอบถามโดยผู้เชี่ยวชาญสาขาเวชศาสตร์ครอบครัว 3 คน และขออนุญาตการแปลแบบสอบถามจากคณะผู้ทำวิจัยมหาวิทยาลัยแมนเชสเตอร์ ประเทศอังกฤษก่อนการแปล จากนั้นทำการแปลแบบสอบถามตามแนวทางการแปลและปรับแบบสอบถามให้สอดคล้องกับวัฒนธรรม โดยมีผู้แปลแบบสอบถามฉบับดั้งเดิมเป็นภาษาไทย 2 คน จากนั้นตรวจสอบความหมายและมีผู้แปลกลับเป็นภาษาอังกฤษเพื่อให้คงความหมายเดิม และมีการส่งเคราะห์ปรับเปลี่ยนภาษาไทยให้สอดคล้องกับผู้ป่วยในประเทศไทย มีการประเมินความเชื่อถือได้โดยผู้ป่วยนอกภาควิชาเวชศาสตร์ครอบครัวโรงพยาบาลรามธิบดี ที่ยินดีตอบแบบสอบถามที่มีอายุระหว่าง 15-90 ปี ที่ไม่มีความผิดปกติทางด้านสติปัญญาและการใช้ภาษา

ผลการศึกษา: ทำการศึกษานำร่องในผู้ป่วยจำนวน 30 คน เพื่อแก้ไขแบบสอบถามให้ชัดเจนมากขึ้น และนำแบบสอบถามชุดดังกล่าวไปทดสอบความเที่ยงตรงและความเชื่อถือได้ ในผู้ป่วย จำนวน 2,600 ราย อัตราการตอบแบบสอบถามประมาณ ร้อยละ 70 ความเชื่อถือได้ของแบบสอบถามทุกหัวข้อ มีค่าตั้งแต่ 0.7293-0.8324 ซึ่งสูงกว่าค่ามาตรฐานที่ยอมรับได้ (0.70) โดยต้องตัดข้อความเกี่ยวกับการให้บริการทางโทรศัพท์ออกจากแบบสอบถาม ค่าความเชื่อถือได้รวมของแบบสอบถาม เท่ากับ 0.8221

สรุป: แบบสอบถามประเมินคุณภาพเวชปฏิบัติทั่วไป/เวชปฏิบัติครอบครัวฉบับภาษาไทย มีความเชื่อถือได้และสามารถนำไปใช้ประเมินคุณภาพสถานบริการปฐมภูมิแห่งอื่น ๆ ในประเทศไทยต่อไป
