Validation of the Thai Version of the Questionnaire for Identifying Subjects with Potential Rheumatic Diseases

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Objective: *To translate and evaluate the diagnostic property and the feasibility of the Thai version of the questionnaire for identifying subjects with potential rheumatic diseases.*
Material and Method: *The original screening questionnaires by Liang MH et al were translated and modified from the English version to the Thai version. The Thai version of the questionnaire was administered to 450 subjects.*
Results: *Two hundred and twenty-five patients who fulfilled standard diagnostic criteria of each rheumatic disease and 225 healthy subjects were consecutively recruited. A positive response to one or more questions of the questionnaire gave a sensitivity (95% confidence interval or CI), specificity (95% CI), positive, and negative likelihood ratios of 94% (90-97), 73% (67-79), 3.48, and 0.08, respectively. The accuracy of test was 93%. Median time-to-complete questionnaire was three minutes (range 0.5-15). Most of them (95%) completed questionnaires by themselves. However, 12% of the questionnaires had missing items. False positive was prevalent in women, young age, high-educated individuals, and government officers.*
Conclusion: *The Thai version of the screening questionnaire is valid and easy to use for identifying subjects with potential rheumatic diseases. It is suitable to use as a screening tool in primary care setting or epidemiologic research.*

Keyword: *Screening questionnaire, Rheumatic disease, Thai*

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Rheumatic diseases can be found all over the world[1]. Report of prevalence in United States of America in 2008 was 46.4 million people (21.6%); almost half affected their life[2]. However, prevalence in developing countries varied from 11.6% in China to 33% in Australia[3]. In Thailand, a previous epidemiologic study by Chaiamnuay P et al reported a prevalence of 36.2%[4]. The variable prevalence of this disease may be from the difficulty in diagnosis and the variability of clinical manifestations[5].

Rheumatic diseases are chronic illnesses leading to functional disability, impaired quality of life[4,6], increased risk of infection and coronary artery disease[7], as well as premature mortality[8]. Nowadays there is evidence supporting the significant benefits of early diagnosis and aggressive treatment to prevent disability and improve quality of life[9]. To achieve this goal, we need a simple, accurate, and inexpensive diagnostic tool to identify individuals with potential rheumatic diseases. Consequently, this group of patients is referred to specialists for proper management[4,10,11].

Liang et al developed a 10-item screening questionnaire for screening systemic lupus erythematosus (SLE)[12] and a 6-item screening questionnaire for evaluation of rheumatic conditions[13]. Items in the questionnaire for SLE screening consist of eight clinical manifestations: malar rash, photosensitivity, arthritis, oral ulcers, Raynaund's phenomenon, major hair loss, pleurisy, and seizure or convulsion), and four laboratory findings reported by patients, proteinuria, anemia, leukopenia, and thrombocytopenia (Table 1). Screening questionnaire for rheumatic conditions contains six questions asking about 1) joint pain and stiffness, 2) arthritis or rheumatism, 3) pain or difficulty moving the head, 4) pain or difficulty opening jars, fasten buttons, or reach up for things on a shelf, 5) pain or difficulty walking or climbing stairs, and 6) low

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back pain or back stiffness on awakening (Table 1). Both screening questionnaires were simple, with a high sensitivity and specificity. Therefore, they were useful for selecting persons who were highly probable of having a rheumatic disease.

In Thailand, there was no similar instrument for Thais. We translated, modified, and evaluated the diagnostic performance and the feasibility of the Thai version of the questionnaire for identifying subjects with potential rheumatic diseases in Thai population.

Material and Method

The original English-version questionnaires for screening rheumatic diseases and SLE developed by Liang et al were translated and modified into the Thai-version[12,13]. These two questionnaires were combined into one questionnaire for practical propose. The translation and adaptation were conducted following the steps suggested by Beaton et al[14]. Forward translation was independently performed by two bilingual translators whose mother tongue was Thai. One was a rheumatologist and another had no medical or clinical background. A bilingual translator whose mother tongue was English translated the questionnaire back into the original language. The discrepancies between the original English version, the Thai version, and the back-translated English version were examined, discussed, and dissolved by consensus. The pre-final Thai version was developed and tested in 30 patients attending our rheumatology clinic. Participants were then interviewed regarding problems they encountered in answering the items, reasons for missing items, and their comments on wording, comprehensiveness, and relevance of the items. Taking into consideration, the results of pre-testing interview, the Thai version was finalized (Appendix). There was no major adaptation or modification for each question (Table 1).

This questionnaire consists of seven questions. The first six questions are related to symptoms of joint diseases, and the last one comprises 10 items related to clinical manifestations of SLE. For the last question, any subjects who answered "yes" to at least three out of 10 items were considered to be possible SLE. They are considered to potentially have a rheumatic or an autoimmune disease if at least one out of seven questions was answered "yes".

The Thai-version screening questionnaire was administered to 450 Thai subjects, 225 patients with a definite diagnosis of rheumatic disease, and 225 healthy subjects. Diagnosis of rheumatic diseases was established according to standard classification criteria as follows: rheumatoid arthritis (RA) according to American College of Rheumatology (ACR)/ European League Against Rheumatism (EULAR) 2010

Table 1. Comparison of original English and Thai version of questionnaire for identifying subjects with potential rheumatic diseases

Questionnaire for identifying subjects with potential rheumatic diseases	แบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคข้อและเนื้อเยื่อเกี่ยวพัน
1. Have you ever had pain or stiffness in any joint or bone?	คุณมีหรือเคยมีอาการเจ็บหรือฝืดตึงข้อหรือกระดูกบ้างหรือไม่
2. Have you ever had arthritis or rheumatism?	คุณมีหรือเคยมีข้ออักเสบหรืออาการรูมาติสซั่มหรือไม่
3. Have you ever had pain or difficulty moving your head in any direction?	คุณมีหรือเคยมีอาการเจ็บต้นคอหรือเคลื่อนไหวศีรษะลำบากบ้างหรือไม่
4. Have you ever had pain or difficulty opening jars, fasten buttons, or reach up for things on a shelf?	คุณมีหรือเคยมีอาการเจ็บหรือมีความลำบากในการเปิดฝาขวด, ติดกระดุม หรือเอื้อมมือไปหยิบของเหนือศีรษะของท่านหรือไม่
5. Have you ever had pain or difficulty walking or climbing stairs?	คุณมีหรือเคยมีอาการเจ็บหรือมีความลำบากในการเดินหรือขึ้นลงบันไดหรือไม่
6. Have you ever had low back pain or back stiffness on awakening?	คุณมีหรือเคยมีอาการปวดหลังส่วนล่างหรือฝืดตึงหลัง เมื่อตื่นนอนหรือไม่
Questionnaire for identifying subjects with systemic lupus erythematosus	แบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคลูปัส
7. Have you ever had malar rash, photosensitivity, arthritis, oral ulcers, Raynaund's phenomenon, major hair loss, pleurisy, seizure or convulsion, proteinuria, anemia, leukopenia, or thrombocytopenia?	คุณมีหรือเคยมี ผื่นที่โหนกแก้ม, ผื่นแพ้แดด, ข้ออักเสบ, แผลในปาก, ปลายนิ้วซีดเขียวเย็นเมื่อถูกอากาศเย็น, ผมร่วงผิดปกติ, เจ็บแปลบที่ชายโครงเวลาหายใจเข้า, ชักกระตุกหรือชักหมดสติ, โปรตีนในปัสสาวะ, โลหิตจางหรือซีด, เม็ดเลือดขาวต่ำ, หรือ เกล็ดเลือดต่ำหรือไม่

criteria[15], spondyloarthropathy (SpA) according to European Spondyloarthropathy Study Group preliminary criteria[16], osteoarthritis (OA) according to ACR criteria for the knee, the hip, and the hand[17-19], gout according to preliminary criteria proposed by Wallace SL et al(20), calcium pyrophosphate dehydrate crystal (CPPD) deposition disease according to criteria proposed by Resnick D et al or Martel W et al[21,22], SLE according to the revised ACR criteria[23,24], scleroderma (SSc) according to preliminary ACR criteria[25], dermatomyositis/polymyositits (DM/PM) according to criteria proposed by Bohan and Peter[26], mixed connective tissue disease (MCTD) according to criteria proposed by Alarcon-Segovia D and Cardiel MH[27], and Behçet's disease according to the International Study Group criteria[28]. Patients with overlap syndromes were excluded. Healthy subjects who did not have musculoskeletal problems were used as a control. The number of missing items and time-to-complete questionnaire were collected to estimate its feasibility.

The subjects' written consent was obtained according to the Declaration of Helsinki 2008. The present study was conducted in accordance with the ethical principles of the Declaration of Helsinki and adhered to the principles outlined in the Guideline for Good Clinical Practice International Conference on Harmonisation (ICH) Tripartite Guideline (January 1997). The study protocol was approved by the Ethics Committee, Siriraj Institutional Review Board.

Statistical analysis

Demographic and baseline characteristics were expressed as mean and standard deviation (SD) or median and range for continuous data and number and percentage for categorical data. The results were calculated for sensitivity and specificity. Sensitivity is the proportion of individuals who tested positive out of all those who actually had the disease. Specificity is the proportion of individuals who tested negative out of all those who actually did not have the disease. Comparisons between two groups were analyzed using Chi-square test or Fisher's exact test, as appropriate of categorical data and by student t-test or Mann-Whitney test, as appropriate for continuous data. A p-value of less than 0.05 was considered statistically significant. A receiver operator characteristic (ROC) curve was used to define the best cut-off point, to distinguish between a rheumatic disease and healthy, and to describe the accuracy of this questionnaire. Feasibility was descriptively assessed using the number of missing items, completing questionnaire with or without assistance, and time-to-complete the questionnaire.

Sample size was calculated to obtain a sensitivity of 98% and specificity of 90% and increased by 20% for missing data or recruitment failures. Statistical analyses were performed using SPSS version 18.

Results

Two hundred and twenty-five healthy subjects and 225 patients who fulfilled standard diagnostic criteria of each rheumatic disease were consecutively recruited and completed the questionnaire. There are 101 (44.9%) RA, 13 (5.8%) SpA, 11 (4.9%) crystal induced arthritis, four (1.8%) OA, 62 (27.6%) SLE, 21 (9.3%) SSc, six (2.7%) DM/PM, five (2.2%) MCTD, and one (0.4%) Behçet's disease. Baseline characteristics of patients with rheumatic diseases and healthy subjects are shown in Table 2. Compared to healthy subjects, patients with rheumatic diseases were significantly more female (82% vs. 68%, $p = 0.001$), older (mean age ± SD 49±14 vs. 44±14 years, $p<0.001$), more unemployed (39% vs. 6%, $p<0.001$), and had lower education (median; range 9; 0-20 vs. 14; 4-25 years, $p<0.001$). A positive response to one or more questions of the questionnaire gave a sensitivity of 94% (95% CI 90-97%) and specificity of 73% (95% CI 67-79%) and positive and negative likelihood ratios were 3.48 and 0.08, respectively.

Compared to healthy subjects who yielded true negative test (Table 3), the 61 false positive subjects were significantly more female (82% vs. 62.8%, $p = 0.006$), younger (37.1±11.9 vs. 46.7±11.2, $p<0.001$), and higher educated (15.2±4.6 vs. 13.6±5.6, $p = 0.041$). The false positive test was also more common among healthy government officers (65.6% vs. 53%, $p = 0.002$). All of them completed questionnaire by themselves. In the questionnaire for identifying subjects with rheumatic diseases, item 1 was the most common item that healthy subject yielded positive response (56%), followed by item 5 and 6 (39%), item 3 (33%), item 2 (13%), and item 4 (8%). In the questionnaire for identifying subjects with SLE, "oral ulcer" was the most common item that healthy subject yielded positive response (53%), while arthritis, Raynaund's phenomenon, and pleurisy were the second most common (23%), followed by anemia (21%), photosensitivity (13%), malar rash and major hair loss (12%), thrombocytopenia (6.6%),

Table 2. Baseline characteristics of patients with rheumatic diseases and healthy subjects

	Rheumatic diseases (n = 225)	Healthy subjects (n = 225)	p-value
Female (%)	184 (81.8)	153 (68.0)	0.001
Age (years), mean ± SD	49±14	44±14	<0.001
Duration of education (years), median (range)	9 (0-20)	14 (4-25)	<0.001
Occupation (%)			<0.001
Government officer	26 (11.6)	127 (56.7)	
Employed	32 (14.2)	26 (11.6)	
Private business	25 (11.1)	18 (8.0)	
Agriculturist	19 (8.4)	12 (5.3)	
Merchant	28 (12.4)	11 (4.9)	
Unemployed	87 (38.7)	13 (5.8)	
Student	8 (3.6)	18 (8.0)	
Answer question (%)			<0.001
Self answered	204 (90.7)	222 (98.7)	
Interview	21 (9.3)	3 (1.3)	
Illiterate	9	1	
Impaired vision	11	2	
Hand disability	1	0	
Time-to-complete questionnaire (minutes), median (range)	3.8 (0.8-13)	2 (0.5-15)	<0.001

Table 3. Comparisons between subjects who had false positive (n = 61) and true negative (n = 164) results

	False positive (n = 61)	True negative (n = 164)	p-value
Female (%)	50 (82.0)	103 (62.8)	0.006
Age (years), mean ± SD	37.1±11.9	46.7±11.2	<0.001
Duration of education (years), mean ± SD	15.2±4.6	13.6±5.5	0.041
Occupation (%)			0.002
Government officer	40 (65.6)	87 (53.0)	
Employed	7 (11.5)	19 (11.6)	
Private business	1 (1.6)	17 (10.4)	
Agriculturist	1 (1.6)	11 (6.7)	
Merchant	0 (0)	11 (6.7)	
Unemployed	2 (3.3)	11 (6.7)	
Student	10 (16.4)	8 (4.9)	
Answer question (%)			0.762
Self answered	61 (100)	161 (98.2)	
Interview	0 (0)	3 (1.8)	
Illiterate	0	1	
Impaired vision	0	2	
Hand disability	0	0	
Time-to-complete questionnaire (minutes), median (range)	2.2 (0.5-6)	2 (0.6-15)	0.567

leucopenia (3.3%), and proteinuria (1.6%). Nobody reported seizure or convulsion.

Feasibility

Most of them (94.7%) completed questionnaires by themselves; however, 12% of the questionnaires had missing items. Compared between groups, the number of self-answered questionnaires was significantly lower in rheumatic disease group (90.7% vs. 98.7%, p<0.001) due to impaired vision or being illiterate.

Median time-to-complete questionnaire was three minutes (range 0.5-15). The median time-to-complete questionnaire was comparable between

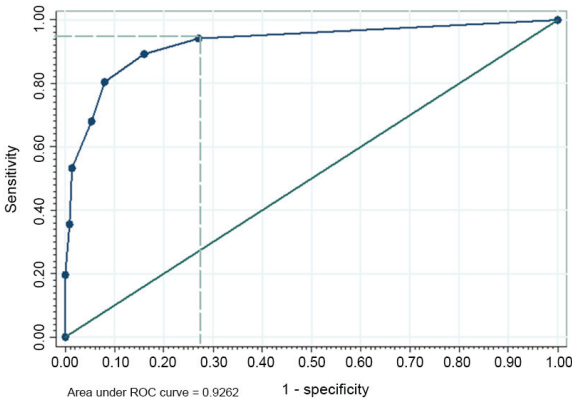

Fig. 1 A receiver operator characteristic (ROC) curve for the Thai version of the questionnaire for identifying subjects with potential rheumatic diseases.

patients who completed by themselves and by interview (3 minutes, range 0.5-15 vs. 2.5 minutes, range 1-5, p = 0.5 for self-administered and interview, respectively).

According to ROC curve (Fig. 1), the accuracy of this screening questionnaire in relation to the cutoff points between positive and negative was 93%. One or more positive questions response was the best cut-off point for this questionnaire.

Discussion

The Thai version of the questionnaire for identifying subjects with potentially rheumatic diseases is a combination of two questionnaires developed by Liang et al. One is the questionnaire for identifying subjects who may have any rheumatic disease, while the other one for SLE. To estimate the prevalence of rheumatic and autoimmune diseases, we need to screen a large number of peoples since the reported prevalence of these conditions around the world was quite low. As a result, we need a sensitive tool that can be easily administered and scored by laypersons, and then the diagnosis of these selected groups will be further confirmed by specialists. This Thai version had a high sensitivity with acceptable specificity.

In addition, it is simple and takes approximately three minutes to complete. More than 90% of subjects completed this questionnaire by themselves with a low number of missing items. It is also inexpensive. For all of these reasons, this questionnaire is suitable to be a screening tool for a field survey or epidemiologic research. It is also a useful tool in primary care to identify individuals who potentially have rheumatic diseases, so these cases would be properly referred to specialists.

However, its validity may be limited in the individuals who are young women with high education and are government officers due to high health concern. Although this screening questionnaire has a high false positive result, the negative likelihood ratio was also very low at 0.08. Accordingly, this questionnaire is useful for excluding rheumatic diseases as individuals who yield negative results to all questions are less likely to have rheumatic diseases.

There were several limitations in the present study. Firstly, it was conducted in a rheumatology clinic at tertiary hospital, where all patients were well-established rheumatic diseases with long disease duration. This group of patients tended to give a more positive response to the questionnaire. While patients with early rheumatic diseases, in whom the diseases had not been fully developed, may have very mild symptoms or are not familiar with symptoms related to rheumatic diseases, so they may not be able to respond to the questionnaire correctly. Therefore, the accuracy in the use of this questionnaire may not be applicable in early rheumatic diseases. Secondly, subjects in this study were middle-age population, using this questionnaire in persons who are much younger and older than this may be limited as rheumatic diseases in different age groups have diverse manifestations. Thirdly, healthy subjects in this study were identified by simple history taking without further investigation; therefore, some participants in this group may be misclassified. Especially for subjects who yielded positive results, they may have any underlying rheumatic diseases that have not been diagnosed. Finally, it should be remembered that this questionnaire is only a screening instrument; thus, history taking, physical examination, and appropriate laboratory tests for a definite diagnosis should be performed in suspected cases.

In conclusion, this Thai version of the screening questionnaire is valid and feasible for identifying subjects with potential rheumatic diseases. Its validity may be limited in the patients who were young women with high education. It is suitable for primary care setting and epidemiologic research.

What is already known on this topic?

The English version of 10-item screening questionnaire for screening systemic lupus erythematosus (SLE) and a 6-item screening

questionnaire for evaluation of rheumatic conditions were simple, with a high sensitivity and specificity.

What this study adds?

This Thai version of the questionnaire is a combination of two questionnaires for identifying subjects with potentially rheumatic or autoimmune diseases. This modified version has a high sensitivity with acceptable specificity and feasibility for Thai population.

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Potential conflicts of interest

None.

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Appendix Questionnaire for identifying subjects with potential rheumatic disease

แบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคข้อและเนื้อเยื่อเกี่ยวพัน

คำชี้แจง

- แบบสอบถามนี้มีจุดประสงค์เพื่อประเมินว่าท่านอาจจะเป็นโรคข้อหรือเนื้อเยื่อเกี่ยวพันหรือไม่
- กรุณาพยายามตอบคำถามทุกข้อตามที่ท่านรู้สึก คำตอบไม่มีถูกหรือผิด
- ถ้าท่านมีอาการต่าง ๆที่อยู่ในคำถามข้างล่าง ท่านจะต้องมีอาการดังกล่าวมา**นานกว่า 3 เดือน**จึงจะตอบว่า **"มีหรือเคยมี"**
- ถ้าอาการต่าง ๆ ที่ท่านมีนั้นมีมานาน**น้อยกว่า 3 เดือน**ให้ตอบว่า **"ไม่มี"**

ท่านจะต้องมีอาการดังกล่าวมา**นานกว่า 3 เดือน**จึงจะตอบว่า **"มีหรือเคยมี"**

1. คุณ**มีหรือเคยมี**อาการเจ็บหรือฝืดตึงข้อหรือกระดูกบ้างหรือไม่
   ❍ มีหรือเคยมี ❍ ไม่เคย
2. คุณ**มีหรือเคยมี**ข้ออักเสบหรืออาการรูมาติสซั่มหรือไม่
   ❍ มีหรือเคยมี ❍ ไม่เคย
3. คุณ**มีหรือเคยมี**อาการเจ็บต้นคอหรือเคลื่อนไหวศีรษะลำบากบ้างหรือไม่
   ❍ มีหรือเคยมี ❍ ไม่เคย
4. คุณ**มีหรือเคยมี**อาการเจ็บหรือมีความลำบากในการเปิดฝาขวด, ติดกระดุม หรือ เอื้อมมือไปหยิบของเหนือศีรษะของท่านหรือไม่
   ❍ มีหรือเคยมี ❍ ไม่เคย
5. คุณ**มีหรือเคยมี**อาการเจ็บหรือมีความลำบากในการเดินหรือขึ้นลงบันไดหรือไม่
   ❍ มีหรือเคยมี ❍ ไม่เคย
6. คุณ**มีหรือเคยมี**อาการปวดหลังส่วนล่างหรือฝืดตึงหลัง เมื่อตื่นนอนหรือไม่
   ❍ มีหรือเคยมี ❍ ไม่เคย
7. คุณ**มีหรือเคยมี**
   - ผื่นที่โหนกแก้ม ❍ มีหรือเคยมี ❍ ไม่เคย
   - ผื่นแพ้แดด ❍ มีหรือเคยมี ❍ ไม่เคย
   - ข้ออักเสบ ❍ มีหรือเคยมี ❍ ไม่เคย
   - แผลในปาก ❍ มีหรือเคยมี ❍ ไม่เคย
   - ปลายนิ้วซีดเขียวเย็น เมื่อถูกอากาศเย็น ❍ มีหรือเคยมี ❍ ไม่เคย
   - ผมร่วงผิดปกติ ❍ มีหรือเคยมี ❍ ไม่เคย
   - เจ็บแปลบที่ชายโครงเวลาหายใจเข้า ❍ มีหรือเคยมี ❍ ไม่เคย
   - ชักกระตุกหรือชักหมดสติ ❍ มีหรือเคยมี ❍ ไม่เคย
   - โปรตีนในปัสสาวะ ❍ มีหรือเคยมี ❍ ไม่เคย
   - โลหิตจางหรือซีด ❍ มีหรือเคยมี ❍ ไม่เคย
   - เม็ดเลือดขาวต่ำ ❍ มีหรือเคยมี ❍ ไม่เคย
   - เกล็ดเลือดต่ำ ❍ มีหรือเคยมี ❍ ไม่เคย

การตรวจสอบความถูกต้องของแบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคข้อและเนื้อเยื่อเกี่ยวพันฉบับภาษาไทย

จิรชยา ชัยสุโรจน์, เขมจิรา การเกตกลาง, วันวิสา ชนะภัย, วันรัชดา คัชมาตย์

วัตถุประสงค์: เพื่อแปลและประเมินความสามารถในการวินิจฉัย (diagnostic property) และความเป็นไปได้ (feasibility) ของการใช้ "แบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคข้อและเนื้อเยื่อเกี่ยวพัน" ฉบับภาษาไทย

วัสดุและวิธีการ: คณะผู้นิพนธ์ได้แปลและพัฒนา "แบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคข้อและเนื้อเยื่อเกี่ยวพัน" ฉบับภาษาอังกฤษที่พัฒนาโดย Liang MH และคณะ ให้เป็นภาษาไทย อาสาสมัครที่เข้าเกณฑ์คัดเลือกผู้ร่วมการศึกษา จำนวน 450 ราย ได้รับเชิญให้เข้าร่วมการศึกษานี้

ผลการศึกษา: อาสาสมัครเข้าร่วมการศึกษาเป็นผู้ป่วยที่ได้รับการวินิจฉัยว่าเป็นโรคข้อและเนื้อเยื่อเกี่ยวพันตามเกณฑ์การวินิจฉัยมาตรฐานของโรคนั้น ๆ ที่เข้ารับการรักษาในคลินิกโรคข้อหรืออายุรศาสตร์ทั่วไป แผนกผู้ป่วยนอก โรงพยาบาลศิริราช จำนวน 225 ราย และอาสาสมัครที่ไม่เป็นโรคข้อหรือเนื้อเยื่อเกี่ยวพันจำนวน 225 ราย ค่าความไว (sensitivity) ร้อยละ 94 ความจำเพาะ (specificity) ร้อยละ 73 positive likelihood ratios เท่ากับ 3.48 negative likelihood ratios เท่ากับ 0.08 และค่าความแม่นยำ (accuracy) ร้อยละ 93 ค่ามัธยฐานของเวลาที่ใช้ในการตอบแบบสอบถามเท่ากับ 3 นาที (ค่าต่ำสุด-สูงสุด เท่ากับ 0.5-15) อาสาสมัครส่วนใหญ่ตอบคำถามด้วยตนเอง (ร้อยละ 95) แต่ร้อยละ 12 ตอบแบบสอบถามไม่ครบ อาสาสมัครกลุ่มผลบวกเท็จส่วนใหญ่เป็นผู้หญิงอายุน้อย การศึกษาสูง และประกอบอาชีพรับราชการ

สรุป: แบบสอบถามเพื่อตรวจหาผู้ป่วยที่อาจเป็นโรคข้อและเนื้อเยื่อเกี่ยวพันฉบับภาษาไทยนี้ เป็นเครื่องมือในการวินิจฉัยเบื้องต้นที่ง่าย และแม่นยำ ซึ่งเหมาะที่จะใช้ในการคัดกรองผู้ป่วยที่มีโอกาสสูงที่จะเป็นโรคข้อและเนื้อเยื่อเกี่ยวพัน และในการศึกษาทางระบาดวิทยา