

Original article

Reliability and validation of the Thai version of the cosmetic procedure screening (COPS) questionnaire in Thai women

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Abstract

Background: Body dysmorphic syndrome (BDD) is a psychiatric disorder characterized by dissatisfaction with and disapproval of cosmetic surgery outcome.

Objective: The aim of this study was to study the reliability and validate the Thai version of the cosmetic procedure screening (COPS) questionnaire.

Methods: Fifty-six Thai women attending the gynecologic outpatient clinic at King Chulalongkorn Memorial Hospital were recruited into the study between July 2017 and June 2018. Four participants dropped out because they did not answer the second questionnaire. The original English-version of COPS was translated into the Thai version and back-translated by another linguist. The content of the questionnaire was validated by two urogynecologists. After signing their informed consent forms, the patients were asked to complete the Thai version of the COPS questionnaire at first visit. Thereafter, at two-week intervals they completed and sent back the questionnaires by mail.

Results: The average age of participants was 34.1 ± 6.4 years. The correlation coefficient of each item (Q) score with the total score of the Thai version COPS questionnaire ranged from 0.17 to 0.74. The internal consistency (Cronbach's alpha) of the questionnaire was 0.9. The weighted Kappa of each score ranged from 0.6–1.0. The mean total scores of the 1st and 2nd assessments (points) were 22.9 ± 8.7 and 23.9 ± 8.0 . The intraclass correlation coefficient (ICC) (95% confidence interval (CI)) of the total score was 0.9 (0.9–1.0).

Conclusion: The findings of this study indicate that the Thai version of the COPS questionnaire is reliable and valid. It can be used for screening for BDD in Thai women before cosmetic surgery.

Keywords: Body dysmorphic syndrome, cosmetic procedure screening, Thai.

Cosmetic surgery has become popular in many Western countries, such as the United States of America, United Kingdom and Brazil, and in many Asian countries, such as South Korea, Japan, China, and Thailand. ⁽¹⁾ Many professional guidelines raise concerns about screening psychiatric disorders, such as body dysmorphic syndrome (BDD), before performing surgery ^(2, 3) because BDD is one of the reasons for treatment dissatisfaction and disapproval. ⁽⁴⁾ BDD is an excessive concern with the perceived appearance disorder associated with

the discomfort and deterioration of everyday life functioning. ⁽⁵⁾ World Health Organization's International Classification of Diseases-11 (ICD-11) defines BDD as "preoccupation with a slight or imagined defect in appearance that causes significant distress or impairment in social, occupational, or other areas of functioning or preoccupations with appearance or self-image causing significant distress or impairment in important areas of functioning." ⁽⁶⁾ The prevalence of BDD is about 1.9% in the general population. It is common among people seeking cosmetic dermatology service (9.2%) and cosmetic surgery service (13.2%). ⁽⁷⁾ In Thailand, cosmetic surgeries are very popular among Thai women. Using screening tools for BDD can help to efficiently identify persons at risk of having this disorder before cosmetic surgical procedures for further referral to psychiatrists for specific treatment. ⁽⁸⁾ To date, there is no Thai translation and psychometric evaluation of the

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cosmetic procedure screening (COPS) for use in Thailand. Therefore, the aim of this study was to translate and validate the original English language version of COPS questionnaire into the Thai language. This would enable the use of the COPS questionnaire in clinical practice for Thai women before undergoing cosmetic surgeries.

Materials and methods

After approval by the institutional review board (IRB no. 266/60), the study was conducted at the General Gynecology Outpatient clinic in the Faculty of Medicine, King Chulalongkorn Memorial Hospital from July 2017–June 2018.

The cosmetic procedure screening (COPS) questionnaire⁽⁸⁾

The COPS questionnaire evaluates the perceived unattractive parts of the subjects with regard to diagnostic criteria of BDD. The questionnaire consists of nine items that are scored from 0 points (least impairment) to 8 points (most impairment), total score ranges from 0–72 points. The total score is a sum of points scored on questions 2–10. Items 2, 3, and 5 are reversed. The higher the score the greater the impairment. Individuals who score 40 or more are likely to have BDD.

Translation process

After permission from the original authors, the English version of COPS was forward translated into Thai language by a linguist from the Language Institute, Chulalongkorn University and backward translated by another linguist. The final draft was completed after a small group interview (with 10 women) and content validation by two urogynecologists in our department. All translated questions were tested for relevance to the original English version by the two urogynecologists (content validity index = 1).

The Thai version of the COPS questionnaire was administered to 52 female participants on a volunteer basis (56 participants before 4 participants dropped out, for failing to return the second questionnaires after two weeks). Inclusion criteria included the following: patients in General Gynecology Outpatient clinic, aged 18–65 years, sexually active, and able to read and write in Thai language. All participants showed the need for cosmetic surgeries in the future by answering yes to these two questions: “1. Are you dissatisfied

with one or more parts of your body?” and “2. Are you going to have cosmetic surgery if you have no problem with the time and costs?”. Women who were pregnant, and those who could not read and write Thai were excluded. The Thai-version of the COPS questionnaire was completed by the women at the clinic, repeated for the next two weeks and sent back by mail.

Statistical analysis

The mean, standard deviation (SD), median, interquartile range, and 95% confidence interval (CI) were used for descriptive statistics. Reliability and validity of the Thai version of the COPS questionnaire were determined using weighted kappa, test-retest reliability, Cronbach alpha, Spearman's correlation coefficient with statistical significance at $P < 0.05$. The IBM statistical package for the social sciences for Windows version 22 was used for statistical analysis. Sample size was estimated using the formula for sample size requirements for estimation of intraclass correlations with desired precision developed by Bonett DG, *et al.*⁽⁹⁾ as follows:

$$n = 8z_{(\alpha/2)}^2 \{ (1-pI)^2 (1 + (k-1) pI) 2 \} / \{ k(k-1)w^2 \} + 1$$

where Alpha = 0.05, pI (intraclass correlation from pilot study in 10 volunteers) = 0.8, k (rater) = 2, w (desired precision) = 0.2.

The number of participants needed to complete the questionnaire was 51. Five cases (10.0% of 51 cases) were added, to allow for dropouts. The total number of cases required in this study was 56 cases.

Results

A total of 56 participants were enrolled into this study. Four participants completed the questionnaire only at the first visit and were dropped from the study. The characteristics of the participants are shown in Table 1. The mean age was 34.1 ± 6.4 years, and the mean body mass index was 21.0 ± 3.8 kg/m². The professions of participants included the following: house wife (7.7%), government officer (1.9%), self-employed (11.5%), company employee (76.9%), and others (1.9%). The education of participants were primary school (1.9%), secondary school (7.7%), vocational (42.3%), Bachelor's Degree (44.2%), Master Degree or Doctoral Degree (3.8%). The parity of participants were 0 (51.9%), 1 (19.2%), 2 (25.0%) and 3 (3.8%). The correlation coefficients of item (Q)

scores with the total score of the Thai version of the COPS questionnaire ranged from 0.2 to 0.7 (**Table 1**). The internal consistency (Cronbach's alpha) was 0.91. The weighted Kappa of each score ranged from 0.6 to 1.0 (**Table 2**). The mean total scores of the 1st

and 2nd assessments (points) were 22.9 ± 8.7 and 23.9 ± 8.0 , respectively (**Table 2**). The intraclass correlation coefficient (ICC) (95% CI) of the total score was 0.94 (0.9–1.0) (**Table 2**). The Thai version of the COPS questionnaire is shown in **Appendix 1**.

Table 1. Correlation of each item (Q) score with total score of COPS.

Correlations	N	Correlation coefficient (Spearman)	P-value
Q2 and total score	52	0.5	0.01
Q3 and total score	52	0.5	<0.01
Q4 and total score	52	0.7	<0.01
Q5 and total score	52	0.2	0.24
Q6 and total score	52	0.5	<0.01
Q7 and total score	52	0.7	<0.01
Q8 and total score	52	0.7	<0.01
Q9 and total score	52	0.7	<0.01
Q10 and total score	52	0.7	<0.01

Table 2. Weighted Kappa, intraclass correlation coefficient (ICC), and COPS score at first and second completion.

Questions	1 st assessment (points) Mean \pm SD	2 nd assessment (points) Mean \pm SD	Weighted Kappa
Q2	1.8 ± 1.4	1.8 ± 1.4	0.95
Q3	3.3 ± 2.2	3.4 ± 2.1	0.83
Q4	2.2 ± 1.5	2.7 ± 1.5	0.62
Q5	3.7 ± 2.4	3.7 ± 2.2	0.69
Q6	2.1 ± 2.0	2.1 ± 2.0	0.93
Q7	2.4 ± 1.6	2.5 ± 1.6	0.89
Q8	2.3 ± 1.4	2.3 ± 1.5	0.75
Q9	2.3 ± 1.4	2.4 ± 1.4	0.77
Q10	2.9 ± 1.6	3.0 ± 1.6	0.69
Intraclass correlation coefficient (ICC) (95% CI)			
Total score	22.9 ± 8.7	23.9 ± 8.0	0.9 (0.9–1.0)

CI; confidence interval; SD, standard deviation;

Discussion

BDD is a disorder that can cause suffering in daily life owing to a wrong perception of one's physical appearance. A person with BDD experiences shame, depression, constant intrusive thought, social distancing, and poor quality of life.⁽⁷⁾ This abnormal thinking can lead to suicidal tendencies. The rates of suicide attempts are higher in persons with BDD than in the normal population.⁽¹⁰⁾ About 76.0% of patients with BDD seek cosmetic and surgical treatments to correct the perceived physical defects.⁽¹⁰⁾ Persons with BDD can show aggressive behavior toward physicians who perform the cosmetic surgery due to dissatisfaction with the postoperative results. BDD is one of the reasons for the violence and legal problems faced by physicians after the surgery.^(11,12) BDD can be misdiagnosed by non-psychiatrist physicians because BDD patients do not identify themselves as persons with a mental disorder. Many BDD patients come for cosmetic surgeries to repair their perceived defects due to the psychiatric problem instead of getting help from psychiatrists. Cosmetic surgeries cannot make them feel better, but usually lead to dissatisfaction with the performed procedures. Specialists who perform the cosmetic surgeries to women, such as gynecologists, plastic surgeons, should be aware of this disorder and be able to recognize it. It is vital to include psychometric assessments of persons who require cosmetic surgery to avoid treatment dissatisfaction and risks of suffering, depression, and suicide.

The COPS questionnaire is one of the screening questionnaires designed for patients wishing to undergo cosmetic procedures. Our results indicate a good reliability of the Thai version of the COPS questionnaire [a test-retest reliability of 0.94 (0.89–0.96)] and a good internal consistency (Cronbach's alpha coefficient 0.91). Our results were similar to those obtained for other language versions of the COPS questionnaires and the original COPS questionnaire.^(8,13,14) The correlation of the fifth question (impact of appearance to the social activity) score to the total score was the lowest ($r = 0.2$). Our results differ from those of other language versions, such as Polish translation,⁽¹⁴⁾ which had high correlation of the fifth question to the total score ($r = 0.7$). This can be explained by cultural differences. For example, Thai women that tend to experience dissatisfaction with appearance are more

concerned with work, couple relationship, and their looks than social activities. But the reliability (weighted kappa) of this fifth question was similar to that of the other questions (**Table 2**). Our results indicate that this Thai version of the COPS questionnaire can be used for BDD screening in Thai women before the cosmetic surgeries, such as plastic surgery and female cosmetic surgery. Screening for BDD can help to avoid dissatisfaction after surgery and evaluation of mental health status for proper management.

This is the first screening questionnaire for BDD in Thailand. This study was conducted according to the strictly validated process and the development process fully and complied with standard protocol. The questionnaire translation was performed by experienced linguists. Content was validated by two urogynecologists to confirm that the translation version still represented the theoretical construct of the original version.

This study was conducted only on females in the specific area (outpatient basis) and not on males due to the limited scope of the gynecologic clinic. Further studies with a more diversified female population and in multiple areas and including males are proposed.

Conclusion

The Thai version of the COPS questionnaire is reliable and valid. It can be used for screening for BDD in Thai women before cosmetic surgery.

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Conflicts of interest statement

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported.

Data sharing statement

All data generated or analyzed during the present study are included in this published article. Further details are available for noncommercial purposes from the corresponding author on reasonable request.

Supplementary information

Supplementary data to this article can be found online at [file:///C:/Users/User/Downloads/Apendix+supplementary%20\(3\).pdf](file:///C:/Users/User/Downloads/Apendix+supplementary%20(3).pdf)

References

1. Heidekrueger PI, Juran S, Ehrl D, Aung T, Tanna N, Broer PN. Global aesthetic surgery statistics: a closer look. *J Plast Surg Hand Surg* 2017;51:270-4.
2. Shaw D, Allen L, Chan C, Kives S, Popadiuk C, Robertson D, et al. Guideline No. 423: Female genital cosmetic surgery and procedures. *J Obstet Gynaecol Can* 2022;44:204-14.e1.
3. Thomson DR, Thomson NEV, Southwick G. Screening for body dysmorphic disorder in plastic surgery patients. *Aesthetic Plast Surg* 2024;48:2738-43.
4. Sweis IE, Spitz J, Barry DR Jr, Cohen M. A Review of body dysmorphic disorder in aesthetic surgery patients and the legal implications. *Aesthetic Plast Surg* 2017;41:949-54.
5. Vahia VN. Diagnostic and statistical manual of mental disorders 5: A quick glance Indian. *J Psychiatry* 2013;55:220-3.
6. Eastwood CA, Southern DA, Doktorchik C, Khair S, Cullen D, Boxill A, et al. Training and experience of coding with the World health organization's international classification of diseases, eleventh revision. *Health Inf Manag* 2023;52:92-100.
7. Veale D, Gledhill LJ, Christodoulou P, Hodsoll J. Body dysmorphic disorder in different settings: A systematic review and estimated weighted prevalence. *Body Image* 2016;18:168-86.
8. Veale D, Ellison N, Werner TG, Dodhia R, Serfaty MA, Clarke A. Development of a cosmetic procedure screening questionnaire (COPS) for body dysmorphic disorder. *J Plast Reconstr Aesthet Surg* 2012;65:530-2.
9. Bonett DG. Sample size requirements for estimating intraclass correlations with desired precision. *Stat Med* 2002;21:1331-5.
10. Phillips KA, Grant J, Siniscalchi J, Albertini RS. Surgical and nonpsychiatric medical treatment of patients with body dysmorphic disorder. *Psychosomatics* 2001;42:504-10.
11. Ishigooka J, Iwao M, Suzuki M, Fukuyama Y, Murasaki M, Miura S. Demographic features of patients seeking cosmetic surgery. *Psychiatry Clin Neurosci* 1998;52:283-7.
12. Vindigni V, Pavan C, Semenzin M, Granà S, Gambaro FM, Marini M, et al. The importance of recognizing body dysmorphic disorder in cosmetic surgery patients: Do our patients need a preoperative psychiatric evaluation? *Eur J Plast Surg* 2002;25:305-8.
13. Kallianta A, Bacopoulou F, Vlachakis D, Kokka I, Chrousos GP, Darviri C. Validation of the cosmetic procedure screening (COPS) questionnaire in the Greek language. *EMBnet J* 2021;26:e971.
14. Yurtsever I, Matusiak Ł, Szepletowska M, Wójcik E, Veale D, Szepletowski JC. Cosmetic procedure screening questionnaire (COPS): creation and validation of the Polish language version. *Postepy Dermatol Alergol* 2021;38:881-6.