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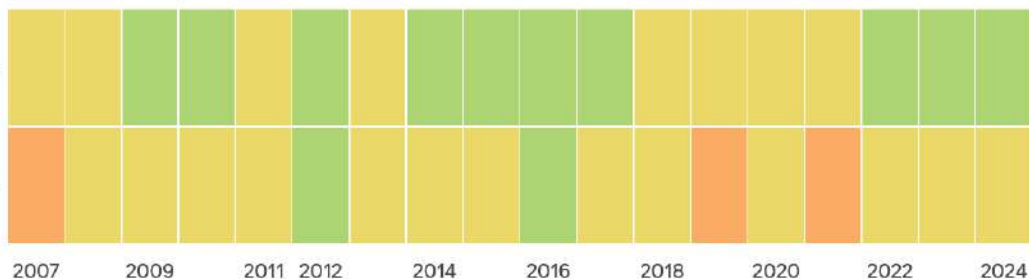
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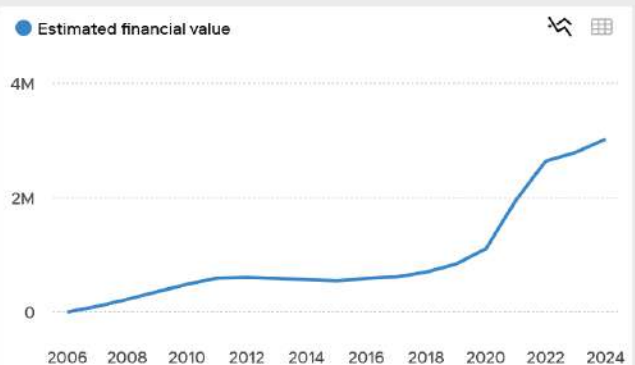
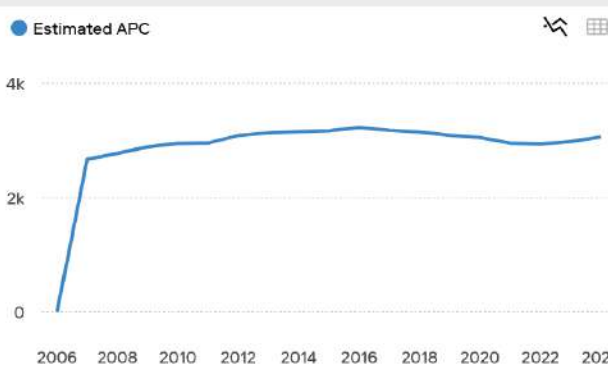
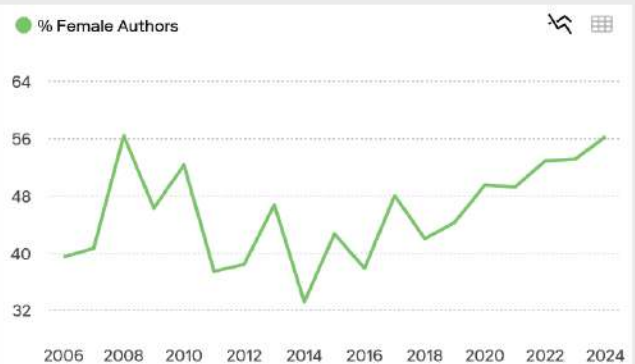
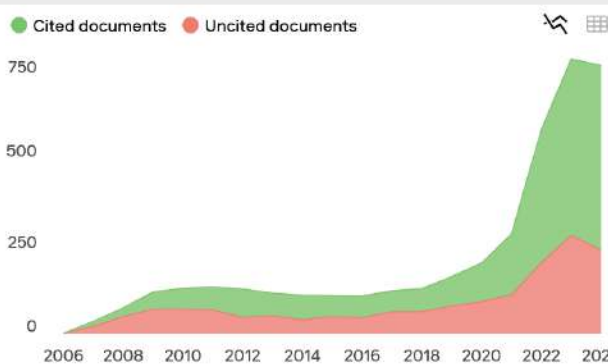
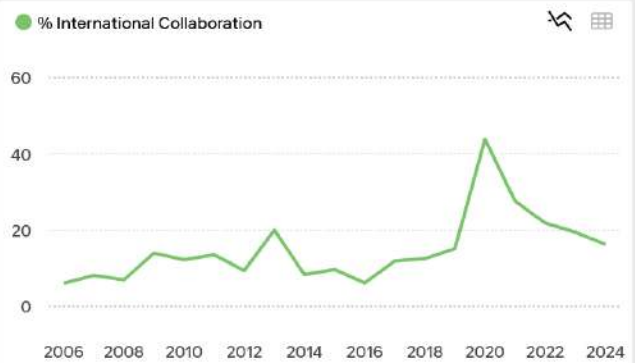
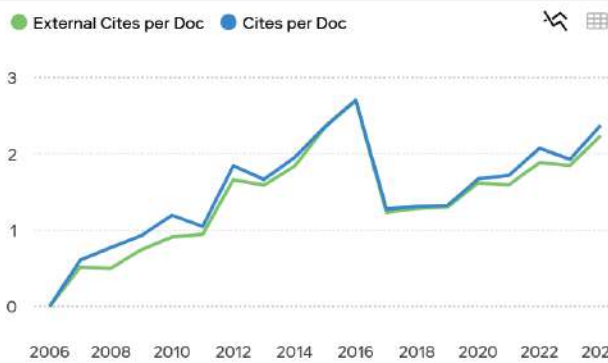
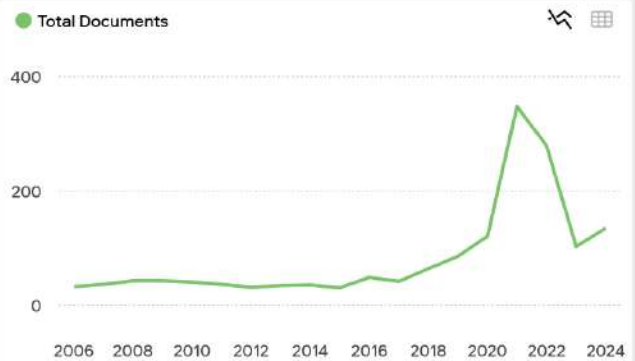
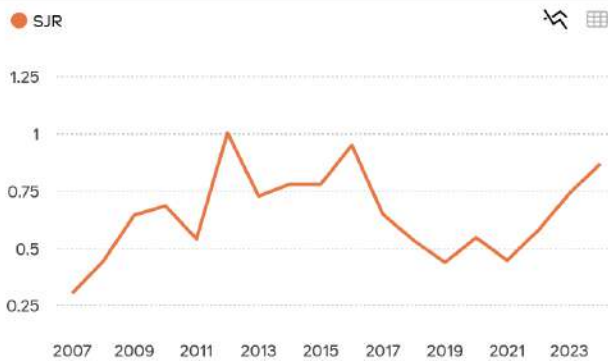
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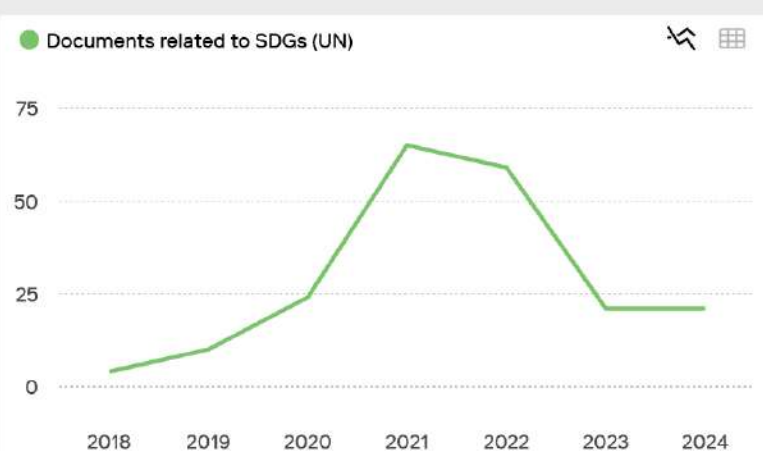
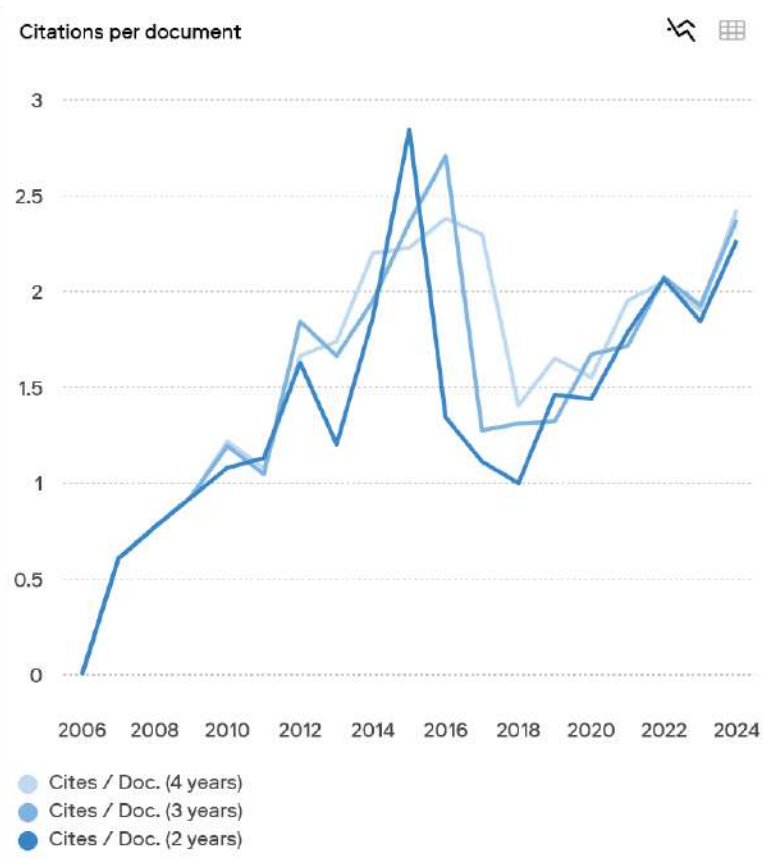
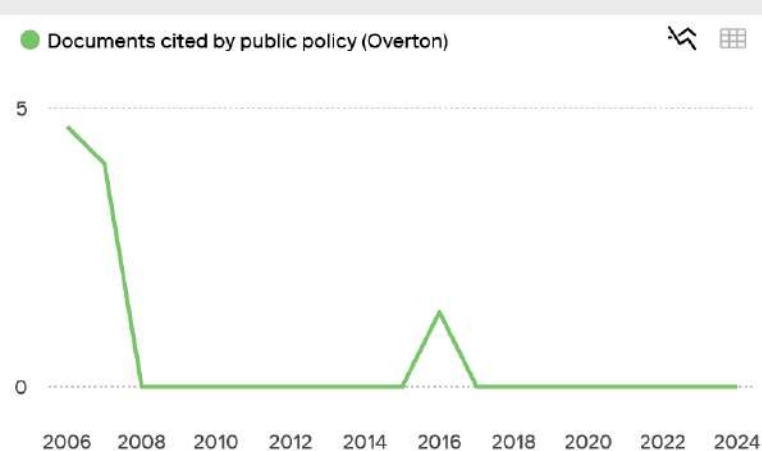
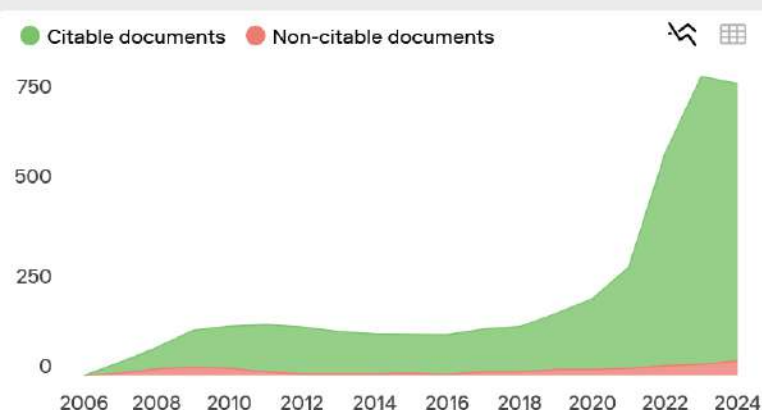
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# Patient Safety Culture in Dentistry Analysis Using the Safety Attitude Questionnaire in DKI Jakarta, Indonesia: A Cross-Cultural Adaptation and Validation Study

Mita Juliawati, MHA,\* Risqa R. Darwita, PhD,† Melissa Adiatman, PhD,‡ and Fatma Lestari, MSi, PhD,‡

**Objectives:** This study aimed to analyze a cross-cultural adaptation of the Safety Attitude Questionnaire (SAQ) for Indonesian dentists.

**Methods:** A cross-sectional study was conducted on 250 general dentists in health services in Jakarta, Indonesia. The first step included cultural adaptation and translation, which was followed by the development of the tested questionnaire through expert agreement and by validity and reliability analysis using Spearman correlation coefficient, Cronbach  $\alpha$ , and interclass correlation coefficient. The SAQ consisted of 30 items and 6 dimensions (safety climate, teamwork climate, job satisfaction, stress recognition, perception of management, and working conditions).

Respondents were members of the Indonesian Dental Association who voluntarily filled out a Google-based questionnaire from September to October 2020.

**Results:** A total of 250 respondents with a response rate of 16.4% demonstrated a total Cronbach  $\alpha$  value of 0.897, whereas the value per item ranged from 0.890 to 0.905, which suggested an acceptable and good to very good internal consistency. The interclass correlation coefficient value varied from 0.840 to 1.000, which meant almost perfect agreement. The correlation coefficient of 30 questions items resulted in a total SAQ score ranging from 0.422 to 0.699 (moderate to strong correlation) and between 6 dimensions to total SAQ score ranging from 0.648 to 0.772 (strong correlation).

**Conclusions:** The Indonesian version of the SAQ exhibited good validity and very good reliability and potential to be used for evaluating dentists' patient safety culture in Indonesia.

**Key Words:** Indonesia, patient safety, safety culture, validation study, dentists (*J Patient Saf* 2022;18: 486–493)

Safety has become a worldwide issue, especially in health services.<sup>1</sup> Data on unexpected incidents or adverse events in various countries have led to patient safety systems being created.<sup>2,3</sup> Several reviews have shown that patient safety incidents are caused by human behavior and can cause permanent damage<sup>2</sup> with costly consequences.<sup>3,4</sup>

The situation has been exacerbated by the global COVID-19 pandemic, where doctors and medical personnel are regarded as high-risk professions.<sup>5</sup> As of October 2020, more than 200 countries have been infected, and total confirmed and new cases were 39,596,858

and 389,683, respectively, and deaths cases were 1,107,374; in Indonesia, total cases were 357,762, with 12,431 dead.<sup>6</sup>

In dentistry, dentists and dental therapists are at high risk of cross-infection and can be the first contact persons because they have close interactions with patients who are potential sources of infection.<sup>7</sup> Thus, all parties should take standard precautions, especially regarding the implementation of the universal precaution from the World Health Organization.<sup>8</sup> This shows the importance of patient safety cultural factors, especially for medical personnel.<sup>5</sup>

Patient safety is fundamental to provide high-quality dental care.<sup>2,9</sup> Dentists and dental institutions are committed to providing excellent care, where one of the most important factors is safety. Some literature<sup>1,2</sup> have described that errors can also occur in dentistry.<sup>2,10</sup> Factors that can cause injury include fatigue, inexperience, poor supervision, wrong procedures, and a low safety culture.<sup>2</sup>

To prevent errors, a patient safety culture should be implemented.<sup>11</sup> Increasing patient safety culture in primary and secondary healthcare facilities builds public trust.<sup>11</sup> Early research on patient safety culture focused primarily on secondary healthcare such as hospitals. It is now necessary to examine patient safety culture in primary health care because 85% of healthcare professionals are in primary care facilities.<sup>12,13</sup> Therefore, it is crucial to study patient safety culture factors for dentists and correct the absence of investigations of patient safety culture in dental services in Indonesia, especially in primary health services.

Several tools to measure the perception of respondents are available. They combine elements of various dimensions of patient safety culture, such as the Safety Attitude Questionnaire (SAQ).<sup>14–16</sup> It was first developed by Sexton et al more than 2 decades ago at Texas University, United States, and it has been modified by researchers from the United States, Europe, and Asia, including states and countries such as Texas, Sweden, Norway, Germany, Denmark, Albania, China, Taiwan, Oman, and Georgia.<sup>15–24</sup>

The questionnaire was adapted from the short version of the original SAQ, which consists of 30 items and 6 dimensions of safety culture (safety climate, teamwork climate, job satisfaction, stress recognition, perception of management, and working conditions).<sup>15,16,21,25</sup> The SAQ is the most commonly used and rigorously validated tool for measuring the safety climate in health care<sup>21</sup> and is also the most suitable for evaluating safety culture in primary and secondary health services, with the potential for large-scale implementation and appropriate for quantitative research.<sup>15,25</sup> The original English version of the SAQ was obtained from a previous publication.<sup>16</sup> Among the various SAQ versions, the SAQ Chinese version was chosen because it fits the original SAQ template-generic short form, and Asian cultures are expected to obtain the same good results.<sup>21</sup> The Indonesian version of SAQ is applied to outpatient services in primary health care in accordance with previous studies for the SAQ-Ambulatory version.<sup>15,22,26</sup>

Until now, there is no instrument to measure patient safety culture in dentistry. Therefore, this study aims to analyze a cross-cultural adaptation of the SAQ for Indonesian dentists.

From the \*Graduate School, Doctoral Study Programme, Faculty of Dentistry, Universitas Indonesia, Jakarta, Indonesia; †Department of Dental Public Health and Preventive Dentistry, Faculty of Dentistry, Universitas Indonesia, Jakarta, Indonesia; ‡Occupational Health and Safety Department, Faculty of Public Health, Universitas Indonesia, Depok Indonesia.

Correspondence: Mita Juliawati, MHA, Department of Dental Public Health and Preventive Dentistry, Faculty of Dentistry, Universitas Indonesia, Jl.Salemba Raya 4, Jakarta, Indonesia (e-mail: mitajuliawati@yahoo.com); (e-mail: mitajuliawati@gmail.com).

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## METHODS

### Study Design

The research design was analytic observational with a cross-sectional approach, and it used the quantitative method.<sup>27</sup> The adaptation process followed modified cross-cultural adaptation principles from previous literature.<sup>15,28</sup> The initial stage was the investigation of the conceptual and equivalence accuracy of SAQ's items and adjustments to the literature review. Then, the original English version of SAQ was translated by bilingual dentists and professionals into Indonesian. Translations were assessed and revised by a panel of experts with bilingual skills regarding either the concept of domains or suitability items against the original version. The panel consisted of a dentist and a public health researcher who were familiar with the patient safety questionnaire. The next stage included creating a synthesized back-translated version by sworn professional translators with backgrounds in dentistry and by international graduate dentists with bilingual skills.<sup>28,29</sup> Subsequently, a review of the synthesized translated version and the back-synthesized version was reviewed by a committee of experts,<sup>28,30</sup> which consisted of experts in the field of dentistry and public health who were bilingual and who understood patient safety culture to ensure that the items were translated correctly and were relevant.<sup>28,29</sup> Later, the synthesized translated version was tested to determine if the questionnaire items could be understood.<sup>28,31</sup> Because of COVID-19, all the aforementioned stages were performed online via Google Form, Zoom, and WhatsApp media. Furthermore, the new instrument was evaluated in terms of semantic adjustments through a final consensus, followed by testing for validity and reliability using recognized statistical methods.<sup>21,28</sup>

The study was approved by the Ethics Committee of Dentistry Faculty Universitas Indonesia (No. 13/Ethical-Approval/FKG UI/VII/2020) and received permission and recommendation from the Executive Board of the Indonesian Dental Association (IDA; No. 2697/PB PDGI/Recommendations/II-5/2020).

### Data Collection

Considering the situation in Indonesia during the COVID-19 Pandemic, the research was conducted online using Google Form, and the link was shared through the online-based network from IDA via WhatsApp, Facebook, the IDA Web site, and its Instagram account. The study was conducted in the DKI Jakarta area for 4 weeks in September and October 2020, and 250 general dentists were sampled. All respondents who received the link filled out the

informed consent form before going on to complete the questionnaire (Fig. 1).

The core version of the SAQ in short form, which consisted of 6 domains and 30 questionnaire items, was adapted from the English version and adjusted to the Chinese version, then translated into the Indonesian version. The version of the back translation was as illustrated in Tables 2 and 4.<sup>16,21,25</sup> The SAQ uses a Likert scale from 1 to 5 (strongly disagree, disagree slightly, neutral, agree slightly, and agree strongly). The sum of the Likert scale from questionnaire items is the total score. The higher the score, the higher the safety culture. All are positive sentences except for items 2 and 11.<sup>16,21,32</sup>

Additional questions were used to assess demographic information and determine respondent characteristics (i.e., sex, age, health facility type, practice area, number of patients worked on per day, duration of practice, IDA membership, last education, have attended a workshop about patient safety and ownership of a valid registration certificate, and a valid practical license).

The population included members of the IDA in DKI Jakarta. The sample constituted of those who voluntarily filled the Google-based questionnaire from September to October 2020. The sample size estimate shows that minimum sample size was 212 and total sample size was 250 respondents. They have met the inclusion criteria for the required sample size.<sup>31</sup> A *P* values <0.05 indicated statistical significance with a power of 80%, assuming an effect size of 0.03. For interclass correlation coefficient (ICC) calculation, we used a subsample of 40 respondents. The inclusion criteria were general dentists practicing in primary and secondary health facilities in the DKI Jakarta area. The exclusion criterion was double entry.

### Data Analysis

Data from Google Form were retrieved and transferred into SPSS data file format. Data analysis was conducted using IBM SPSS Statistic version 23 (IBM, Armonk, New York). The negative score items were reversed before analysis as follows: "In this clinical area, it is difficult to speak if I see problems with patient care," and "In this clinical area, it is difficult to discuss errors."<sup>16,21</sup> Validity and reliability tests using Cronbach  $\alpha$ , corrected item total correlation (CITC), ICC, and Spearman coefficient correlation were conducted.<sup>16,21</sup>

## RESULTS

In all, 281 dentists in DKI Jakarta answered the Google Form questionnaire after sharing it online to 1719 respondents, but only 250 were valid. Thirty-one responses were invalid because of double entry. The response rate was 16.4%. Forty of 250 dentist were

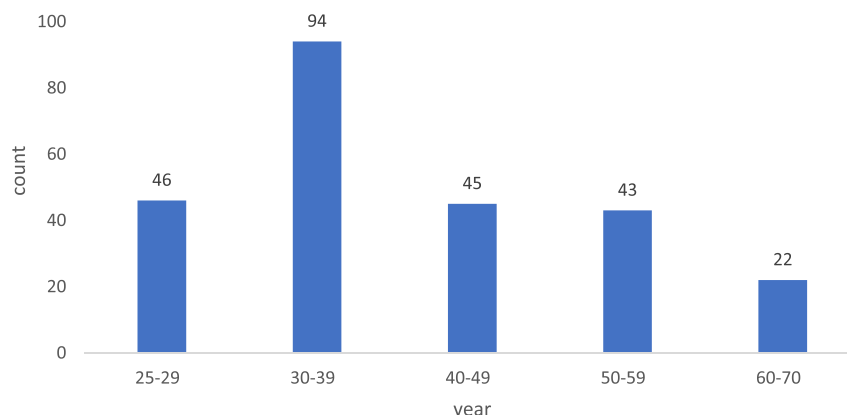


FIGURE 1. Age diagram of respondents in Jakarta Province (n = 250).

**TABLE 1.** Demographic Characteristics of Respondents in Jakarta Province (n = 250)

Variable	Category	Frequency	%
Age, y	25–29	46	18.4
	30–39	94	37.6
	40–49	45	18.0
	50–59	43	17.2
	60–70	22	8.8
Sex	Man	44	17.6
	Woman	206	82.4
Type of health facilities	Primary health facilities	193	77.2
	Secondary health facilities	57	22.8
Practice area	Urban	236	94.4
	Rural	14	5.6
No. patients worked on per day	None	9	3.6
	1–10	207	82.8
	11–20	27	10.8
	21–30	5	2.0
	>30	2	0.8
Duration of practice, y	1–5	81	32.4
	6–10	44	17.6
	11–15	41	16.4
	16–20	26	10.4
	>20	58	23.2
Membership of IDA District	IDA West Jakarta	71	28.4
	IDA Central Jakarta	70	28.0
	IDA South Jakarta	52	20.8
	IDA East Jakarta	44	17.6
	IDA North Jakarta	13	5.2
Last education	Undergraduate	188	75.2
	Graduate/Master	52	20.8
	Doctorate	7	2.8
	Others	3	1.2
Have attended a seminar/ training about patient safety	Ever	184	73.6
	Never	66	26.4
Ownership of a valid registration certificate	Yes	247	98.8
	No	3	1.2
Ownership of a valid practical license	Yes	235	94.0
	No	15	6.0

selected for ICC analysis. Demographic data in Table 1 show that 82.4% of the respondents were female dentists. Furthermore, most were 30 to 39 years of age, 77.2% practiced in primary health facilities, and 22.8% practiced in hospitals. Approximately 94.4% of these dentists practiced in urban areas, and only 5.6% practiced in rural areas. The number of patients treated per day was 82.4%, with a maximum of 10 patients. Only 1.2% worked on more than 30 patients per day. Thirty-two percent of respondents had practiced for a maximum of 5 years, 23% for more than 20 years, and at least 10% for 16 to 20 years. The least number of respondents (5%) was from North Jakarta, and other Jakarta areas almost had the same percentage. The majority of respondents (75.2%) achieved undergraduate education, 20.8% were master graduates,

and only 0.3% were doctoral graduates. Nearly 73.6% of respondents in DKI had attended seminars on patient safety. The majority of respondents had a valid registration certificate (98.8%) and practice license (94%).

The reliability assessment demonstrated a total Cronbach  $\alpha$  for the 30 items of 0.897, and the total Cronbach  $\alpha$  for 6 domains was 0.727 (Table 3). The aforementioned results illustrate that the internal consistency category was acceptable ( $0.7 \leq \alpha \leq 0.8$ ), good ( $0.8 \leq \alpha \leq 0.9$ ), and excellent/very good ( $\alpha \geq 0.9$ ). These conditions suggest that the questionnaire is reliable. The CITC value of 30 items varied, with the majority of items being greater than 0.3, except for certain items, and was below the minimum limit for stress domain (Tables 2, 3). This was in accordance with previous results.<sup>16,19,21,32</sup>

Tables 2 and 3 show that the respondents' ICC values varied from 0.9 to 1.0 or perfect agreement (0.81–1.00). In this study, more than 90% of the results were almost perfectly correlated. Therefore, the questionnaire was reliable and stable.

In this study, the construct validity test was performed with Spearman correlation. First, the normality test was applied by using the one-sample Kolmogorov-Smirnov test. Item distribution was not normal. Table 4 indicates that each item has a strong correlation with the total score. The construct validity test results revealed that most item variables had moderate to strong correlation ( $r = 0.422$ – $0.699$ ). Each item also had a strong correlation with its dimension, such as the job satisfaction dimension, with five items in the job satisfaction column exhibiting very strong correlation (0.798–0.895). The stress recognition dimension with its 4-item column showed a strong to very strong correlation (0.783–0.836). Results revealed that all dimensions had a strong to very strong relationship with the item, suggesting that validity was good. Table 5 presents the strong correlation between the dimension and the total score and between all dimensions except for stress. This finding was consistent with previous studies.<sup>16,19,21,32</sup> Overall analysis results suggest that questionnaire items, dimension, and total score were good and valid for the Indonesian version of the SAQ.

## DISCUSSION

This study was a cross-cultural adaptation of the original SAQ, which has been modified from the Chinese version and which has been validated for use by Indonesian dentists in Jakarta. Demographic data showed that the majority of respondents were female dentists and that those who practiced in primary health facilities dominated (77.2%), with the remainder practicing in secondary health facilities. This was consistent with previous research on healthcare workers that have indicated that many dentists were in primary health facilities and the importance of patient safety in dentistry in such facilities.<sup>4,11,12</sup> The majority of respondents practiced in urban areas, and only 5.6% worked in rural areas. On average, general dentist respondents had an undergraduate background and had practice experience ranging from at least 5 to more than 20 years. The experience of attending seminars or training on patient safety also predominated among respondents. This result suggested that they could understand the contents of the patient safety culture questionnaire. In accordance with the inclusion criteria, professional dentist must have a valid registration certificate and practical license, and most satisfied these requirements (98.8%).

Discussing data collection in online research during a COVID-19 pandemic includes both advantages and disadvantages. The research was more efficient and low cost, but not all target respondents were reached because of their social media use trends. For example, dentists who rarely read messages via groups, senior dentists who do not understand social media, and dentists who

**TABLE 2.** Results of Cronbach  $\alpha$ , CITC, and ICC Analysis of Respondent Data in DKI Jakarta Province

Domain	Item	$\alpha$ Cronbach if Item Deleted (n = 250)	$\alpha$ Cronbach Total (n = 250)	CITC (n = 250)	ICC (n = 40)
Teamwork climate	1. Nurse input is well received in this clinical area.	0.893	0.897	0.521	0.990
	2. In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	0.897		0.297	0.953
	3. Disagreements in this clinical area are appropriately resolved.	0.891		0.674	0.900
	4. I have the support I need from other personnel to care for patients.	0.890		0.677	1.000
	5. It is easy for personnel in this clinical area to ask questions when there is something that they do not understand.	0.891		0.609	1.000
	6. The physicians and nurses here work together as a well-coordinated team.	0.890		0.638	0.968
Safety climate	7. I would feel safe being treated here as a patient.	0.890		0.691	0.980
	8. Medical errors are handled appropriately in this clinical area.	0.893		0.533	0.957
	9. I know the proper channels to direct questions regarding patient safety in this clinical area.	0.891		0.603	0.985
	10. I receive appropriate feedback about my performance.	0.890		0.630	0.955
	11. I receive appropriate feedback about my performance.	0.895		0.369	1.000
	12. I am encouraged by my colleagues to report any patient safety concerns I may have.	0.891		0.585	0.978
	13. The culture in this clinical area makes it easy to learn from the errors of other.	0.890		0.628	0.981
Job satisfaction	14. I like my job.	0.893		0.496	0.980
	15. Working in this hospital is like being part of a large family.	0.891		0.606	1.000
	16. This is a good place to work.	0.889		0.709	0.989
	17. I am proud to work in this clinical area.	0.890		0.674	0.992
	18. Morale in this clinical area is high.	0.891		0.644	0.990
Stress recognition	19. When my workload becomes excessive, my performance is impaired.	0.903		0.046	0.849
	20. I am less effective at work when fatigued.	0.904		0.025	0.840
	21. I am more likely to make errors in tense or hostile situations.	0.905		-0.021	0.846
	22. Fatigue impairs my performance during emergency situations.	0.905		-0.025	0.849
Perception of management	23. Management supports my daily efforts.	0.891		0.640	0.990
	24. Management does not knowingly compromise the safety of patients.	0.902		0.187	0.979
	25. I get adequate, timely information about events in the hospital that might affect my work from the unit management.	0.892		0.536	0.986
	26. The levels of staffing in this clinical area are sufficient to handle the number of patients.	0.892		0.533	0.992
Working condition	27. This hospital does a good job of training new personnel.	0.891		0.563	0.992
	28. All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	0.891		0.606	0.982
	29. Trainees in my discipline are adequately supervised.	0.891		0.569	1.000
	30. Problem personnel in this clinical area are dealt with constructively by our management.	0.891		0.568	0.987

n = 40 from DKI Jakarta subsample.

**TABLE 3.** Results of Cronbach  $\alpha$  Analysis of Total and 6 Domains, and CITC and ICC Data of Respondents in DKI Jakarta Province

Domain Item	$\alpha$ Cronbach if Item Deleted (n = 250)	$\alpha$ Cronbach Total (n = 250)	CITC (n = 250)	ICC (n = 40)
Teamwork climate	0.620	0.727	0.679	0.991
Safety climate	0.597		0.715	0.990
Job satisfaction	0.644		0.620	0.993
Stress recognition	0.863		-0.169	0.845
Management perception	0.658		0.621	0.993
Working condition	0.659		0.586	0.998

n = 40 from DKI Jakarta subsample.

do not use social media. Furthermore, online research may have led to more unbiased results because researchers cannot engage directly with respondents compared with face-to-face questionnaires. Therefore, the response rate for online data collection would be lower than face-to-face methods.<sup>33,34</sup>

Furthermore, this research was used to identify potential problems contained in the questionnaire, such as misunderstandings about the

meaning of the desired item and clarity. The importance of a research was carried out based on previous research methods.<sup>15,21,28</sup>

The results proved that the psychometric properties of the Indonesian version of SAQ were valid and reliable. The reliability test with Cronbach  $\alpha$  illustrated that the internal consistency category ranged from good to excellent, where, in previous studies, the value range was 0.56 to 0.89.<sup>18,20–22,32,35</sup> This study demonstrated

**TABLE 4.** Overview of the Correlation Between Items With Domains and Items With Total Score as the Result of Construct Validity Analysis

Domain	Item	Spearman Correlation (n = 250)						
		Total Score	Teamwork Climate	Safety Climate	Job Satisfaction	Stress Recognition	Management Perception	Working Condition
Teamwork climate	1. Nurse input is well received in this clinical area.	0.422*	<b>0.607*</b>	0.385*	0.333*	-0.051	0.210*	0.280*
	2. In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	0.439*	<b>0.680*</b>	0.460*	0.352*	-0.250*	0.269*	0.380*
	3. Disagreements in this clinical area are appropriately resolved.	0.599*	<b>0.730*</b>	0.579*	0.454*	-0.110	0.362*	0.441*
	4. I have the support I need from other personnel to care for patients.	0.678*	<b>0.759*</b>	0.560*	0.494*	-0.021	0.369*	0.398*
	5. It is easy for personnel in this clinical area to ask questions when there is something that they do not understand.	0.606*	<b>0.727*</b>	0.500*	0.451*	0.021	0.294*	0.372*
	6. The physicians and nurses here work together as a well-coordinated team	0.612*	<b>0.717*</b>	0.481*	0.453*	0.026	0.360*	0.363*
Safety climate	7. I would feel safe being treated here as a patient.	0.660*	0.576*	<b>0.669*</b>	0.516*	-0.095	0.436*	0.474*
	8. Medical errors are handled appropriately in this clinical area.	0.611*	0.530*	<b>0.683*</b>	0.415*	-0.028	0.394*	0.411*
	9. I know the proper channels to direct questions regarding patient safety in this clinical area.	0.601*	0.492*	<b>0.752*</b>	0.451*	-0.125 <sup>†</sup>	0.349*	0.508*
	10. I receive appropriate feedback about my performance.	0.606*	0.509*	<b>0.730*</b>	0.471*	-0.169*	0.444*	0.527*
	11. I receive appropriate feedback about my performance.	0.501*	0.488*	<b>0.660*</b>	0.431*	-0.259*	0.312*	0.486*
	12. I am encouraged by my colleagues to report any patient safety concerns I may have.	0.536*	0.429*	<b>0.677*</b>	0.405*	-0.091	0.303*	0.365*
	13. The culture in this clinical area makes it easy to learn from the errors of other.	0.602*	0.466*	<b>0.705*</b>	0.446*	-0.106	0.341*	0.513*
	14. I like my job	0.489*	0.388*	0.359*	<b>0.798*</b>	-0.149 <sup>†</sup>	0.375*	0.315*

(Continued next page)

TABLE 4. (Continued)

Domain	Item	Spearman Correlation (n = 250)						
		Total Score	Teamwork Climate	Safety Climate	Job Satisfaction	Stress Recognition	Management Perception	Working Condition
Job satisfaction	15. Working in this hospital is like being part of a large family.	0.615*	0.451*	0.448*	<b>0.863*</b>	−0.104	0.385*	0.385*
	16. This is a good place to work.	0.699*	0.523*	0.601*	<b>0.866*</b>	−0.121	0.451*	0.528*
	17. I am proud to work in this clinical area.	0.679*	0.517*	0.547*	<b>0.895*</b>	−0.106	0.455*	0.440*
Stress recognition	18. Morale in this clinical area is high.	0.636*	0.531*	0.546*	<b>0.835*</b>	−0.128*	0.352*	0.405*
	19. When my workload becomes excessive, my performance is impaired.	0.172*	−0.067	−0.119	−0.102	<b>0.783*</b>	−0.030	−0.134*
	20. I am less effective at work when fatigued.	0.200*	−0.037	−0.085	−0.085	<b>0.836*</b>	−0.075	−0.188*
	21. I am more likely to make errors in tense or hostile situations.	0.121	−0.110	−0.165*	−0.138 <sup>†</sup>	<b>0.801*</b>	−0.048	−0.185*
	22. Fatigue impairs my performance during emergency situations.	0.131*	−0.144*	−0.142*	−0.140 <sup>†</sup>	<b>0.813*</b>	−0.094	−0.181*
Perception of management	23. Management supports my daily efforts.	0.604*	0.458*	0.483*	0.576*	−0.146*	<b>0.645*</b>	0.520*
	24. Management does not knowingly compromise the safety of patients.	0.304*	0.154*	0.151*	0.202*	−0.054	<b>0.697*</b>	0.190*
	25. I get adequate, timely information about events in the hospital that might affect my work from the unit management.	0.571*	0.393*	0.488*	0.446*	−0.109	<b>0.662*</b>	0.532*
	26. The levels of staffing in this clinical area are sufficient to handle the number of patients.	0.556*	0.433*	0.450*	0.360*	−0.025	<b>0.624*</b>	0.478*
Working condition	27. This hospital does a good job of training new personnel.	0.554*	0.355*	0.517*	0.380*	−0.175*	0.453*	<b>0.847*</b>
	28. All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	0.573*	0.394*	0.512*	0.395*	−0.120	0.486*	<b>0.728*</b>
	29. Trainees in my discipline are adequately supervised.	0.535*	0.386*	0.506*	0.377*	−0.195*	0.391*	<b>0.802*</b>
	30. Problem personnel in this clinical area are dealt with constructively by our management.	0.573*	0.444*	0.456*	0.430*	−0.162 <sup>†</sup>	0.487*	<b>0.824*</b>

Bold indicates the correlation coefficient among 30 items reached the highest values or stronger than others in each domain.

\*Correlation is significant at the 0.01 level (2-tailed).

<sup>†</sup>Correlation is significant at the 0.05 level (2-tailed).

TABLE 5. An Overview of the Correlation Between Domains and Total Scores and Between Domains in the Construct Validity Analysis

	Total Score	Teamwork Climate	Safety Climate	Job Satisfaction	Stress Recognition	Management Perception	Working Condition
Total score	1						
Teamwork climate	<b>0.720*</b>	1					
Safety climate	<b>0.772*</b>	0.623*	1				
Job satisfaction	<b>0.711*</b>	0.551*	0.580*	1			
Stress recognition	<b>0.174*</b>	−0.124	−0.172*	−0.162 <sup>†</sup>	1		
Management perception	<b>0.648*</b>	0.404*	0.430*	0.459*	−0.077	1	
Working condition	<b>0.657*</b>	0.477*	0.611*	0.481*	−0.225*	0.510*	1

Bold indicates the highest correlation coefficient.

\*Correlation is significant at the 0.01 level (2-tailed).

<sup>†</sup>Correlation is significant at the 0.05 level (2-tailed).



better results than previous ones. For ICC, all items were in almost perfect agreement, including the majority of those in CITC, except for the stress domain. This was consistent with previous results.<sup>16,19,21</sup> The reported values demonstrate that this Indonesian version of the SAQ was reliable.

The results of the construct validity analysis with Spearman correlation in terms of questionnaire items, dimension, and total score indicated that all dimensions of patient safety culture had strong to very strong correlation with items. Correlations between 6 dimensions and total score were strong. The majority of item correlations seen from the total score varied from moderate, strong, and very strong. In short, this Indonesian version of the SAQ was good and valid. In particular, the stress dimension showed consistently less valid, and this result was similar to that of previous literature.<sup>16,18,19,21,23,24,32</sup> Further research is needed to explore and analyze the stress dimension.

This research was conducted only on general dentists in the DKI Jakarta province, the capital city of Indonesia, which consists of 5 municipalities. Jakarta as the capital city of Indonesia has relatively heterogeneous conditions.<sup>31,36</sup> More research is required with a larger population consisting of both dentists and other health professionals, as well as other regions in Indonesia.

## CONCLUSIONS

The Indonesian version of the SAQ has good psychometric properties, especially good internal consistency, validity, and reliability. It has the potential to be a useful tool for evaluating patient safety culture among general dentists in DKI Jakarta.

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# Mita Juliawati

## Patient Safety Culture in Dentistry Analysis Using the Safety Attitude Questionnaire in DKI Jakarta, Indonesia: A Cross-Cul...

 Artikel 1

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# Patient Safety Culture in Dentistry Analysis Using the Safety Attitude Questionnaire in DKI Jakarta, Indonesia: A Cross-Cultural Adaptation and Validation Study

Mita Juliawati, MHA,\* Risqa R. Darwita, PhD,† Melissa Adiatman, PhD,‡ and Fatma Lestari, MSi, PhD,‡

**Objectives:** This study aimed to analyze a cross-cultural adaptation of the Safety Attitude Questionnaire (SAQ) for Indonesian dentists.

**Methods:** A cross-sectional study was conducted on 250 general dentists in health services in Jakarta, Indonesia. The first step included cultural adaptation and translation, which was followed by the development of the tested questionnaire through expert agreement and by validity and reliability analysis using Spearman correlation coefficient, Cronbach  $\alpha$ , and interclass correlation coefficient. The SAQ consisted of 30 items and 6 dimensions (safety climate, teamwork climate, job satisfaction, stress recognition, perception of management, and working conditions).

Respondents were members of the Indonesian Dental Association who voluntarily filled out a Google-based questionnaire from September to October 2020.

**Results:** A total of 250 respondents with a response rate of 16.4% demonstrated a total Cronbach  $\alpha$  value of 0.897, whereas the value per item ranged from 0.890 to 0.905, which suggested an acceptable and good to very good internal consistency. The interclass correlation coefficient value varied from 0.840 to 1.000, which meant almost perfect agreement. The correlation coefficient of 30 questions items resulted in a total SAQ score ranging from 0.422 to 0.699 (moderate to strong correlation) and between 6 dimensions to total SAQ score ranging from 0.648 to 0.772 (strong correlation).

**Conclusions:** The Indonesian version of the SAQ exhibited good validity and very good reliability and potential to be used for evaluating dentists' patient safety culture in Indonesia.

**Key Words:** Indonesia, patient safety, safety culture, validation study, dentists (*J Patient Saf* 2022;18: 486–493)

Safety has become a worldwide issue, especially in health services.<sup>1</sup> Data on unexpected incidents or adverse events in various countries have led to patient safety systems being created.<sup>2,3</sup> Several reviews have shown that patient safety incidents are caused by human behavior and can cause permanent damage<sup>2</sup> with costly consequences.<sup>3,4</sup>

The situation has been exacerbated by the global COVID-19 pandemic, where doctors and medical personnel are regarded as high-risk professions.<sup>5</sup> As of October 2020, more than 200 countries have been infected, and total confirmed and new cases were 39,596,858

and 389,683, respectively, and deaths cases were 1,107,374; in Indonesia, total cases were 357,762, with 12,431 dead.<sup>6</sup>

In dentistry, dentists and dental therapists are at high risk of cross-infection and can be the first contact persons because they have close interactions with patients who are potential sources of infection.<sup>7</sup> Thus, all parties should take standard precautions, especially regarding the implementation of the universal precaution from the World Health Organization.<sup>8</sup> This shows the importance of patient safety cultural factors, especially for medical personnel.<sup>5</sup>

Patient safety is fundamental to provide high-quality dental care.<sup>2,9</sup> Dentists and dental institutions are committed to providing excellent care, where one of the most important factors is safety. Some literature<sup>1,2</sup> have described that errors can also occur in dentistry.<sup>2,10</sup> Factors that can cause injury include fatigue, inexperience, poor supervision, wrong procedures, and a low safety culture.<sup>2</sup>

To prevent errors, a patient safety culture should be implemented.<sup>11</sup> Increasing patient safety culture in primary and secondary healthcare facilities builds public trust.<sup>11</sup> Early research on patient safety culture focused primarily on secondary healthcare such as hospitals. It is now necessary to examine patient safety culture in primary health care because 85% of healthcare professionals are in primary care facilities.<sup>12,13</sup> Therefore, it is crucial to study patient safety culture factors for dentists and correct the absence of investigations of patient safety culture in dental services in Indonesia, especially in primary health services.

Several tools to measure the perception of respondents are available. They combine elements of various dimensions of patient safety culture, such as the Safety Attitude Questionnaire (SAQ).<sup>14–16</sup> It was first developed by Sexton et al more than 2 decades ago at Texas University, United States, and it has been modified by researchers from the United States, Europe, and Asia, including states and countries such as Texas, Sweden, Norway, Germany, Denmark, Albania, China, Taiwan, Oman, and Georgia.<sup>15–24</sup>

The questionnaire was adapted from the short version of the original SAQ, which consists of 30 items and 6 dimensions of safety culture (safety climate, teamwork climate, job satisfaction, stress recognition, perception of management, and working conditions).<sup>15,16,21,25</sup> The SAQ is the most commonly used and rigorously validated tool for measuring the safety climate in health care<sup>21</sup> and is also the most suitable for evaluating safety culture in primary and secondary health services, with the potential for large-scale implementation and appropriate for quantitative research.<sup>15,25</sup> The original English version of the SAQ was obtained from a previous publication.<sup>16</sup> Among the various SAQ versions, the SAQ Chinese version was chosen because it fits the original SAQ template-generic short form, and Asian cultures are expected to obtain the same good results.<sup>21</sup> The Indonesian version of SAQ is applied to outpatient services in primary health care in accordance with previous studies for the SAQ-Ambulatory version.<sup>15,22,26</sup>

Until now, there is no instrument to measure patient safety culture in dentistry. Therefore, this study aims to analyze a cross-cultural adaptation of the SAQ for Indonesian dentists.

From the \*Graduate School, Doctoral Study Programme, Faculty of Dentistry, Universitas Indonesia, Jakarta, Indonesia; †Department of Dental Public Health and Preventive Dentistry, Faculty of Dentistry, Universitas Indonesia, Jakarta, Indonesia; ‡Occupational Health and Safety Department, Faculty of Public Health, Universitas Indonesia, Depok Indonesia.

Correspondence: Mita Juliawati, MHA, Department of Dental Public Health and Preventive Dentistry, Faculty of Dentistry, Universitas Indonesia, Jl.Salemba Raya 4, Jakarta, Indonesia (e-mail: mitajuliawati@yahoo.com); (e-mail: mitajuliawati@gmail.com).

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## METHODS

### Study Design

The research design was analytic observational with a cross-sectional approach, and it used the quantitative method.<sup>27</sup> The adaptation process followed modified cross-cultural adaptation principles from previous literature.<sup>15,28</sup> The initial stage was the investigation of the conceptual and equivalence accuracy of SAQ's items and adjustments to the literature review. Then, the original English version of SAQ was translated by bilingual dentists and professionals into Indonesian. Translations were assessed and revised by a panel of experts with bilingual skills regarding either the concept of domains or suitability items against the original version. The panel consisted of a dentist and a public health researcher who were familiar with the patient safety questionnaire. The next stage included creating a synthesized back-translated version by sworn professional translators with backgrounds in dentistry and by international graduate dentists with bilingual skills.<sup>28,29</sup> Subsequently, a review of the synthesized translated version and the back-synthesized version was reviewed by a committee of experts,<sup>28,30</sup> which consisted of experts in the field of dentistry and public health who were bilingual and who understood patient safety culture to ensure that the items were translated correctly and were relevant.<sup>28,29</sup> Later, the synthesized translated version was tested to determine if the questionnaire items could be understood.<sup>28,31</sup> Because of COVID-19, all the aforementioned stages were performed online via Google Form, Zoom, and WhatsApp media. Furthermore, the new instrument was evaluated in terms of semantic adjustments through a final consensus, followed by testing for validity and reliability using recognized statistical methods.<sup>21,28</sup>

The study was approved by the Ethics Committee of Dentistry Faculty Universitas Indonesia (No. 13/Ethical-Approval/FKG UI/VII/2020) and received permission and recommendation from the Executive Board of the Indonesian Dental Association (IDA; No. 2697/PB PDGI/Recommendations/II-5/2020).

### Data Collection

Considering the situation in Indonesia during the COVID-19 Pandemic, the research was conducted online using Google Form, and the link was shared through the online-based network from IDA via WhatsApp, Facebook, the IDA Web site, and its Instagram account. The study was conducted in the DKI Jakarta area for 4 weeks in September and October 2020, and 250 general dentists were sampled. All respondents who received the link filled out the

informed consent form before going on to complete the questionnaire (Fig. 1).

The core version of the SAQ in short form, which consisted of 6 domains and 30 questionnaire items, was adapted from the English version and adjusted to the Chinese version, then translated into the Indonesian version. The version of the back translation was as illustrated in Tables 2 and 4.<sup>16,21,25</sup> The SAQ uses a Likert scale from 1 to 5 (strongly disagree, disagree slightly, neutral, agree slightly, and agree strongly). The sum of the Likert scale from questionnaire items is the total score. The higher the score, the higher the safety culture. All are positive sentences except for items 2 and 11.<sup>16,21,32</sup>

Additional questions were used to assess demographic information and determine respondent characteristics (i.e., sex, age, health facility type, practice area, number of patients worked on per day, duration of practice, IDA membership, last education, have attended a workshop about patient safety and ownership of a valid registration certificate, and a valid practical license).

The population included members of the IDA in DKI Jakarta. The sample constituted of those who voluntarily filled the Google-based questionnaire from September to October 2020. The sample size estimate shows that minimum sample size was 212 and total sample size was 250 respondents. They have met the inclusion criteria for the required sample size.<sup>31</sup> A *P* values <0.05 indicated statistical significance with a power of 80%, assuming an effect size of 0.03. For interclass correlation coefficient (ICC) calculation, we used a subsample of 40 respondents. The inclusion criteria were general dentists practicing in primary and secondary health facilities in the DKI Jakarta area. The exclusion criterion was double entry.

### Data Analysis

Data from Google Form were retrieved and transferred into SPSS data file format. Data analysis was conducted using IBM SPSS Statistic version 23 (IBM, Armonk, New York). The negative score items were reversed before analysis as follows: "In this clinical area, it is difficult to speak if I see problems with patient care," and "In this clinical area, it is difficult to discuss errors."<sup>16,21</sup> Validity and reliability tests using Cronbach  $\alpha$ , corrected item total correlation (CITC), ICC, and Spearman coefficient correlation were conducted.<sup>16,21</sup>

## RESULTS

In all, 281 dentists in DKI Jakarta answered the Google Form questionnaire after sharing it online to 1719 respondents, but only 250 were valid. Thirty-one responses were invalid because of double entry. The response rate was 16.4%. Forty of 250 dentist were

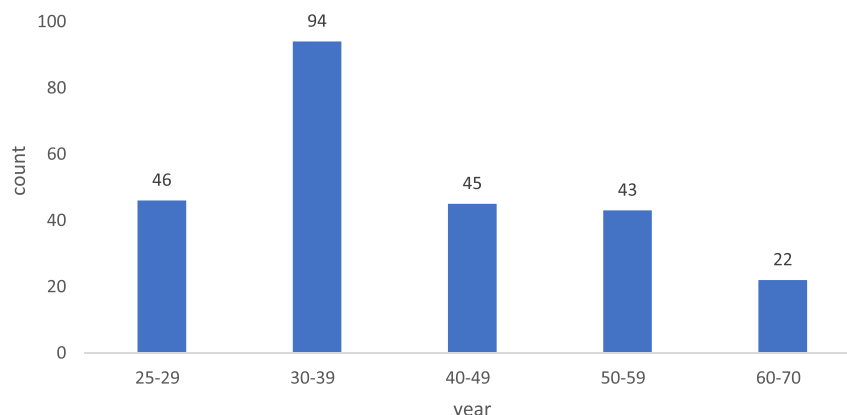


FIGURE 1. Age diagram of respondents in Jakarta Province (n = 250).

**TABLE 1.** Demographic Characteristics of Respondents in Jakarta Province (n = 250)

Variable	Category	Frequency	%
Age, y	25–29	46	18.4
	30–39	94	37.6
	40–49	45	18.0
	50–59	43	17.2
	60–70	22	8.8
Sex	Man	44	17.6
	Woman	206	82.4
Type of health facilities	Primary health facilities	193	77.2
	Secondary health facilities	57	22.8
Practice area	Urban	236	94.4
	Rural	14	5.6
No. patients worked on per day	None	9	3.6
	1–10	207	82.8
	11–20	27	10.8
	21–30	5	2.0
	>30	2	0.8
Duration of practice, y	1–5	81	32.4
	6–10	44	17.6
	11–15	41	16.4
	16–20	26	10.4
	>20	58	23.2
Membership of IDA District	IDA West Jakarta	71	28.4
	IDA Central Jakarta	70	28.0
	IDA South Jakarta	52	20.8
	IDA East Jakarta	44	17.6
	IDA North Jakarta	13	5.2
Last education	Undergraduate	188	75.2
	Graduate/Master	52	20.8
	Doctorate	7	2.8
	Others	3	1.2
Have attended a seminar/ training about patient safety	Ever	184	73.6
	Never	66	26.4
Ownership of a valid registration certificate	Yes	247	98.8
	No	3	1.2
Ownership of a valid practical license	Yes	235	94.0
	No	15	6.0

selected for ICC analysis. Demographic data in Table 1 show that 82.4% of the respondents were female dentists. Furthermore, most were 30 to 39 years of age, 77.2% practiced in primary health facilities, and 22.8% practiced in hospitals. Approximately 94.4% of these dentists practiced in urban areas, and only 5.6% practiced in rural areas. The number of patients treated per day was 82.4%, with a maximum of 10 patients. Only 1.2% worked on more than 30 patients per day. Thirty-two percent of respondents had practiced for a maximum of 5 years, 23% for more than 20 years, and at least 10% for 16 to 20 years. The least number of respondents (5%) was from North Jakarta, and other Jakarta areas almost had the same percentage. The majority of respondents (75.2%) achieved undergraduate education, 20.8% were master graduates,

and only 0.3% were doctoral graduates. Nearly 73.6% of respondents in DKI had attended seminars on patient safety. The majority of respondents had a valid registration certificate (98.8%) and practice license (94%).

The reliability assessment demonstrated a total Cronbach  $\alpha$  for the 30 items of 0.897, and the total Cronbach  $\alpha$  for 6 domains was 0.727 (Table 3). The aforementioned results illustrate that the internal consistency category was acceptable ( $0.7 \leq \alpha \leq 0.8$ ), good ( $0.8 \leq \alpha \leq 0.9$ ), and excellent/very good ( $\alpha \geq 0.9$ ). These conditions suggest that the questionnaire is reliable. The CITC value of 30 items varied, with the majority of items being greater than 0.3, except for certain items, and was below the minimum limit for stress domain (Tables 2, 3). This was in accordance with previous results.<sup>16,19,21,32</sup>

Tables 2 and 3 show that the respondents' ICC values varied from 0.9 to 1.0 or perfect agreement (0.81–1.00). In this study, more than 90% of the results were almost perfectly correlated. Therefore, the questionnaire was reliable and stable.

In this study, the construct validity test was performed with Spearman correlation. First, the normality test was applied by using the one-sample Kolmogorov-Smirnov test. Item distribution was not normal. Table 4 indicates that each item has a strong correlation with the total score. The construct validity test results revealed that most item variables had moderate to strong correlation ( $r = 0.422$ – $0.699$ ). Each item also had a strong correlation with its dimension, such as the job satisfaction dimension, with five items in the job satisfaction column exhibiting very strong correlation (0.798–0.895). The stress recognition dimension with its 4-item column showed a strong to very strong correlation (0.783–0.836). Results revealed that all dimensions had a strong to very strong relationship with the item, suggesting that validity was good. Table 5 presents the strong correlation between the dimension and the total score and between all dimensions except for stress. This finding was consistent with previous studies.<sup>16,19,21,32</sup> Overall analysis results suggest that questionnaire items, dimension, and total score were good and valid for the Indonesian version of the SAQ.

## DISCUSSION

This study was a cross-cultural adaptation of the original SAQ, which has been modified from the Chinese version and which has been validated for use by Indonesian dentists in Jakarta. Demographic data showed that the majority of respondents were female dentists and that those who practiced in primary health facilities dominated (77.2%), with the remainder practicing in secondary health facilities. This was consistent with previous research on healthcare workers that have indicated that many dentists were in primary health facilities and the importance of patient safety in dentistry in such facilities.<sup>4,11,12</sup> The majority of respondents practiced in urban areas, and only 5.6% worked in rural areas. On average, general dentist respondents had an undergraduate background and had practice experience ranging from at least 5 to more than 20 years. The experience of attending seminars or training on patient safety also predominated among respondents. This result suggested that they could understand the contents of the patient safety culture questionnaire. In accordance with the inclusion criteria, professional dentist must have a valid registration certificate and practical license, and most satisfied these requirements (98.8%).

Discussing data collection in online research during a COVID-19 pandemic includes both advantages and disadvantages. The research was more efficient and low cost, but not all target respondents were reached because of their social media use trends. For example, dentists who rarely read messages via groups, senior dentists who do not understand social media, and dentists who



**TABLE 2.** Results of Cronbach  $\alpha$ , CITC, and ICC Analysis of Respondent Data in DKI Jakarta Province

Domain	Item	$\alpha$ Cronbach if Item Deleted (n = 250)	$\alpha$ Cronbach Total (n = 250)	CITC (n = 250)	ICC (n = 40)
1	Teamwork climate				
	1. Nurse input is well received in this clinical area.	0.893	0.897	0.521	0.990
	2. In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	0.897		0.297	0.953
3					
	3. Disagreements in this clinical area are appropriately resolved.	0.891		0.674	0.900
	4. I have the support I need from other personnel to care for patients.	0.890		0.677	1.000
	5. It is easy for personnel in this clinical area to ask questions when there is something that they do not understand.	0.891		0.609	1.000
	6. The physicians and nurses here work together as a well-coordinated team.	0.890		0.638	0.968
Safety climate	7. I would feel safe being treated here as a patient.	0.890		0.691	0.980
	8. Medical errors are handled appropriately in this clinical area.	0.893		0.533	0.957
	9. I know the proper channels to direct questions regarding patient safety in this clinical area.	0.891		0.603	0.985
	10. I receive appropriate feedback about my performance.	0.890		0.630	0.955
	11. I receive appropriate feedback about my performance.	0.895		0.369	1.000
2					
	12. I am encouraged by my colleagues to report any patient safety concerns I may have.	0.891		0.585	0.978
	13. The culture in this clinical area makes it easy to learn from the errors of other.	0.890		0.628	0.981
Job satisfaction	14. I like my job.	0.893		0.496	0.980
	15. Working in this hospital is like being part of a large family.	0.891		0.606	1.000
	16. This is a good place to work.	0.889		0.709	0.989
	17. I am proud to work in this clinical area.	0.890		0.674	0.992
	18. Morale in this clinical area is high.	0.891		0.644	0.990
Stress recognition	19. When my workload becomes excessive, my performance is impaired.	0.903		0.046	0.849
	20. I am less effective at work when fatigued.	0.904		0.025	0.840
	21. I am more likely to make errors in tense or hostile situations.	0.905		-0.021	0.846
	22. Fatigue impairs my performance during emergency situations.	0.905		-0.025	0.849
4	Perception of management				
	23. Management supports my daily efforts.	0.891		0.640	0.990
	24. Management does not knowingly compromise the safety of patients.	0.902		0.187	0.979
5					
	25. I get adequate, timely information about events in the hospital that might affect my work from the unit management.	0.892		0.536	0.986
	26. The levels of staffing in this clinical area are sufficient to handle the number of patients.	0.892		0.533	0.992
Working condition	27. This hospital does a good job of training new personnel.	0.891		0.563	0.992
	28. All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	0.891		0.606	0.982
	29. Trainees in my discipline are adequately supervised.	0.891		0.569	1.000
	30. Problem personnel in this clinical area are dealt with constructively by our management.	0.891		0.568	0.987

n = 40 from DKI Jakarta subsample.

**TABLE 3.** Results of Cronbach  $\alpha$  Analysis of Total and 6 Domains, and CITC and ICC Data of Respondents in DKI Jakarta Province

Domain Item	$\alpha$ Cronbach if Item Deleted (n = 250)	$\alpha$ Cronbach Total (n = 250)	CITC (n = 250)	ICC (n = 40)
Teamwork climate	0.620	0.727	0.679	0.991
Safety climate	0.597		0.715	0.990
Job satisfaction	0.644		0.620	0.993
Stress recognition	0.863		-0.169	0.845
Management perception	0.658		0.621	0.993
Working condition	0.659		0.586	0.998

n = 40 from DKI Jakarta subsample.

do not use social media. Furthermore, online research may have led to more unbiased results because researchers cannot engage directly with respondents compared with face-to-face questionnaires. Therefore, the response rate for online data collection would be lower than face-to-face methods.<sup>33,34</sup>

Furthermore, this research was used to identify potential problems contained in the questionnaire, such as misunderstandings about the

meaning of the desired item and clarity. The importance of a research was carried out based on previous research methods.<sup>15,21,28</sup>

The results proved that the psychometric properties of the Indonesian version of SAQ were valid and reliable. The reliability test with Cronbach  $\alpha$  illustrated that the internal consistency category ranged from good to excellent, where, in previous studies, the value range was 0.56 to 0.89.<sup>18,20–22,32,35</sup> This study demonstrated

**TABLE 4.** Overview of the Correlation Between Items With Domains and Items With Total Score as the Result of Construct Validity Analysis

Domain	Item	Spearman Correlation (n = 250)						
		Total Score	Teamwork Climate	Safety Climate	Job Satisfaction	Stress Recognition	Management Perception	Working Condition
Teamwork climate	1. Nurse input is well received in this clinical area.	0.422*	<b>0.607*</b>	0.385*	0.333*	-0.051	0.210*	0.280*
	2. In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	0.439*	<b>0.680*</b>	0.460*	0.352*	-0.250*	0.269*	0.380*
	3. Disagreements in this clinical area are appropriately resolved.	0.599*	<b>0.730*</b>	0.579*	0.454*	-0.110	0.362*	0.441*
	4. I have the support I need from other personnel to care for patients.	0.678*	<b>0.759*</b>	0.560*	0.494*	-0.021	0.369*	0.398*
	5. It is easy for personnel in this clinical area to ask questions when there is something that they do not understand.	0.606*	<b>0.727*</b>	0.500*	0.451*	0.021	0.294*	0.372*
	6. The physicians and nurses here work together as a well-coordinated team	0.612*	<b>0.717*</b>	0.481*	0.453*	0.026	0.360*	0.363*
Safety climate	7. I would feel safe being treated here as a patient.	0.660*	0.576*	<b>0.669*</b>	0.516*	-0.095	0.436*	0.474*
	8. Medical errors are handled appropriately in this clinical area.	0.611*	0.530*	<b>0.683*</b>	0.415*	-0.028	0.394*	0.411*
	9. I know the proper channels to direct questions regarding patient safety in this clinical area.	0.601*	0.492*	<b>0.752*</b>	0.451*	-0.125†	0.349*	0.508*
	10. I receive appropriate feedback about my performance.	0.606*	0.509*	<b>0.730*</b>	0.471*	-0.169*	0.444*	0.527*
	11. I receive appropriate feedback about my performance.	0.501*	0.488*	<b>0.660*</b>	0.431*	-0.259*	0.312*	0.486*
	12. I am encouraged by my colleagues to report any patient safety concerns I may have.	0.536*	0.429*	<b>0.677*</b>	0.405*	-0.091	0.303*	0.365*
	13. The culture in this clinical area makes it easy to learn from the errors of other.	0.602*	0.466*	<b>0.705*</b>	0.446*	-0.106	0.341*	0.513*
	14. I like my job	0.489*	0.388*	0.359*	<b>0.798*</b>	-0.149†	0.375*	0.315*

(Continued next page)



TABLE 4. (Continued)

Domain	Item	Spearman Correlation (n = 250)						
		Total Score	Teamwork Climate	Safety Climate	Job Satisfaction	Stress Recognition	Management Perception	Working Condition
Job satisfaction	15. Working in this hospital is like being part of a large family.	0.615*	0.451*	0.448*	<b>0.863*</b>	−0.104	0.385*	0.385*
	16. This is a good place to work.	0.699*	0.523*	0.601*	<b>0.866*</b>	−0.121	0.451*	0.528*
	17. I am proud to work in this clinical area.	0.679*	0.517*	0.547*	<b>0.895*</b>	−0.106	0.455*	0.440*
Stress recognition	18. Morale in this clinical area is high.	0.636*	0.531*	0.546*	<b>0.835*</b>	−0.128*	0.352*	0.405*
	19. When my workload becomes excessive, my performance is impaired.	0.172*	−0.067	−0.119	−0.102	<b>0.783*</b>	−0.030	−0.134*
	20. I am less effective at work when fatigued.	0.200*	−0.037	−0.085	−0.085	<b>0.836*</b>	−0.075	−0.188*
	21. I am more likely to make errors in tense or hostile situations.	0.121	−0.110	−0.165*	−0.138 <sup>†</sup>	<b>0.801*</b>	−0.048	−0.185*
Perception of management	22. Fatigue impairs my performance during emergency situations.	0.131*	−0.144*	−0.142*	−0.140 <sup>†</sup>	<b>0.813*</b>	−0.094	−0.181*
	23. Management supports my daily efforts.	0.604*	0.458*	0.483*	0.576*	−0.146*	<b>0.645*</b>	0.520*
	24. Management does not knowingly compromise the safety of patients.	0.304*	0.154*	0.151*	0.202*	−0.054	<b>0.697*</b>	0.190*
	25. I get adequate, timely information about events in the hospital that might affect my work from the unit management.	0.571*	0.393*	0.488*	0.446*	−0.109	<b>0.662*</b>	0.532*
Working condition	26. The levels of staffing in this clinical area are sufficient to handle the number of patients.	0.556*	0.433*	0.450*	0.360*	−0.025	<b>0.624*</b>	0.478*
	27. This hospital does a good job of training new personnel.	0.554*	0.355*	0.517*	0.380*	−0.175*	0.453*	<b>0.847*</b>
	28. All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	0.573*	0.394*	0.512*	0.395*	−0.120	0.486*	<b>0.728*</b>
	29. Trainees in my discipline are adequately supervised.	0.535*	0.386*	0.506*	0.377*	−0.195*	0.391*	<b>0.802*</b>
	30. Problem personnel in this clinical area are dealt with constructively by our management.	0.573*	0.444*	0.456*	0.430*	−0.162 <sup>†</sup>	0.487*	<b>0.824*</b>

Bold indicates the correlation coefficient among 30 items reached the highest values or stronger than others in each domain.

\*Correlation is significant at the 0.01 level (2-tailed).

<sup>†</sup>Correlation is significant at the 0.05 level (2-tailed).

TABLE 5. An Overview of the Correlation Between Domains and Total Scores and Between Domains in the Construct Validity Analysis

	Total Score	Teamwork Climate	Safety Climate	Job Satisfaction	Stress Recognition	Management Perception	Working Condition
Total score	1						
Teamwork climate	<b>0.720*</b>	1					
Safety climate	<b>0.772*</b>	0.623*	1				
Job satisfaction	<b>0.711*</b>	0.551*	0.580*	1			
Stress recognition	<b>0.174*</b>	−0.124	−0.172*	−0.162 <sup>†</sup>	1		
Management perception	<b>0.648*</b>	0.404*	0.430*	0.459*	−0.077	1	
Working condition	<b>0.657*</b>	0.477*	0.611*	0.481*	−0.225*	0.510*	1

Bold indicates the highest correlation coefficient.

\*Correlation is significant at the 0.01 level (2-tailed).

<sup>†</sup>Correlation is significant at the 0.05 level (2-tailed).

better results than previous ones. For ICC, all items were in almost perfect agreement, including the majority of those in CITC, except for the stress domain. This was consistent with previous results.<sup>16,19,21</sup> The reported values demonstrate that this Indonesian version of the SAQ was reliable.

The results of the construct validity analysis with Spearman correlation in terms of questionnaire items, dimension, and total score indicated that all dimensions of patient safety culture had strong to very strong correlation with items. Correlations between 6 dimensions and total score were strong. The majority of item correlations seen from the total score varied from moderate, strong, and very strong. In short, this Indonesian version of the SAQ was good and valid. In particular, the stress dimension showed consistently less valid, and this result was similar to that of previous literature.<sup>16,18,19,21,23,24,32</sup> Further research is needed to explore and analyze the stress dimension.

This research was conducted only on general dentists in the DKI Jakarta province, the capital city of Indonesia, which consists of 5 municipalities. Jakarta as the capital city of Indonesia has relatively heterogeneous conditions.<sup>31,36</sup> More research is required with a larger population consisting of both dentists and other health professionals, as well as other regions in Indonesia.

## CONCLUSIONS

The Indonesian version of the SAQ has good psychometric properties, especially good internal consistency, validity, and reliability. It has the potential to be a useful tool for evaluating patient safety culture among general dentists in DKI Jakarta.

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