Validation and realibility of Oral Health Impact Profile-14 questionnaire among pregnant woman

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ABSTRACT

Introduction: The impact of oral health on quality of life of pregnant woman can be measured with the Oral Health Impact Profile-14 (OHIP-14). OHIP-14 is a measuring instrument that measures the functional limitations, physical pain, psychological discomfort, physical disability, psychological disorders, social disorder, and disability. Validity and reliability of a questionnaire is needed to measure the impact of dental health. Objective of the research was to get the data validity and OHIP-14 questionnaire reliability in pregnant woman. **Methods:** The research material that OHIP questionnaire 14 that has been adapted to the language and culture of Indonesia. Analysis of the questionnaire on the validity and realibility used correlation test. Research conducted by accidental sampling. Population study was pregnant woman who went to the Beautiful Clinic Banjaran District, Bandung, West Java Province, Indonesia. Sampel study was pregnant woman. The inclusion criteria of sample is in good general state of health, has no systemic abnormality and not being in analgesic therapy, and long-term antibiotic and exclusion criteria i.e. respondents who do not want to be sample research. **Result:** Validity OHIP-14 was the value of R calculated in the range from 0.495 to 0.647, r value calculated in 95% confidence level was 0.374 and in 99% confidence level was 0.474. The coefficient of reliability of 14 item instrument was 0.944. **Conclusion:** From the statistic analysis, found that OHIP-14 questionnaire given to pregnant woman can be stated as a valid and reliable questionnaire.

Keywords: Validity, reliability, quality of life, OHIP-14, pregnant women

INTRODUCTION

During pregnancy, there is an increase in immune response and inflammatory mediators due to increased progesterone and estrogen. Changes in these hormonal levels, as well as oral hygiene and lifestyle habits, can lead to increased susceptibility of pregnant women,[1] either to susceptibility to health conditions in general or to dental health. Measurement indicators of oral and dental health in pregnant women are increasingly being used to measure the impact of oral cavities on quality of life.

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One of the most commonly used international indicators for measuring the effects of oral and dental health in pregnant women is Oral Health Impact Profile-14 (OHIP-14). OHIP-14 is a 14 questionnaire designed to measure a person's situation regarding the limited functionality, discomfort and functional limitations caused by dental and oral health conditions.[2]

This OHIP-14 Questionnaire came from a questionnaire of 49 questions based on theoretical model theory developed by WHO and adapted to oral health conditions by locker.[3] In this model the consequences of hierarchical mouth disease are linked from the biological level (functional decline) to the level behavior (functional limits, discomfort and disability) and last to social level (disability). OHIP-14, despite being a short questionnaire, proved to have reliability; sensitive to change, and have adequate cross cultural consistency.[2]

To measure the impact of dental health on pregnant women must first be tested the validity and reliability of OHIP-14 in the group of pregnant women. Test validity aims to determine the accuracy and accuracy of a measuring instrument, while the reliability is the degree of accuracy, precision, or accuracy indicated by the instrument measurement.[4] The above description leads to the research objectives of how the validity and reliability of the OHIP-14 Questionnaire tested in the pregnant women's group.

METHODS

The research material was an OHIP-14 Questionnaire in accordance with the frequency of impact on a 5 point Likert scale code never (score 0), almost never (score 1), sometimes (score 2), quite frequent (score 3), and very often (score 4).[4] Questions are answered on the basis of dental and oral health conditions within the limits of the past year. The questionnaire has already passed the language and cultural adaptation stage.

The adaptation and cultural stage is done by adjusting to the language and culture of Indonesia using translation techniques to maintain cross-cultural equality.[2] In this procedure, the translation is independently made by two people, English language graduates and dentists with good English language skills, which are then discussed and resulted in an agreement on the Indonesian version of the questionnaire.

The research method used in this study is descriptive research that describes the condition of the population potluck. The population of the study were pregnant women who came to the clinic of *Cantik* in Banjaran, Bandung Regency, West Java Province, Indonesia. Sampling is taken based on accidental sampling.[3] Inclusion criteria of research sample is pregnant women with good general health condition, aged 20-35 years, has no systemic abnormality and not being in analgesic therapy, and long-term antibiotic and exclusion

Table 1. Results of OHIP 14 validity test in pregnant women

Instrument	r count value	R value (level 0f significance 95%)	Validity	R Value (level of significance 99%)	Validity
1	0.589		valid		valid
2	0.647		valid		valid
3	0.562		valid		valid
4	0.576		valid		valid
5	0.495		valid		valid
6	0.572		valid		valid
7	0.627		valid		valid
8	0.568	0.374	valid	0.470	valid
9	0.615		valid		valid
10	0.496		valid		valid
11	0.617		valid		valid
12	0.584		valid		valid
13	0.628		valid		valid
14	0.551		valid		valid

Tabel 2 Result of realiability OHIP 14 in pregnant women

Instrument	Reliability
1	0,944
2	0,944
3	0,944
4	0,944
5	0,944
6	0,944
7	0,944
8	0,944
9	0,944
10	0,944
11	0,944
12	0,944
13	0,944
14	0,944

criteria i.e. respondents who do not want to be sample research. Research carried out for 1 month, obtained by pregnant women as many as 30 people. External validity test is done by using correlation test. Technique of reliability by using technique of retest test with test used correlation.

RESULT

Cross-cultural adaptation: Comparison between the English version of OHIP-14 and the Indonesian translation version does not show any concept difference. Fourteen OHIP questions are able to be answered by all respondents.[3]

The validity used in this study is external validity.[3] The validity of the OHIP questionnaire in pregnant women includes questions about: (1) speech impediment, (2) difficulty in taste, (3) pain in the oral cavity, (4) discomfort during chewing, (5) anxiety about the problem of the oral cavity; (6) feeling tense, (7) the sense of satisfaction with the food consumed, (8) impaired mastication suddenly, (9) difficulty to relax and relax; (10) feel embarrassed, (11) irritability, (12) daily activities, (13) feel unsatisfactory life, (14) find it difficult to do anything, where all of these things are asked related to oral cavity problems in 30 pregnant women.

The result of validity by using correlation test at 95% and 99% significance level are in Table 2 showed the correlation test results in the correlation value (r) count is in the range of values 0.495 up to 0.647, with r table values at 95% and 99% for 30 respondents are 0.374 and 0.470. These results indicate a significant correlation value.

The Table 2 shows the correlation test results of the correlation (R) 0.944, with the value of R table at 95% and 99% significance levels are 0.374 and 0.470. These results indicate a significant correlation value.

DISCUSSION

OHIP-14 consists of 7 sub-scales (functional limitations, physical pain, psychological discomfort, physical limitations, psychological disorders, social disturbances, and disabilities). Questions about organ function and psychosocial impact related to problems involving oral and dental hygiene include 14 items of the instrument.[4]

Result of validity test in the form of correlation value (r) count on result of data analysis of questionnaire of OHIP-14 point of instrument 1-14 shows r value count in range 0.495- 0.647. The R table value for 30 respondents at the 95% significance level is 0.374. The result shows the value of R arithmetic was greater than the value of R table, this result indicates that the questionnaire is valid. This result is in accordance with that put forward by Umar[5], that mentions how to do validity test that is by using correlation test, where the value of correlation in the value of R arithmetic if greater than table R then the value of R arithmetic is significant, thus the instrument is valid.[5] Validity at a 95% confidence level means that 95 percent of the 100 samples will have actual population values.[6]

The result of reliability test in the form of value of coefficient of reliability (Crohnbach's alpha) on result of data analysis of questionnaire of OHIP-14 point instrument 1-14 shows r value count 0.944 for all instrument items. This value shows the value of the realibility coefficient greater than the r value of the table, this value indicates that all instrument items are reliable. This reliable value is consistent with that suggested by arikunto in Umar's book which states that the criticism value of this reliability can also be done by comparing the value of the realibility coefficient with r table. If the value of the realibility coefficient is greater than the value of r table, then an instrument is reliable.[5]

Measurement validity and reability are very important. This is very important in research, cause choosing a result of tool or instrument in planing a research study. Research study must be selected and develop.[7]

Validity test is the level of reliability and validity of the measuring instrument used. The instrument is said to be valid means to indicate the measuring instrument used to obtain the data is valid or can be used to measure what should be measured.[8] Thus, a valid instrument is an instrument that is really appropriate to measure what to measure.[8]

Validity test is a testing step performed on the content of an instrument, with the aim of measuring the accuracy of the instrument (questionnaire) used in a study. Test reliability is the data to measure a questionnaire which is an indicator of the variable or construct. A questionnaire is said to be reliable or reliable if one's response to a statement is consistent or stable over time.[9]

A test or measuring instrument can be said to have high validity if the tool performs its measuring function, or provides a measuring result appropriate to the purpose of the measurement. Tests that produce data that are irrelevant to the purpose of measurement are said to be tests that have low validity.[10]

Instrument reliability test is required to know the extent to which measurement results can be trusted. Measurement of quality of life emphasizes the importance for the evaluation of health services especially on the impact of disease, injury, prevention, and treatment. Thus, the measurement of quality of life helps in investigating the social, emotional, physical effects of an illness and the treatment of everyday life, and the life of the patient to come. Disease and health services affect the quality of one's life.[10]

Validity and reliability of each item in the instrument is important. Research data that has been obtained and included in the program is important because it can affect the validity and reliability of research results.

CONCLUSION

From the statistic analysis, found that OHIP-14 questionnaire given to pregnant woman can be stated as a valid and reliable questionnaire.

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