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THE CORRELATION BETWEEN LEVEL OF KNOWLEDGE AND ANXIETY OF DENTAL NURSING STUDENTS TOWARDS THE HAZARDS OF RADIATION IN PANORAMIC AND DENTAL RADIOGRAPHY

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ABSTRACT

Knowledge is information that has been combined with understanding and the potential to act; which then sticks in someone's mind. Anxiety is an unreal fear, a feeling of being threatened in response to something that is not actually threatening, according to psychodynamic theory anxiety arises when self-will demands detachment from the ego. Panoramic radiography is a supporting tool that can be used to diagnose a case, such as the presence of a jaw fracture, symmetrical or asymmetrical evaluation of the TMJ or knowing the depth of caries.

In radiological examinations, especially dental and panoramic, many concerns or fears arise during the examination. Therefore it is necessary to increase knowledge in order to reduce the anxiety that arises.

The type of research used is descriptive correlational research. The population and sample in this study were Diploma III students at the Department of Dental Nursing, Poltekkes Semarang who coincidentally (accidentally) met researchers who were deemed to match the characteristics of the sample determined to be used as a sample.

The results of the Spearman rank test on the relationship between the level of knowledge and the anxiety level of the respondents obtained the Spearman rank correlation value (Rs) of -0.600, meaning that the higher the patient's level of knowledge about panoramic and dental radiographic examinations, the lower the patient's anxiety level. All respondents had no anxiety when dealing with radiological examinations, especially dental and panoramic examinations.

Keywords: Knowledge; Anxiety; Panoramic; dental

Introduction

Knowledge is information that has been combined with understanding and the potential to act; which then sticks in someone's mind. In general, knowledge has the ability to predict something as a result of recognizing a pattern. Where information and data only have the ability to inform or even cause confusion, then knowledge has the ability to direct action. This is called the potential to act.

Anxiety is an unreal fear, a feeling of being threatened in response to something that is not

actually threatening, according to psychodynamic theory anxiety arises when self-will demands detachment from the ego. In addition, anxiety includes feelings of tension and fear of something that will happen, these feelings interfere with carrying out various tasks and activities in academic situations. Anxiety refers to disturbed patterns of thinking and physical and behavioral responses because of the possibility that the performance displayed by students is not well received when academic assignments are given.

Radiation safety or what is commonly referred to as radiation protection is a branch of science or engineering that studies health problems related to providing protection to a person or group of people or to their offspring against the possibility of harm to health due to exposure to ionizing radiation. So, radiation protection is more intended as an effort to protect against radiation hazards. Personnel who are good at radiation protection will be able to overcome all potential hazards that can be caused by radiation, so the potential arises.

Anxiety is a feeling of worry that is felt by someone with feelings of helplessness and uncertainty (Stuart GW, 2016). Anxiety is a feeling of fear that is unclear and unsupported by the situation. Anxiety disorder is a condition that describes excessive anxiety, accompanied by behavioral, emotional and physiological responses (Amir, 2013).

Radiographic examination of the anatomy of the body can provide as much information as possible which is easily determined by a radiologist, it requires good radiographic image quality. The quality of radiography is very influential in determining the accuracy of the diagnosis of a disease in the radiodiagnostic field (Dhahryan. dan M. Azam, 2009). Regulation of the Minister of Health No.1014 of 2008, that one of the services in the Radiology Installation is radiodiagnostic services, namely services for making diagnoses using ionizing radiation, including conventional X-rays, Computed Tomography Scans/CT-Scans, and mammography. One of the examinations using conventional X-rays is a panoramic examination and dental radiography to support dental examination.

Panoramic radiography is a type of extraoral radiography that includes both maxillae, mendibula and supporting tissue structures such as the maxillary antrum, nasal fossa, TMJ, condylar process, coronoid process and os.hyoid contained in one film(White, S., C., Pharoah, M., 2014).

Panoramic radiography is a supporting tool that can be used to diagnose a case, such as a jaw fracture, symmetric or asymmetric evaluation of the TMJ or knowing the depth of caries (Amaliyah, S., 2014).

Panoramic radiography can be used before carrying out a treatment such as seeing the shape of the roots of all teeth and knowing the presence of cysts (Mudjosemedi, 2015).

Based on the background above, the researcher is interested in adopting it as research and studying more deeply about "The Relationship between Knowledge Level and Dental Nursing Students' Anxiety about the Hazards of Radiation in Panoramic Examination and Dental Radiography".

Methods

The type of research used is descriptive correlational research, a research that is intended to collect information about the status associated with an existing symptom, namely the symptoms according to what they were at the time the research was conducted. The population in this study were Diploma III students at the Department of Dental Nursing, Poltekkes Semarang. The sample in this study were Diploma III students at the Department of Dental Nursing, Poltekkes Semarang who coincidentally (accidentally) met researchers who were considered suitable with the specified sample characteristics to be sampled. In this study the sampling technique used was Non Probability Sample with incidental sampling.

Results and Discussion

Validity Test

For the level of validity, it is carried out with a significance test of 5%, if the probability is <0.05, then the statement is valid. Conversely, if the probability value is > 0.05, the statement is invalid. Based on the results of validity with a total of 14 respondents, it can be seen that all

statements regarding the level of knowledge and level of satisfaction for respondents are valid because seen from a significant level <0.05. So it can be concluded that all the statements in the questionnaire can be said to be appropriate as instruments for measuring research data.

Reliability Test

The reliability test is carried out after the validity test and the test is a valid statement or question. The criteria for reliability testing are:

a. If the value of Cronbach's alpha $\alpha > 0.60$ then the instrument has good reliability, in other words the instrument is reliable or trustworthy.

b. If the Cronbach's alpha value is <0.60, the instrument being tested is unreliable.

the value above shows that the Croncbach Alpha value is > 0.60. This shows that the variables used pass the reliability test.

Knowledge Frequency Distribution

The level of knowledge was measured using a respondent's knowledge questionnaire consisting of 15 question items. Furthermore, the level of knowledge of respondents is divided into 3 categories, namely good, enough and less.

The distribution of the knowledge level of the respondents showed that the highest distribution was good knowledge of 8 respondents (57%), then the sufficient category consisted of 5 respondents (36%) and the less category was 1 respondent (7%).

Anxiety Level Frequency Distribution

Anxiety levels were measured using a respondent's anxiety questionnaire consisting of 20 question items. Furthermore, respondents were divided into 4 categories, namely rarely or never, sometimes, often and almost always experience anxiety.

The distribution of respondents' anxiety levels on Panoramic and Dental Radiography examinations showed the highest distribution in the sometimes category with 6 respondents (42%) and the category rarely or never with 4 respondents (29%) and the frequent category with 4 respondents (29%).

Formulation of the research hypothesis

H_0: There is no relationship between the patient's level of knowledge about Panoramic and Dental Radiography examinations and the patient's anxiety level

H_1: There is a relationship between the patient's level of knowledge about Panoramic and Dental Radiography examinations and the patient's anxiety level.

Basis for Decision Making

If the value of asymp.Sig.(2-sided) < 0.05, it means that H_0 is rejected and H_1 is accepted.

If the value of asymp.Sig.(2-sided) > 0.05, it means that H_0 is accepted and H_1 is rejected.

Meanwhile, to interpret the direction of the Spearman rank correlation relationship according to Sugiyono (2008), namely:

1. If the value $0 \leq rs \leq 1$ with a positive sign (+), then the value of the correlation coefficient has a directly proportional relationship so that the greater the value of variable X, the greater the value of variable Y.

2. If the value $0 \leq rs \leq 1$ with a negative sign (-), then the value of the correlation coefficient has an inverse relationship so that the smaller the value of variable X, the greater the value of variable Y or vice versa.

3. If the value of rs = 0, then there is no relationship between the two variables

From the 14 respondents, it was shown that the majority of respondents sometimes experienced anxiety as much as 42%. While the majority of the knowledge level of respondents in the good category is 57%.

The results of the Spearman rank test, the relationship between the level of knowledge and the anxiety level of the respondents, obtained a Spearman rank correlation value (Rs) of -0.600 with a strong correlation level category and a significance value (p-value) of 0.023. The significance value of the test is less than 0.05 (0.000 <0.05) so the test decision is H_0 rejected which means that there is a relationship between the level of patient knowledge about Panoramic and Dental Radiography examinations and the level of anxiety. Furthermore, the Spearman rank correlation coefficient is negative (-0.600), meaning that the higher the patient's level of knowledge about panoramic and dental radiographic examinations, the lower the patient's anxiety level.

From the univariate and bivariate analysis, it was found that all respondents had no anxiety when dealing with radiological examinations, especially dental and panoramic examinations. Although based on the total score of all respondents there was no anxiety in the radiological examination, based on the details of

the questions from the Zung Self-rating Anxiety Scale (ZSAS) there were still several scores that tended to lead to anxiety that needed special attention, including on the question points I feel weak and I get tired quickly, I feel like my stomach is upset and I have nightmares.

Anxiety levels can be influenced by several factors, both internal and external. One of the factors that can affect a person's level of anxiety is the knowledge one has. The more knowledge you have, in relation to knowledge about the dangers of radiation, the lower your level of anxiety. Conversely, if the knowledge possessed is small, then the level of anxiety will increase. Under these conditions, all health workers are expected to have good knowledge about the dangers of radiation and the correct use of radiation. So that in the form of health services, both health workers and supporting health services can work together to educate about the dangers of radiation and its use in order to reduce anxiety when carrying out examinations.

Conclusion

The results of the Spearman rank test on the relationship between the level of knowledge and the anxiety level of the respondents obtained the Spearman rank correlation value (Rs) of -0.600, meaning that the higher the patient's level of knowledge about panoramic and dental radiographic examinations, the lower the patient's anxiety level. All respondents did not experience anxiety when facing dental and panoramic examinations.

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