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**CORRELATION BETWEEN THE RADIOGRAPHERS WORKING TIME WITH
 PROCEDURES COMPREHENSION OF INTRA ORAL PERIAPICAL
 RADIOGRAPHIC IMAGING TECHNIQUE**

(Analytical Observation at Ulin Hospital and Gusti Hasan Amanof Dental Hospital in Banjarmasin)

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ABSTRACT

Background: Radiography is an examination to observe the internal body using wave radiation. Radiography can be performed with oral and extra oral projection. The appropriate results of radiographic images and quality are influenced by the radiographers comprehension. **Objective:** Analyze the correlation between radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique at Banjarmasin Hospital. **Method:** This study is analytical observation with Cross Sectional approach. In this study 17 respondents became the study subject. Respondents at RSUD Ulin and RSGM Gusti Hasan Aman in Banjarmasin were given a questionnaire. **Results:** From 17 respondents, 6 people (85.7%) have less comprehension with working time ≤ 5 years, 1 person (50%) has good comprehension with working time ≤ 5 years, 1 person (50%) has good understanding comprehension with working time > 10 years, 4 people (50%) have sufficient comprehension with working time > 10 years, 2 persons (25%) have sufficient comprehension with working time ≤ 5 years, 2 persons (25 %) have sufficient comprehension with working time 6-10 years, and 1 person (14.3%) has less comprehension with working time 6-10 years. Analysis using Spearman Rho test obtained $p = 0,033$ ($p < 0,05$) with correlation value equal to 0,520. **Conclusion:** It can be concluded that there is a moderate relationship between the working time of the radiographers with the procedures comprehension of intra oral periapical radiographic imaging technique at Banjarmasin Hospital.

Keywords: comprehension, radiographer, working time

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INTRODUCTIO Radiography is an examination to observe the internal body using wave radiation; radiographic examination is used to help establish a disease diagnosis and treatment plan. Radiography is divided into intra and extra oral.¹Extra oral radiography is done by placing the film outside the mouth by orofacial region photography. The intra oral

radiography is done by placing the film inside the mouth, to see the radiological image of the teeth and surrounding tissues, the intra oral radiology is divided into 3 periapical radiography, occlusal radiography, and bitewing radiography.²

Radiography is very important to help establish disease that cannot be seen through clinical

examination. It also serves as a medical record of the patient.³ The errors occurrence in the techniques selection is one of many errors which can be found in the radiography imaging. The good and correct radiography imaging is important to produce a good and high-quality picture in order to support a correct diagnosis and treatment plan.^{3,4}

Dentists annually make 82 million intra oral radiographs according to surveys in Japan.¹ Based on Fellipe et.al (2009) study, there were many mistakes happen during the process of dental radiography imaging.³ According to a study by Masserat V et.al (2017), from 296 periapical radiographs, 281 cases (94.9%) were obtained with technical errors.⁹ Periapical intra oral radiography imaging at Ulin Hospital Banjarmasin in 2016 reached 426 films, and Gusti Hasan Aman Dental Hospital in 2016 reached 4,298 films.

It is important for a radiographer to know the exact procedure of radiographic imaging so that the results of the obtained picture are qualified. An important point in radiographic imaging is the radiography imaging technique.¹ Purwantini (2007) stated that the more knowledge radiographer possessed regarding their working unit usually followed by the longer working time, so the knowledge possessed by the person is higher.⁷ This study aims to analyze the correlation between radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique at Banjarmasin Hospital.

MATERIALS AND METHODS

Research of Correlation between radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique began by making research permit and ethical clearance issued by Faculty of Dentistry University of Lambung Mangkurat No.047/KEPKG-FKGULM/EC/IX/2017. This study is analytical observation with Cross Sectional approach which conducted on August 2017- November 2017.

The subjects of this study were radiographers who worked at RSUD Ulin and RSGM Gusti Hasan Aman in Banjarmasin consisted of 18 people. The study sample were taken randomly using Slovin formula and got 17 respondents as the sample of the study.

Data translated in the percentage form then translated to qualitative data in the form of good,

enough, less category. Comprehension data / value is categorized according to categorization with good category, if correct answer (76% -100%), enough category, if correct answer (56% -75%), less category, if correct answer <55%. Categorical determination of this research can determined by the formula ($P = F / N \times 100\%$).

RESULTS

The results about the correlation between radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique it can be seen in table 1.

Table 1. The correlation between radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique at Banjarmasin Hospital

Comprehension		Working Time			Total
		≤ 5 yrs	> 5 - 10 yrs	> 10 yrs	
Good	No	1	0	1	2
	%	50,0	0,0	50,0	
Sufficient	No	2	2	4	8
	%	25,0	25,0	50,0	
Low	No	6	1	0	7
	%	85,7	14,3	0,0	
Total	No	9	3	5	17
	%	52,9	17,6	29,4	
Spearman Rho = 0,520		Sig. 0,033			
Has a Medium Correlation					

The results of statistical analysis using Spearman Rho test showed correlation value of 0,520 with a significant value of 0.033. The resulted significant value is lower than the standard α (0.05) so it can be concluded that there is a correlation between the radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique.

DISCUSSION

The result of the study showed that there was a moderate correlation between the radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique. The study result is in line with study of Kurniawan, et al (2006) which states that the experience,

comprehension, and performance improvement have a positive correlation with the person working time in the field. The longer working time of a person in the field, the higher the performance of person achieves.⁸

The study results from Istiarti (2002) also states that the more experience and comprehension of a person have on the existing procedures performed in the working field, the longer the person is working in that field.⁹ Study of Purwantini (2007) states that the more knowledge of a person has regarding to his / her work unit, the longer the person is in that working field, so that the knowledge of the person is more in number.⁷

Based on studies from Septiana's (2014) and Colombe (2013), they mentioned that the longer a person's working time, the more experience gained and the more experience of a person has in work. The work quality of a person also become higher.^{10,11} In this study result, the number of respondents in low category comprehension level with working time ≤ 5 years were 6 respondents, the number of respondents in low category comprehension level with working time $>5-10$ years was 1 respondent and the number of respondents in low category comprehension level with working time >10 years number was 0 respondents.

Based on Table 1 from respondents who work as radiographers in radiology installations collected data, most of them work in radiology in general and there was no special education for dental radiology, so the obtained comprehension from radiographers are sufficient and low because the work of the radiographers are not focused in one thing only. During work, they need concentration to do the job maximally therefore the concentration is very important. In the radiographers working principle, they have to master all fields of radiology.

There are several factors that affect a person's knowledge, including information, environment, and training. Changes or formation of knowledge is generated through obtained information either formally or non-formally about something and can provide a new cognitive foundation for the increase of knowledge, so that the longer the person works the more information gained, the more knowledge can be obtained. According to the background of the research, the radiographer obtained information about periapical intra oral radiology while studying in college. As long as the radiographer works, they obtained information by reading the radiology book

given by their head room of radiology.^{10,14} Everything that exists around the individual, whether biological, physical, or social environment is an entry processes of knowledge into the individual which influenced by the individual working environment. So the longer working time of a person in the field then the more knowledge can be gained.^{12,13}

One facility to increase the need for new knowledge, improve individual performance and increase productivity is by training the working radiographers. Marquis and Huston (2006) state that knowledge and training programs are an effective way to do.¹⁴ One efforts to create a positive work environment is by training as an adequate support in professional and knowledge development. The training will increase the knowledge gained by someone.¹⁵

It can be concluded that there is an correlation between the radiographers working time with procedures comprehension of intra oral periapical radiographic imaging technique.

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