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EVALUATION OF *THE* PROVISION OF *DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)* ON PHYSICAL EXAMINATION SKILLS AND *WATER SEAL DRAINAGE (WSD)* TREATMENT IN NURSING STUDENTS

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ABSTRACT

In improving student performance, clinical practice is needed, but before students practice in the field, mental preparation, knowledge and skills are needed, all of which we can find out by evaluating each student. Direct Observation of Procedural Skills (DOPS) is an evaluation method designed to address these gaps. The application of DOPS in health education in Indonesia is still relatively new and has not been widely integrated into the curriculum. However, the need for a more effective learning method is increasingly urgent, especially in the areas of procedural skills such as physical examination and WSD treatment. This study aims to determine the provision of the DOPS method to improve the skills of physical examination and WSD care in 4th semester nursing students at Aisyah Pringsewu University. This study used a quantitative approach with a quasy experimental design. This research design uses a One Group Pre-Post Test Without Control Group Design approach. The sample amounted to 32 respondents selected through the total sampling technique. Data were collected using the Standard Operating Procedure (SOP) with an independent t test. Results Show that the paired sample t-test above, known sig value. (2-tailed) is 0.001 <0.05, then Ho is rejected and Ha is accepted. So it can be concluded that there is a difference in the value of DOPS on physical examination skills and WSD Care. It is concluded that there is a significant difference between the control group and the intervention group before and after DOPS on physical examination skills and WSD.

Keywords: direct observation of procedural skills (DOPS); physical examination skills; water sealed drainage (WSD)

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INTRODUCTION

Nurse education competency is an investment and guarantee of future public health (Zou *et al*., 2024) . Clinical competency-based education is one of the most important parts of education for nursing students (Mohebi *et al*., 2018) . And it is an important part to train competent and professional students. Nurses are required to have good educational competencies that are able to compete globally. The competence of nurses is currently oriented towards the quality of skills that are influenced by the quality of education. (Martina & Simanjuntak, 2020). The implementation of nursing education today is required to create health workers who are clinically competent and able to provide quality health services. In the process, clinical skills are one of the fundamental competencies that must be possessed by nursing students, so that later they can provide services in the community and hospital. On the other hand, there is a phenomenon of low student skill levels when competency testing is carried out. This is made possible by the lack of practical learning time, as well as effective learning methods in mastering procedural skills.

Currently, the standard of clinical practice ability or nursing student competence is used as a condition for passing the competency test. So that this becomes one of the tasks of the campus and lecturers to prepare students early on, even before deploying students to continue their studies to the professional level. The many challenges faced when students will go into the field are also one of the concerns of educators to be able to prepare students to be able to adapt well to further learning in the field. Nursing Education itself in Lampung Province is one of the spearheads for equalization of human resources, in order to increase the range of nursing services in the future. One of them is through Education in Health Colleges or Universities that focus on forming Nursing Human Resources in Lampung Province, especially Pringsewu Regency, Aisyah Pringsewu University has been a nurse printer since 2009 In the process there are many obstacles experienced by Aisyah Pringsewu University, one of which is increasing the passing of the Competency Test. The Competency Test at Aisyah Pringsewu University in 2023 experienced a decrease in the number of competent students, out of 124 participants and 46 (%) participants who did not pass the Competency Test. Based on the results of interviews with students who have taken the Competency test, physical examination skills and *Water Seal Drainage (WSD)* are the skills that most students confuse students, so many do not pass.

In the pre-clinical phase, physical examinations are generally rarely carried out by students due to limited time and opportunity, causing students to be dexterous and unable to meet the passing limit of this competency. As we know, physical examination is an assessment that is carried out in all disciplines of nursing action, ranging from Maternity, Emergency, Community, Mental, Gerontic, Pediatric. The provision or addition of student learning hours through practicum activities, it is possible for students to be able to meet this competency target long before the pre-clinical stage. Students who have fulfilled all practicum teaching processes are Six (6) semester students who generally need guidance to achieve quality students.

The limited number of educators at Aisyah Pringsewu University is also an obstacle to being able to facilitate students to learn independently with groups. In addition, the opportunity to use the Nursing laboratory is still limited because it must take turns and adjust practicum hours with other classes, so students are not optimal in doing nursing practicum in the laboratory. In improving student performance, clinical practice is needed, but before students practice in the field, mental preparation, knowledge and skills are needed, all of which we can know by evaluating each student. Evaluation allows us to decide how much students have learned and whether they have reached the required standards. (Mohebi *et al* , 2018)

Direct Observation of Procedural Skills (DOPS) is an evaluation method designed to address this gap. *Direct Observation of Procedural Skills (DOPS)* allows faculty to directly observe students performing clinical procedures, provide structured feedback, and help students understand their strengths and weaknesses in specific skills. *Direct Observation of Procedural Skills (DOPS)* ensures that students get specific feedback based on direct observation so as to improve their procedural skills. This approach not only improves students' technical abilities but also builds their confidence in complex clinical situations (Norcini *et al*., 2003). *Direct Observation of Procedural Skills (DOPS)* promotes self-directed learning, helps develop good clinical skills, Skills that can be measured (Fitriyanti & Satriyandari, 2020) . Among them are Physical Examination (*Head To Toe*) and *Water Sealed Drainage (WSD)* Treatment. Physical Examination (*Head To Toe*) and *Water Sealed Drainage (WSD)* Treatment is one of the competencies that students must master before going into the field to take action on patients.

The use of *Direct Observation of Procedural Skills (DOPS)* is based on the findings in previous research conducted by Ali *et al*. (2018). In his research, he found that students trained using *Direct Observation of Procedural Skills (DOPS)* showed a significant increase in clinical skills compared to conventional methods. In addition, *Direct Observation of Procedural Skills (DOPS)* has been shown to improve the quality of learning through immediate feedback and build positive relationships between students and teachers (Brown *et al*., 2016). The application of *Direct Observation of Procedural Skills (DOPS)* in health education in Indonesia is still relatively new and has not been widely integrated into the curriculum. Some institutions have started to adopt this method, but its implementation is still limited by constraints such as lack of training for examiners, limited human resources, and the time required for evaluation (Jones *et al*., 2020). However, the need for more effective learning methods is increasingly urgent, especially in procedural skill areas such as physical examination and treatment of *Water Sealed Drainage (WSD)*.

From the results of the preliminary study, showed data on the passing results of the ukom results of nursing students at Aisyah University Pringsewu (UAP) last year as many as 48 participants who were not competent out of a total of 124 students. The national target for passing the Nursing and Midwifery competency test is 100% (Fitria & Ningsih, 2024).

The average percentage of participants who passed/competent was 95.3% and the average percentage of participants who did not pass/not yet competent was 4.6% which was held four times in 2022 in Bandar Lampung City (kemendikbud, 2023b). The data shows that the national target of passing the competency test has not been achieved (Fitria & Ningsih, 2024) . This pass rate can be influenced by several factors. According to Sears' research in 2015, there are three groups of factors that relate to exam results. These factors include academic factors, cognitive factors and individual factors. Academic factors can be in the form of Academic Achievement Index (GPA); cognitive factors consist of exam methods/types/status, critical thinking skills, emotional status, preparation of participants for the exam; individual factors in the form of gender, age, ethnicity, family factors, past stress components (Fitria & Ningsih, 2024). On the other hand, at the curriculum discussion meeting held last month, the hospital preceptor who collaborated with the campus questioned the readiness of students to go into the field, where most students were still unable to confidently practice nursing care or stage fright. Preparation of students is expected to be done earlier before going into the field, which may be done in semester 6 students. Meanwhile, from the aspect of competency testing, it was found that most students had difficulty when conducting practical exams Physical examination and treatment of *Water Sealed Drainage (WSD)*, became an aspect that was considered to improve student graduation in the future.

The gap between the comprehensive exam and the readiness of students to do professional practice is a major problem in the future. With the discovery of this phenomenon, the researcher wants to know the provision of the *Direct Observation of Procedural Skills (DOPS)* method on improving the skills of physical examination and treatment of *Water Seal Drainage (WSD)* in 4th semester nursing students at Aisyah Pringsewu University. The results of the study are expected to show the extent to which the *Direct Observation of Procedural Skills (DOPS)* method contributes to improving the ability of nursing students to perform Physical Examination and *Water Sealed Drainage (WSD)* Treatment.

METHOD

This research uses a quantitative approach with a *quasy experimental* design. This research design uses the One Group Pre-Post Test Without Control Group Design approach. The sample amounted to 32 respondents selected through the Total sampling technique. Data were collected using the *Standard Operating Procedure (SOP)* on February 1, 2025, the place was in the Integrated Laboratory room of Aisyah University Pringsewu (UAP), this study used an *independent t test*.

RESULT

Table 1.
Categories of DOPS Evaluation Results before and after Pemfis and WSD Skills in the control group

Category	WSD		Physical examination	
	Before	After	Before	After
Good	0	11	0	2
Enough	6	6	2	13
Less	11	0	15	2

From table 1, the results of the assessment in the control group before the *Direct Observation of*

Procedural Skills (DOPS) Physical Examination Skills showed a sufficient category of 2 respondents. While the category is less as many as 15 respondents. The results of the assessment in the control group after *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills showed a good category of 2 respondents and a sufficient category of 13 respondents, while the category was less as many as 2 respondents. The results of the assessment in the control group before being carried out *Direct Observation of Procedural Skills (DOPS) Water Seal Drainage (WSD)* treatment showed a sufficient category of 6 respondents. While the category was less as many as 11 respondents. The results of the assessment in the control group after *Direct Observation of Procedural Skills (DOPS)* of *Water Seal Drainage (WSD)* treatment showed a good category of 11 respondents. While the moderate category was 6 respondents.

Table 2.
Categories of DOPS Evaluation Results before and after Perfusion and WSD Skills in the intervention group

Category	WSD		Physical examination	
	Before	after	before	After
Good	0	17	0	13
Fair	7	0	4	4
Less	10	0	13	01

From table 2, the results of the assessment in the intervention group before the *Direct Observation Of Procedural Skills (DOPS)* Physical Examination Skills showed a sufficient category of 4 respondents, and a deficient category of 13 respondents. The results of the assessment in the intervention group after the *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills showed a good category of 13 respondents, and a sufficient category of 4 respondents or. The results of the assessment in the intervention group before being carried out *Direct Observation Of Procedural Skills (DOPS) Water Seal Drainage (WSD)* treatment showed a sufficient category of 7 respondents. While the category is less as many as 10 respondents or. The results of the assessment in the intervention group after *Direct Observation Of Procedural Skills (DOPS)* of *Water Seal Drainage (WSD)* treatment showed a good category of 17 respondents or 100%. This means that there is a significant increase before and after *Direct Observation Of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD).*

This data is obtained from Univariate analysis with good category scores ≥60, sufficient 70-79, less 70≤. Based on table 4.1 above, the results of the evaluation of physical examination skills and WSD treatment through DOPS show that the intervention group has a higher mean score than the control group, both in physical examination skills (M = 66.12 vs. 72.66) and in WSD (M = 90.00 vs. 79.76). When categorized, most of the intervention group students were in the good category (≥ 60), while the control group was mostly in the fair category (70-79). This suggests that the interventions provided, both in terms of methods and strengthening of clinical learning management, had a positive impact on student skill attainment.

Table 3.
Results of Data Analysis Using the Paired Samples Test of the control and intervention groups before and after *Direct Observation of Procedural Skills (DOPS)* physical examination skills

Cross Variable	Mean	Standard deviation	t	P
Before and after pemfis intervention	-25.116	6.061	-12.647	<0.001
Before and after control pemfis	-10.412	5.642	-7.346	<0.001

Bivariate analysis was conducted on variables that were suspected to be correlated. The type of analysis used in this study was paired sample t-test. The t-test was used to evaluate *Direct Observation of Procedural Skills (DOPS) on* physical examination *skills* and Water Seal Drainage (WSD) treatment of 6th semester nursing students at aisyah pringsewu university. Based on table 3 obtained paired sample t-test results above, it is known that the sig value. (2-tailed) is 0.001 <0.05, then Ho is rejected and Ha is accepted. So it can be concluded that there is a significant difference between the control group and the intervention group before and after *Direct*

Observation of Procedural Skills (DOPS) physical examination skills.

Table 4.
Results of Data Analysis Using Paired Samples Test of Control and Intervention Groups before and after *Direct Observation of Procedural Skills (DOPS) of* Water Seal Drainage (WSD) Treatment

Cross Variable	Mean	Standard deviation	T	P
Before and after WSD intervention	-25.662	1.495	-71.377	<0.001
Before and after control WSD	-15.566	5.635	-11.405	<0.001

Based on table 4 obtained paired sample t-test results above, it is known that the sig value. (2-tailed) is< 0.001 <0.05, then Ho is rejected and Ha is accepted. So it can be concluded that there is a significant difference between the control group and the intervention group before and after *Direct Observation of Procedural Skills (DOPS) Water Seal Drainage (WSD)* treatment.

Table 5.
Manova Test of control and intervention groups *Direct Observation of Procedural Skills (DOPS) of Water Seal Drainage (WSD)* treatment

Group	Wilks' Lambda value	F Count	Df	p- value	Description
control and intervention Pemfis	.436	20.016[a]	2.000	<0.001	Significant
control and intervention WSD	.046	3.046E2[a]	2.000	<0.001	Significant

Based on table 5 obtained Manova test results above, it is known that the p-value is< 0.001 because the p value <0.05 <0.05, it can be concluded that there is a significant difference between the control group and the *Direct Observation of Procedural Skills (DOPS)* intervention group for *Water Seal Drainage (WSD)* treatment. This shows that *Direct Observation of Procedural Skills (Dops)* is effective in assessing *Water Seal Drainage (WSD)* care in 6th Semester Nursing Students at Aisyah Pringsewu University.

DISCUSSION

Results of DOPS Evaluation before and after Physical examination skills in the control group

The results of the study of the control group before the *Direct Observation of Procedural Skills (DOPS)* physical examination skills were obtained, the results of the assessment in the control group before the *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills showed a sufficient category of 2 respondents, while the category was less as many as 15 respondents. While in the control group after *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills showed a good category of 2 respondents and a sufficient category of 13 respondents or while the category was less as many as 2 respondents. Without interventions such as DOPS, students generally do not have a schedule of repeated practical exercises and are evaluated individually. This leads to unrefined skills and low scores. Before the DOPS intervention, students in the control group did not get direct feedback from lecturers or examiners who systematically observed their skills. Without direct observation, students may not be aware of errors or deficiencies in their physical examination skills.

According to Norcini (2017), DOPS is effective in improving competence because it provides direct observation and formative feedback. Students may feel they are "good enough" when they have not met the clinical skill standards. Without an objective instrument such as DOPS, it is difficult for them to know the true extent of their ability. (Eva & Regehr, 2020) students often lack accuracy in evaluating their own abilities, so observation-based interventions are needed to increase metacognitive awareness. Previous research results on (Fitriyanti & Satriyandari, 2020) reported that DOPS was effective in facilitating student learning and skills and the fact that repeated performance by students resulted in better performance (performance increased from 50.6% to 59.4%). Physical examination is an examination carried out to determine the presence of abnormalities of a system or a body by looking (inspection), palpating (palpation), tapping (percussion) and listening (auscultation). Physical examination is a systematic method of data collection using the senses of sight, hearing, smell and taste to detect whether there are client health problems. For physical examination nurses use inspection, auscultation, palpation and percussion techniques (Setiadi & Dedi Irawan, 2020).

Examination in nursing is used to obtain objective data from the client's nursing history. Physical examination should be done in conjunction with an interview. The focus of nursing physical assessment is on the client's functional abilities, for example, clients experience musculoskeletal system disorders, so nurses can assess whether these disorders can affect clients in carrying out daily activities or not (Setiadi & Dedi Irawan, 2020). Researchers assume that feedback provided through DOPS can help trainees to improve their procedural skills. This feedback is expected to be specific, constructive, and help trainees to identify areas for improvement.

Results of DOPS Evaluation before and after Perfectionist Skills in the Intervention group

The results in the intervention group before the *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills on Nursing Students Semester 6 Aisyah Pringsewu University obtained the results of the assessment in the intervention group before the *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills showed a sufficient category of 4 respondents and a category of less than 9 respondents while the category was very less as many as 4 respondents. Whereas in the intervention group after *Direct Observation of Procedural Skills (DOPS)* Physical Examination Skills showed a good category of 13 respondents and a sufficient category of 4 respondents.

The results of previous research on research (Pramesti, 2016) the relationship between DOPS exam scores and proficiency (*self-assessment*) in performing clinical eye physical examination skills in eye clerkship students at the Faculty of Medicine, University of Lampung. The results showed that the majority of respondents received a passing score on the DOPS exam skills except; direct ophthalmoscopy (40%), visual field (30%). The majority of respondents reported proficiency in core eye skills based on SKDI 2012 except; corneal foreign body removal (55%), distant direct ophthalmoscopy (55%). Previous research results on (Fitriyanti & Satriyandari, 2020) reported that DOPS was effective in facilitating student learning and skills and the fact that repeated performance by students resulted in better performance (performance improved from 50.6% to 59.4%).

Direct Observation of Procedural Skills (DOPS) is an evaluation method that can be used to conduct preceptorship evaluation, which aims to determine or make decisions to what extent the teaching objectives have been achieved by students (Fitriyanti & Satriyandari, 2020) *DOPS (Direct Observation of Procedural Skills)* is one type of *assessment* used to measure student clinical competence, as well as assess student *performance* in dealing with real patients, along with providing feedback by examiners at the end of the session. (Prosthodonsia, 2017).

The researcher assumed according to research (Roghieh et al., 2020) that *Direct Observation of Procedural Skills* (DOPS) is an effective clinical skills assessment method for nursing students, especially in physical examination skills. This assumption is based on the belief that DOPS allows direct assessment and structured feedback from examiners on student performance when performing physical examination procedures on patients. The researcher also assumed in accordance with research (Hengameh et al., 2021) that DOPS can help students improve their skills through constructive feedback and encourage independence in clinical practice. Direct assessment during clinical operations is the basis of the DOPS learning approach. Students can recognize errors in real time and correct them immediately after receiving prompt feedback from instructors or medical professionals. In addition, DOPS encourages students' active participation in the process of clinical skills learning and reflective learning. Before practice, students can further solidify their understanding by using procedural modules or video demonstrations. As a result, learning becomes more purposeful and significant.

Results of DOPS Evaluation before and after *Water Seal Drainage (WSD)* treatment in Control group

The results of the control group research before the *Direct Observation of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD)* in Nursing Students Semester 6 Aisyah Pringsewu University, the results of the assessment in the control group before the *Direct Observation of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD)* showed a sufficient category of 6 respondents. While the category was less as many as 11 respondents. While the results after *Direct Observation of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD)* showed a good category of 11 respondents while the category was sufficient as many as 6 respondents. The results of previous research on Kheiri and Jahantigh (2016) assessed satisfaction carried out on students and DOPS exam assessors. The assessment was carried out with 3 categories, namely unsatisfactory, satisfaction, and complete satisfaction. Complete satisfaction was higher among assessors, while students chose satisfaction more. Assessors who chose satisfaction had the reason that it was more time consuming, needed more assessors, they also claimed that it was difficult to evaluate and measure professionalism. Students were satisfied due to evaluation by more experienced faculty members and instant feedback.

Water Sealed Drainage or also known as *tube thoracostomy* is one of the most effective therapeutic modalities for both compression disorders of the cavum pleura namely pneumothorax and pleural effusion (Flora, 2023) . *Water Sealed Drainage (WSD)* is an invasive action performed to remove air, fluid (blood, pus) from the pleural cavity, thorax cavity; and mediastinum by using a connecting pipe to maintain the negative pressure of the cavity. (Rozak & Calara, 2022). *Water Sealed Drainage (WSD)* allows drainage of air, blood, pus, serous fluid and other abnormal fluids originating from the pleural cavum in only one direction, namely the pleural cavum to the *Water Sealed Drainage (WSD)* bottle that will pull it (Flora, 2023*) Water Sealed Drainage (WSD*) also means a special pipe (urine catheter) that is sterile inserted into the pleural cavity with a trocar or clamp. After chest surgery and chest trauma (Flora, 2023). We assume that DOPS can be applied to nurses with various levels of experience, from new nurses to more experienced nurses. The assessment can be tailored to the nurses' level of experience to provide relevant feedback, the feedback provided through DOPS is effective in helping nurses improve their skills in WSD care. Specific and constructive feedback is expected to help nurses identify areas for improvement and develop strategies to improve their performance.

Results of DOPS Evaluation before and after *Water Seal Drainage (WSD)* treatment in the Intervention group

The results of the assessment in the intervention group before the *Direct Observation Of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD)* in Nursing Students Semester 6 Aisyah University Pringsewu the results of the assessment in the intervention group before the *Direct Observation Of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD)* showed a sufficient category of 7 respondents while the category was less as many as 10 respondents, while the results of the assessment in the intervention group after *Direct Observation Of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD)* showed a good category of 17 respondents, meaning that there was a significant increase before and after *Direct Observation Of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD).* The results of previous research on (Martina & Simanjuntak, 2020) examined the "Effect of direct observation of procedural skills / mini clinical evaluation exercises on satisfaction and clinical skills of nursing students in dialysis". this study was conducted to evaluate the impact of new evaluation methods, namely Direct Observation of Procedural Skills (DOPS) and Mini- Clinical Evaluation Exercise (mini-CEX), on satisfaction and clinical skills of nursing students in dialysis units. This study aims to overcome the limitations of conventional clinical evaluation methods that cannot fully assess students' abilities in clinical settings.

WSD is an invasive action performed to remove air, fluid (blood, pus) from the pleural cavity, thorax cavity; and mediastinum by using a connecting pipe to maintain the negative pressure of the cavity. (rozak & calara, 2022). WSD allows drainage of air, blood, pus, serous fluid and other abnormal fluids originating from the pleural cavum in only one direction, namely the pleural cavum to the WSD bottle that will pull it (Flora, 2023) *Water Sealed Drainage (WSD*) also means a special pipe (urine catheter) that is sterile inserted into the pleural cavity with a trocar or clamp. After chest surgery and chest trauma (Flora, 2023). According to the researcher's assumption *Direct Observation of Procedural Skills* (DOPS) of *Water Seal Drainage* (WSD) care is a method of evaluating nurses' skills in caring for patients with WSD, which includes removing fluid or air from the chest cavity. DOPS allows observers to directly and objectively assess the implementation of WSD procedures by nurses, ensuring compliance with standard operating procedures (SOPs) and patient safety.

Evaluation of *Direct Observation of Procedural Skills (DOPS)* on physical examination skills
The effect of giving *Direct Observation of Procedural Skills (DOPS)* on physical examination skills in semester 6 students obtained a sig value. (2-tailed) is 0.000 <0.05, then Ho is rejected and Ha is accepted. So it can be concluded that there is a significant difference between the control group before and after the *Direct Observation of Procedural Skills (DOPS)* physical examination skills. After the DOPS intervention, there was a statistically significant increase in students' physical examination skills. This means that DOPS as a learning and evaluation method has a real effect on improving students' skills compared to before the intervention. According to Norcini (2005), DOPS reinforces "performance-based assessment" which focuses on the "does" in Miller's Pyramid of Clinical Competence, namely the ability to demonstrate skills in real practice, not just theory. Students who receive immediate feedback after a skill demonstration will more quickly recognize errors, correct them, and improve their performance. Archer (2010) stated that constructive and immediate feedback is a key factor in learning clinical skills as it accelerates the learning curve of students. Previous research results by (Martina & Simanjuntak, 2020) results evaluated the impact of new evaluation methods, namely Direct Observation of Procedural Skills (DOPS) and *Mini- Clinical Evaluation Exercise (mini-CEX),* on satisfaction and clinical skills of nursing students in dialysis units. This study aims to overcome the limitations of conventional clinical evaluation methods that cannot fully assess students' abilities in the clinical setting.

Water Sealed Drainage (WSD) treatment is one of the competencies that students must master before going into the field to take action on patients so as to reduce the incidence of infection (Flora, 2023) , to measure the success of students in evaluating learning we can use *Direct Observation of Procedural Skills (DOPS).* The use of *Direct Observation of Procedural Skills (DOPS)* is based on the findings in previous research conducted by Ali *et al*. (2016). In his research, he found that students trained using *Direct Observation of Procedural Skills (DOPS)* showed a significant increase in clinical skills compared to conventional methods. In addition, *Direct Observation of Procedural Skills (DOPS)* has been shown to improve the quality of learning through immediate feedback and build positive relationships between students and teachers (Brown *et al*., 2016). The researcher's assumption regarding the effect of Direct Observation of Procedural Skills (DOPS) on physical examination skills is that DOPS, as a performance-based assessment method, can improve students' clinical skills, especially in physical examination. DOPS provides an opportunity for students to perform physical examinations directly in front of examiners, who then provide structured feedback. This feedback, which is direct and specific, is expected to help students identify areas for improvement and accelerate the learning process. By getting structured and specific feedback, students are expected to increase their confidence in performing physical examinations.

Evaluation of *Direct Observation of Procedural Skills (DOPS)* on *Water Seal Drainage (WSD)* skills

The effect of providing *Direct Observation of Procedural Skills (DOPS)* on *Water Seal Drainage (WSD)* skills*, the* results of the study obtained a sig value. (2-tailed) is 0.000 <0.05, then Ho is rejected and Ha is accepted. So it can be concluded that there is a significant difference between the intervention group before and after *Direct Observation of Procedural Skills (DOPS)* physical examination skills. *Water Seal Drainage (WSD)* is an invasive procedure used to remove air, blood, or fluid from the pleural cavity through a pipe connected to a drainage bottle filled with water as a one- way valve system. This is particularly important in patients with pneumothorax, hemothorax, or pleural effusion. In nursing practice, WSD skills fall under advanced procedural skills that require: Accuracy of technique, Understanding of aseptic principles, Patient safety, Careful monitoring and documentation. (Murjani et al., 2020). Before DOPS, students tend to be insecure, afraid of making mistakes due to lack of hands-on practice. After DOPS students know that they will be assessed directly and objectively, thus improving focus and performance. Receive immediate feedback, which is invaluable in improving WSD skills technically and ethically. DOPS also creates an active learning environment, which strengthens procedural skills and improves memory retention.

Supportive Research (Hengameh et al., 2021) showed that DOPS significantly improved medical students' procedural skills in invasive actions such as drain insertion. (Jalili et al., 2015) Nursing students evaluated using DOPS showed significant improvement in technical, communication, and infection prevention skills over the non-DOPS group. (Murjani et al., 2020) implementation of DOPS in invasive procedure training (such as WSD) improves action accuracy and student confidence. Whereas research (Upadhyaya R et al., 201)6 found that the effectiveness of DOPS is less than optimal if observers are not properly trained or feedback is too general. The study from (Mehranfard et al., 2022) states that without integration into the curriculum and clear scheduling, DOPS can cause students mental stress, even though their skills still improve. DOPS is effective in theory and practice because it combines direct observation, real practice, formative feedback, and reflection on learning. WSD skill as a complex nursing action demands real performance-based evaluation, which is not enough through theory or free simulation. Therefore, the significant difference in the results (p = 0.000) is conceptually and theoretically plausible, and strongly supported by recent empirical studies.

Previous research results (Fitriyanti & Satriyandari, 2020) Literature Review Overview of the *Direct Observation Of Procedural Skill (DOPS)* Evaluation Method. *Direct Observation Of Procedural (DOPS)* is very useful in learning and improving clinical skills leading to better results and performing skills with more confidence and achieving competence. In the pre-clinical phase of physical examination, in general, it is rarely done by students due to poor time management, causing students to not be dexterous and unable to meet the limit of passing this competency. As we know, physical examination is an assessment that is carried out in all disciplines of nursing actions, ranging from Maternity, Emergency, Community, Mental, Gerontics, Children. Debriefing or increasing student learning hours through practicum activities, it is possible for students to meet this competency target long before the pre-clinical stage. Students who have fulfilled all practicum teaching processes are Six (6) semester students who generally need guidance to achieve quality students.

In improving student performance, clinical practice is needed but before students practice in the field, mental preparation, knowledge and skills are needed, all of which we can find out by evaluating each student. Evaluation allows us to decide how much the students have learned and whether they have reached the required standards (Mohebi *et al*., 2016). *Direct Observation of Procedural Skills (DOPS)* is an evaluation method designed to address these gaps. *Direct Observation of Procedural Skills (DOPS)* allows instructors to directly observe students performing clinical procedures, provide structured feedback, and help students understand their strengths and weaknesses in specific skills. *Direct Observation of Procedural Skills (DOPS)* ensures that students get specific feedback based on direct observation so as to improve their procedural skills. Providing *Direct Observation of Procedural Skills (DOPS)* to students, it is assumed that students' procedural skills will not develop optimally. The researcher assumed that without direct and structured feedback from DOPS, students may not realize which areas need improvement in their skills. As a result, students' potential to develop their practical skills in a real-world context may be hindered. Without DOPS, students may not have a clear understanding of their strengths and weaknesses in procedural skills. They may not be aware of small errors or areas that need improvement. DOPS provides immediate and specific feedback, which helps students to learn faster and more effectively. Without this feedback, their skill development may be slower.

Multivariate Analysis
Based on the results of the study, the *Multivariate Analysis of Variance* (manova) test showed that there was a significant difference between the control group and the intervention group on physical examination skills after the DOPS intervention. This is indicated by the Wilks' Lambda value of 0.436, F count of 20.016, with degrees of freedom (df) = 2, and p- value =< 0.001 ($p < 0.05$) which means statistically significant. In other words, the DOPS intervention had a significant effect in improving the physical examination skills of nursing students compared to the control group who did not receive the intervention. Since physical examination skills involve multiple dimensions (motor, cognitive, affective), Manova was used to capture the effect of the intervention on the overall skill profile, not just one aspect. Manova allows us to see the complex relationships between dependent variables that influence each other, such as technique accuracy, examination speed, and professional attitude (Pardede & Astri, 2022).

These results suggest that the implementation of the DOPS method needs to be managed systematically in the quality management system of clinical education, setting the DOPS schedule regularly. Training of evaluators or clinical lecturers. According to WHO (2020), competency-based evaluations such as DOPS are an important part of continuous quality improvement (CQI) strategies in health professional education. It is highly relevant to be integrated into the quality management of clinical learning and nursing education curriculum. Consistent and systematic implementation of DOPS can strengthen the quality of graduates who not only know theory, but are also able to perform clinical practice professionally and safely. This finding supports the implementation of a competency-based curriculum (KBK), where the ability to perform a thorough and standardized physical examination is a key learning outcome. DOPS also supports the strengthening of graduate learning outcomes (GLOs) in the aspect of professional skills. Permendikbud No. 3 of 2020 concerning National Higher Education Standards states that clinical practice learning must be equipped with actual competency-based evaluation.

In line with research conducted by (Wanjari & Rawekar, 2019) entitled "Effectiveness of DOPS (direct observation of procedural skills) as a method of formative assessment for improving the clinical skills of post-graduate students in the department of obstetrics and gynecology. Where the results of this study indicate that DOPS assessments carried out repeatedly help improve the clinical skills of postgraduate students. DOPS is a direct observation of procedural skills which is one way of assessing clinical performance by direct observation by an assessor or researcher. The assessment is structured and continuous, DOPS provides an opportunity for structured assessment and feedback Using repeated assessments, an assessor/researcher has the opportunity to collect documentation. (Wanjari & Rawekar, 2019).

Research conducted by (Avupati, 2024) entitled "Direct Observation of Procedural Skills (DOPS): A Workplace-Based Assessment (WPBA) In Health Professions Education and Practice" with the results of the study DOPS assessment evaluating the efficacy of training programs from DOPS scores given between two experts was reported as 0.634 which indicates the reliability of DOPS supporting colonoscopy competency assessment tools in 279 training units, 10,749 DOPS for 1.199 trainees was created with an acceptable reliability threshold (G>0.7) achieved by three raters DOPS assessment should be incorporated into training, researchers stated Direct observation of procedural skills (DOPS) is a widely used assessment technique in health professions education, which measures student proficiency in clinical procedures. This technique is effective in promoting skill acquisition, improving feedback, and ensuring patient safety. DOPS consists of structured assessment, real-time observation, immediate feedback, and a standardized evaluation process. DOPS offers several benefits for health professions education, including authentic assessment, formative assessment, standardized evaluation, the use of DOPS consistently improves nursing students' self-efficacy and clinical reasoning skills in various aspects of clinical skills. (Avupati, 2024).

Based on the above research, the researcher assumes that the assessment using the Direct observation of procedural skills (DOPS) sheet is very effective in assessing physical examination skills and *Water Seal Drainage (WSD)* treatment skills as evidenced by the results of the manova test, there are differences in scores between the control group and the intervention group. The significantly smaller Wilks' Lambda value (0.046 vs. 0.436) and the significantly larger F-count (0.046 vs. 0.436) indicated that, regardless of the effectiveness of the DOPS method in improving physical examination and Water Seal Drainage (WSD) treatment skills, DOPS was more effective in improving WSD skills compared to Pemfis skills: A significantly smaller Wilks' Lambda value (0.046 vs. 0.436) and a significantly larger F-count (304.6 vs. 20.016) indicated that DOPS was applied to the WSD skill more successfully than the Pemfis skill. This implies that on the WSD measurement, the skill improvement produced by the DOPS intervention was significantly greater.

CONCLUSION

There is a difference in the physical examination skills of students before being given the *Direct Observation of Procedural Skills (DOPS)* method in the control group showing a sufficient category of 2 respondents while the category is less as many as 15 Respondents in the intervention group showed a sufficient category of 4 respondents and a category of less as many as 9 respondents or while the category was very less as many as 4 respondents. There are differences in the treatment of *Water Seal Drainage (WSD)* students before being given the *Direct Observation of Procedural Skills (DOPS)* method, the results of the control group before showing a sufficient category as many as 6 respondents, while the category was less as many as 11 respondents. The results in the intervention group showed a sufficient category of 7 respondents while the category was less as many as 10 respondents. There is a difference in the physical examination skills of students after being given the *Direct Observation of Procedural Skills (DOPS)* method in the control group showing a good category of 2 respondents and a sufficient category of 13 respondents while the category is less as many as 2 respondents. The results in the intervention group showed a good category of 13 respondents and a sufficient category of 4 respondents.

There are differences in the results of the control group research showing a good category as many as 11 respondents. While the moderate category was 6 respondents. The results in the intervention group showed a good category of 17 respondents. This means that there is a significant increase before and after *Direct Observation of Procedural Skills (DOPS) for Water Seal Drainage (WSD)* treatment. There is a difference in physical examination skills obtained a *p-value* of 0.000 <0.05, so Ho is rejected and Ha is accepted. So it can be concluded that there is a significant difference between the control group before and after *Direct Observation of Procedural Skills (DOPS)* physical examination skills. There is a difference in the treatment of *Water Seal Drainage (WSD)* obtained a *p-value* of 0.000 <0.05, so Ho is rejected and Ha is accepted. So it can be concluded that there is a significant difference between the control group before and after *Direct Observation of Procedural Skills (DOPS)* treatment of *Water Seal Drainage (WSD).* It is known that the effectiveness of *Direct Observation of Procedural Skills (DOPS) on* physical examination skills with *Water Seal Drainage (WSD)* treatment in meseter 6 students.

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