

THE EFFECTIVENESS OF WOUND BOOK METHODS, ONLINE LEARNING (VIRTUAL LEARNING) AND DEMONSTRATION OF MODERN WOUND CARE ON THE SKILL COMPETENCE OF NURSES IN THE MEDICAL SURGICAL ROOM GAMBIRAN HOSPITAL KEDIRI CITY

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Abstract

INTRODUCTION: Cases of amputation as a result of complications of diabetic gangrene in Indonesia experience a significant increase every year. The important role of nurses in care is still not optimal because they still use conventional wound care. This happens because not many nurses have received training in modern wound care. Our research aims to determine the effectiveness of the wound book method, virtual learning and modern wound care demonstrations on nurse competency skills

MATERIALS AND METHODS: This research is a quantitative research that uses an observational analytical survey with a pre post test one design design which was carried out at the Gambiran Regional Hospital, Kediri City using a validated questionnaire. The areas evaluated include nurse competency skills before and after providing the wound book method, virtual learning and modern wound care demonstration methods..

RESULTS: Of the 110 nurses who were eligible for this study, only 105 participants answered the questionnaire. Our research shows that there is a difference in nurse competency skills before and after giving the wound book method of modern wound care with a p value of 0.00, there is a difference in nurse competency skill before and after giving the virtual learning method of modern wound care with a p value of 0.00, there is a difference in skill nurse competency before and after providing the modern wound care demonstration method with a p value of 0.00, there is a significant difference in providing the wound book method, virtual learning and modern wound care demonstration on the competency skills of nurses with the most effective using the demonstration method with a p value of 0, 00 and F 30.574.

CONCLUSION Our research shows that the modern wound care demonstration method is more effective in increasing nurses' competency skills in modern wound care. A more comprehensive and strategic modern wound care training program for all nurses needs to be carried out to help improve nurse competency skills in modern wound care.

Keywords: Wound Book Method, Virtual Learning, Demonstration, Care Competency Skills, Modern Wound Care.

INTRODUCTION

Nurses are at the forefront in providing nursing care to patients, especially patients who require wound care as a result of complications of diabetic gangrene. Diabetic Foot Ulcer (DFU) has a substantial impact but is often unknown to patients, in fact, the wound phenomenon has been called The 'silent epidemic' has a profound effect on the quality of life, especially if the wounds suffered do not receive optimal wound care. (Optimising wellbeing in people living with a wound n.d, 2020). Wound care using modern dressings is still not optimal so that the patient's length of stay is prolonged. Some nurses have taken training in modern wound care but it is felt that the general perception regarding modern wound care is not yet optimal. The development of nursing procedures, especially in wound care, is currently a demand for clients to accept new service standards, because so far wound care methods are still conventional methods as a result of the lack of wound care training for nurses.

Therefore, nurse graduates are required to carry out competent roles in order to adapt to professional changes in the world of service (Ghalje et al., 2009 dalam Alva Cherry Mustamu, dkk, 2020).

According to the International Diabetes Federation, 9.1– 26.1 million patients receive a DFU each year. The global and African prevalence of diabetic foot ulcers is 6.3% and 7.2% which is higher in men and type 2 diabetes mellitus. Diabetic complications are more common in Africa as a result of delayed diagnosis and inadequate case management as a result of the variety of wound care carried out by nurses due to the lack of knowledge of nurses about wound care (Tolossa BM, 2020). The number of diabetes mellitus cases in Kediri, East Java in 2022 will be 6203 cases and 15% of them suffer from complications of diabetic gangrene which require wound care by a nurse. The number of nurses in Kediri City in 2023 will be 1530 nurses with 15% wound nurse competency who have a wound nurse certificate (BPS dan data PPNI Kota Kediri, 2024). According to research by Wahyuni (2018), it was found that all respondents with DM wounds had blood sugar levels >200 , as many as 59 people (100%) with granulation growth lasting more than 14 days with conventional wound care by nurses, most of whom had not received modern wound care training. Many of the respondents with grade II DM wounds were 34 people (57.6%) who had granulations growing in less than 14 days with modern wound care by nurses who had received training. It can be concluded that the majority of respondents who had granulations grew in less than 14 days with modern wound care methods by nurses who have received training in wound care.

Learning to achieve nursing skill competency is very diverse, including simple learning methods by reading books. Book of modern wound care methods (Hariyati et al., 2017). This book discusses treating diabetic wounds using modern wound dressings. The advantage of this book is that it is designed in an attractive way, so that it will give pleasure to those who read it so they are interested in seeing and reading it. The benefit of this book is that readers can find out about proper and correct management of diabetic wounds, therapies that can speed up the healing of diabetic wounds by using dressings. This book also discusses modern wound dressing, which is a closed and moist wound care method that focuses on keeping wounds from dehydration and improving the wound healing process. (Dhivya, Padma, Santhini, 2015). Based on research from Dea Alpariani, 20218, the results obtained before and after the research using the paired t test with a total of 30 student respondents showed that the media was in the very appropriate category with an average score of 4.64 with results before giving the media of 65.00 ± 12.03 and after method administration was 88.17 ± 7.007 , the results of the analysis test obtained a p-value of $0.00 < 0.005$, there was the effectiveness of the wound book for diabetic ulcers and dressings in increasing knowledge of modern wound care in nursing students. Apart from learning by reading books, there is effective learning without face to face so that nurses who live far away can still gain knowledge. Another opinion, according to Priyanto (2018) is that virtual learning is the delivery of learning content distributed electronically using the internet, as well as components for evaluating it. Meanwhile, the results of the research Muh Hasan Basri, 2021, Using modern wound care training methods, the results showed that the majority of 15 respondents (75%) had a satisfactory rating regarding the nurses' ability to care for the wounds of diabetic gangrene patients. And 4 respondents (&25%) with an unsatisfactory predicate using the chi square test found a p value of 0.01, 0.05, there was a relationship between learning about modern wound care

training and nurses' skills in wound care for grade 2 diabetic gangrene patients. This learning method can be given to nurses who have never received modern wound care training, this learning can take the form of wound books, visual learning and demonstrations or direct training for nurses to create the desired wound care competency.

Therefore, we conducted this research to obtain further information regarding the effectiveness of providing wound book methods, virtual learning and demonstrations on nurse competency skills in providing modern wound care. This is important because only by providing the right methods can nurses apply them to increase competency skills in providing modern wound care to patients. This research was conducted at the Gambiran Regional Hospital, Kediri City because the bed capacity is large, namely 350 beds, with cases of complications of diabetic gangrene which are the 10th highest ranked cases in the Gambiran Regional Hospital, Kediri City. . There are 328 nurses at Gambiran Hospital, Kediri City, 2 of whom have been certified as wound nurses. Wound treatment carried out at Gambiran Hospital, Kediri City, 2 VIP rooms, uses modern wound care, while in other treatment rooms, conventional wound care is still used (ERM and Staffing Data at Gambiran Hospital, Kediri City, 2024). Therefore, with the increasing number of cases of diabetic gangrene complications that require modern wound care to reduce the incidence of amputation and disability at the Gambiran Regional Hospital, Kediri City, a study is needed to provide learning methods to nurses. With nurse competency skills in modern wound care, a platform for the development of future training modules can be developed and implemented.

MATERIALS AND METHODS

This research This research is a quantitative research that uses an experimental analytical survey. The research design used in this research is a design with the "One Group Pretest Posttest Design" approach, a design model that provides a pretest (initial observation) first before giving the intervention, then a posttest (final observation) is carried out again (Nursalam, 2018).in the medical surgical ward at Gambiran Regional Hospital, Kediri City during the period September 2023 to October 2023. The sample in this study were nurses who served in the medical surgical ward, while nurses who served other than the medical surgical ward were excluded from this study.

The sample is part of the number and characteristics of the population (Sugiyono, 2019) The sample in this research was 105 respondents. This questionnaire is a measuring instrument that has been tested for reliability and validity. The validity test was carried out using exploratory analysis and Cronbrach's α coefficient 0.961. This questionnaire consists of 15 questionnaire questions which are divided into three parts, namely ability in the concept of modern wound nursing, ability to select dressings and ability in wound healing. Correct answers are given a value of 1 and incorrect answers are given a value of 0, which is the total score if all of them are correct in answering the question 15

Research data was collected through self-filled questionnaires using the WhatsApp application before and after the learning method was provided. The questionnaire for this research was designed on Google Forms. A self-completed questionnaire was used to facilitate the implementation of this research. Questionnaires were distributed evenly across medical-surgical wards to ensure the generalizability of the study. To

ensure equal distribution, 25% of the questionnaires were distributed to the medical-surgical rooms studied, so that each medical-surgical room received 75 sets of questionnaires. Questionnaires totaling 75 people were distributed evenly

To the nurse. After selection, a participant code is given to the participants. Permission to distribute the self-administered online questionnaire via WhatsApp group among selected participants was requested during the meeting. Participants were asked to complete the questionnaire after providing the link and were given 30 minutes to complete it during the meeting. Participants are given time to answer the questionnaire to ensure a standardized and fair method for obtaining results while maintaining the integrity of the test prevent cheating in the online environment. Data and variables collected from the sample were categorized according to statistical analysis using SPSS. The paired t test was used to compare differences in nurse competency skills before and after providing wound care learning methods based on demographic characteristics. Multivariate analysis was carried out based on logistic regression to analyze the significance of the predictive value from univariate analysis. The average skill competency score after receiving the learning method was analyzed using one-way ANOVA. Further analysis was carried out on

Three groups of learning methods, which include skill competency, wound book learning methods, virtual learning and modern wound care demonstrations. Ethical approval was obtained from the Medical Research Ethics Committee (MREC), IIK STRADA Indonesia and the Hospital Ethics Committee Ethics Board. Permission to conduct research at each research hospital was obtained after obtaining approval from the ethics committee. The confidentiality of all respondents is guaranteed, and respondent participation is voluntary. RESULTS Of the 110 nurses eligible for the study, 105 answered the questionnaire and were included in the final analysis. Overall, the result Most of the respondents' competency skills before giving the wound book method were beginners, namely 18 people (51.5%) and most of the respondents' competency skills after giving the wound book method were beginners, namely 15 people (42.8%) while the competency skills were The trainees are no longer there. From the statistical test results, it can be seen that the mean (average) before and after administering the wound book method, the average nurse competency skill is -2.62857, the min value indicates that the pre test results are smaller than the post test results, namely beginners. The results of the paired t test statistical test, the t value obtained was -10,390, which was greater than the t table with a p value of 0.00, so the hypothesis decision was to accept H1, which means there was a difference in nurse competency skills before and after administering the wound book method of modern wound care. In the virtual learning learning method group, it is known that the majority of respondents' competency skills before being given the virtual learning method were beginners, namely 20 people (57.1%) and none of them were experts and that almost half of the respondents' competency skills after giving the virtual learning book method were competent. namely 16 people (45.7%) while those with trainee competency skills no longer exist. From the statistical test results, it was found that the mean (average) before and after providing the virtual learning method, the average nurse competency skill was -2.54286, the min value indicated that the pre-test results were smaller than the post-test results, namely beginners. The results of the paired t test statistical test, the t value obtained was -10,433, which is greater than the t table with a p value of 0.00, so the hypothesis decision is to accept H1, which means there is a difference in nurse competency skills before and after providing the virtual learning method for

modern wound care. In the group providing the demonstration method, the majority of respondents' competency skills before giving the demonstration method were beginners, namely 20 people (57.1%), and the majority of respondents' competency skills after giving the demonstration method were proficient, namely 24 people (68.5%), from the test results mean statistics (average) before and after giving the demonstration method, the average nurse competency skill is -5.6000, the min value indicates that the pre test results are smaller than the post test results, namely beginners. The results of the paired t test statistical test, the t value obtained was -12,257, which was greater than the t table with a p value of 0.00, so the hypothesis decision was to accept H1, which means there was a difference in nurse competency skills before and after providing the modern wound care demonstration method. Based on the three learning methods, it was found that the results of nurses' competency skills after giving the wound book, virtual learning and demonstration methods showed that 25 respondents after giving the demonstration method showed that their competency skills were at the proficient stage. To find out the effectiveness of the three methods in nurses' competency skills, the p value could be seen as $0.00 < 0.05$ F value 30.574 with a mean square of 145.610 so the hypothesis decision is to accept H1 which means that the average of the three methods is significantly different with the demonstration method being more effective than the wound book and virtual learning methods, nurse competency skills using the wound book method and virtual learning there is no difference in skill competency but of the three methods the most effective is using the demonstration method.

Table 4.1: Distribution of Frequency of Respondent Characteristics of the Wound Book Method at Gambiran Hospital Kediri City which was carried out on September 2-October 2, 2023 to 35 respondents.

No	Karakteristik Responden	Jumlah (Σ)	Prosentase (%)
1	Umur		
	26-35 tahun	18	51,4
	36-45 tahun	1	2,9
	46-55 tahun	16	45,7
Total		35	100
2	Pendidikan		
	D3	23	65,7
	D4	0	0
	S1	12	34,3
Total		35	100
3	Lama Bekerja		
	3 tahun	2	5,7
	5 tahun	3	8,6
	6 tahun	4	11,4
	7 tahun	5	14,3
	8 tahun	2	5,7
	10 tahun	2	5,7
	15 tahun	14	40
	17 tahun	1	2,9
	20 tahun	3	8,6
Total		35	100
4	Jenis Kelamin		
	Perempuan	18	51,4
	Laki-laki	17	48,6
Total		35	100

Based on educated table 4.1 characteristics of respondents based on education shows that most of the respondents 23 people (65.7%) D3 Nursing, Most of the respondents 18 people (51.4%) are female, Most of the respondents are 26-35 years old, namely 18 people (51.4%) and almost half of them have worked for 15 years, namely 14 people (40%)

Berdasarkan Responden Kelompok Metode *Virtual Learning*

Table 4.2: Distribution of Frequency Characteristics of Respondents of the Virtual Learning Method at Gambiran Hospital in Kediri City which was carried out on September 2 - October 2, 2023 to 35 respondents

No	Karakteristik Responden	Jumlah (Σ)	Prosentase (%)
1	Umur		
	26-35 tahun	18	51,4
	36-45 tahun	1	2,9
	46-55 tahun	16	45,7
Total		35	100
2	Pendidikan		
	D3	23	65,7
	D4	1	2,9
	S1	11	31,4
Total		35	100
3	Lama Bekerja		
	3 tahun	1	2,9
	5 tahun	4	11,4
	6 tahun	4	11,4
	7 tahun	5	14,3
	8 tahun	2	5,7
	10 tahun	2	5,7
	15 tahun	13	37,1
	17 tahun	1	2,9
	20 tahun	3	8,6
	Total		35
4	Jenis Kelamin		
	Perempuan	23	65,7
	Laki-laki	12	34,3
Total		35	100

Based on educated table 4.2 characteristics of respondents based on education shows that most of the respondents 23 people (65.7%) D3 Nursing, Most of the respondents 23 people (65.7%) are female, most of the respondents are 26-35 years old, namely 18 people (51.4%) and almost half of them have worked for 15 years, namely 13 people (37.1%)

Berdasarkan Responden Kelompok Metode *Demonstrasi*

Based on educated table 4.3 characteristics of respondents based on education shows that most of the respondents 23 people (65.7%) D3 Nursing, Most of the respondents 23 people (65.7%) are female, most of the respondents are 26-35 years old, namely 21 people (60%) and almost half of them have worked for 15 years, namely 9 people (25.7%)

Table 4.3: Distribution of Frequency of Respondent Characteristics of the Demonstration Method at Gambiran Hospital in Kediri City which was carried out on September 2 - October 2, 2023 to 35 respondents

No	Karakteristik Responden	Jumlah (Σ)	Prosentase (%)	
1	Umur			
	26-35 tahun	21	60	
	36-45 tahun	9	25,7	
	46-55 tahun	5	25,7	
Total		35	100	
2	Pendidikan			
	D3	23	65,7	
	D4	0	0	
	S1	12	34,3	
Total		35	100	
3	Lama Bekerja			
	3 tahun	1	2,9	
	5 tahun	2	5,7	
	6 tahun	5	14,3	
	7 tahun	4	11,4	
	8 tahun	4	11,4	
	10 tahun	2	5,7	
	12 tahun	2	5,7	
	15 tahun	9	25,7	
	16 tahun	2	5,7	
	17 tahun	3	8,6	
	20 tahun	1	2,9	
	Total		35	100
	4	Jenis Kelamin		
Perempuan		23	65,7	
Laki-laki		12	34,3	
Total		35	100	

a) Skill Competency before the Wound Book Method

Table 4.4: Characteristics of the variable skill competency of respondents before the administration of the Wound Book Method at Gambiran Regional Hospital, Kediri City, which was carried out on September 2-October 2, 2023 to 35 respondents.

No.	Skill Competency	Frekuensi	Prosentase (%)
1.	Trainee	9	25.8
2.	Pemula	18	51,5
3.	Kompeten	6	17,2
4.	Cakap	2	5,7
5.	Ahli	0	0
TOTAL		35	100%

b) Based on table 4.4, it is known that most of the respondents' skill competency before the application of the wound book method is beginners, namely 18 people (51.5%).

c) Skill Competency after the Wound Book Method

Tabel 4.5: Karakteristik variabel *skill competency* responden sesudah pemberian Metode *Wound Book* di RSUD Gambiran Kota Kediri yang dilakukan pada tanggal 2 September- 2 Oktober 2023 kepada 35 responden.

No.	<i>Skill Competency</i>	Frekuensi	Prosentase (%)
1.	Trainee	0	0
2.	Pemula	15	42,8
3.	Kompeten	13	37,2
4.	Cakap	6	17,2
5.	Ahli	1	2,9
TOTAL		35	100%

Based on table 4.5, it is known that most of the respondents' skill competency after the administration of the wound book method is a decrease in beginners, namely 15 people (42.8%) while the skill competency of trainees is no longer there.

1) T Test Paired Wound Book Method

Table 4.12: Results of the statistical test t test paired of the wound book method on the skill competency of nurses conducted by the researcher on September 2- October 2, 2023 with a total of 35 respondents.

	Mean	T	Sig
Pre pemberian metode wound book	-2.62857	-10.390	.000
Post pemberian metode wound book			

Based on table 4.11, it can be known that the mean (average) before and after the administration of the wound book method, the average skill competency of nurses is - 2.62857, the mean value indicates that the pre-test results are smaller than the results of the post-test, namely beginners. The results of the statistical test t test paired t obtained of -10,390 are greater than the t table with a p value of 0.00 so that the hypothesis decision is to accept H1 which means that there is a difference in the skill competency of nurses before and after the the administration of the wound book method

Media is a quick means of information in adding information, this learning media can be in the form of books. This book discusses diabetic wound care using modern wound dressing. The advantages in this book are designed in an attractive way, so that it will give pleasure to the reader to be interested in seeing and reading it. The benefits in this book are that readers can find out the proper and correct management of diabetic wounds, therapies that can accelerate the healing of diabetic wounds by using dressings. This book also discusses modern wound dressing which is one of the wound care methods with a closed and moist way that is focused on keeping wounds from dehydration and improving the wound healing process (Dhivya, Padma, Santhini, 2015).

Wounds with a humid atmosphere can accelerate fibrinolysis, angiogenesis, reduce the risk of infection, the formation of growth factors and the formation of active cells, learning about modern wound care can be learned using books (Handayani, 2016 with Muh Hasan Basri, 2021). According to Alpriani Dea's research, (2021) it was found that innovations are needed that can help nurses in learning modern wound care by reading books, quantitative research methods with test results from 30 nurse students of wound book media are very feasible as a learning medium with value sig 0,00

According to researchers, book media or wound book is the easiest and simplest medium for learning and increasing knowledge. The wound book contains materials related to modern wound care, how to do wound care and wound care techniques. So it is hoped that by reading this book, students and nurses can develop modern wound care and improve their expertise or skill competency so that they can cut wound care time and speed up the healing process which can ultimately save wound care costs. The difference in results before and after the method was given, of course, because the respondents had learned from the wound book how to treat wounds, this was proven for the beginner stage in the skill competency of the nurse it no longer exists after being given the wound book method. Learning with this method will be successful if the respondents are diligent in reading the books given, because the books given are easy to carry everywhere so that when the respondents are working, they can be read on the sidelines of providing services to patients and can be reopened if they experience difficulties in wound care.

Virtual Learning Method Group

a) Skill Competency before the provision of the Virtual Learning Method

Table 4.6 Characteristics of the variable skill competency of respondents before the provision of the Virtual Learning Method at Gambiran Regional Hospital, Kediri City, which was carried out on September 2-October 2, 2023 to 35 respondents.

No.	<i>Skill Competency</i>	Frekuensi	Prosentase (%)
1.	Trainee	6	17,1
2.	Pemula	20	57,1
3.	Kompeten	7	20,1
4.	Cakap	2	5,7
5.	Ahli	0	0
TOTAL		35	100%

Based on table 4.6, it is known that most of the respondents' skill competency before the provision of the virtual learning method was beginners, namely 20 people (57.1%) and none of them were experts.

a) Skill Competency after the provision of the Virtual Learning Method

Table 4.7: Characteristics of the variable skill competency of respondents after the provision of the Virtual Learning Method at Gambiran Regional Hospital, Kediri City which was carried out on September 2-October 2, 2023 to 35 respondents.

No.	<i>Skill Competency</i>	Frekuensi	Prosentase (%)
1.	Trainee	0	0
2.	Pemula	12	34,3
3.	Kompeten	16	45,7
4.	Cakap	5	14,3
5.	Ahli	2	5,8
TOTAL		35	100%

Based on table 4.7, it is known that almost half of the respondents' skill competency after the provision of the virtual learning book method is competent, namely 16 people (45.7%) while the skill competency of trainees is no longer there.

Table 4.13: Results of the statistical test of the paired virtual learning method on the skill competency of nurses conducted by the researcher on September 2-October 2, 2023 with a total of 35 respondents.

	Mean	T	Sig
Pre pemberian metode <i>virtual learning</i>	-2.54286	-10.433	.000
Post pemberian metode <i>virtual learning</i>			

Based on table 4.13, it can be known that the mean before and after the provision of the virtual learning method, the average skill competency of nurses is -2.54286, the mean value indicates that the pre-test results are smaller than the results of the post-test, namely beginners.

The results of the statistical t test paired tilapia t obtained of -10,433 are greater than the t table with a p value of 0.00 so that the hypothesis decision is to accept H1 which means that there is a difference in the skill competency of nurses before and after after the provision of a modern virtual learning method for wound care in the Medical Surgery Room of Gambiran Hospital, Kediri City.

Virtual learning is a modern learning method that has begun to be developed in Indonesia. There are many interpretations from various researchers regarding the meaning of virtual learning.

According to Smaldino in Priyanto (2008 in Akbar, 2020) virtual learning is defined as the delivery of learning content or learning experiences electronically using computers and co-based media. According to Akbar (2020), virtual learning is an educational system (teaching and learning process) to deliver teaching materials to students and improve knowledge and skills by using internet media or computer networks.

The virtual learning method using online can be given to nurses who have never received modern wound care training. With various problems that exist in nurse competency skills, education is needed as an alternative media and teaching material so that the learning process can take place according to the desired learning objectives, namely the competency skills of modern wound care daklam nurses with the moist wound healing method (Fazilla, 2014).

According to researchers, this method is very effective as a means to increase the knowledge of nurses who cannot take part in training for a long time. By using this method, nurses can easily access and participate in distance learning activities, and if they do not understand, they can immediately ask questions right away.

This is proven after learning the skill competency of the respondents increased with the absence of trainees and some who got expert results,, This proves that this learning is also effective for nurses.

Of course, for those who have beginner competency skills, it can be that during online learning, they often leave the place or are doing service activities to patients, so there is knowledge and information that cannot be summarized completely.

Kelompok Metode Demonstrasi

a) Skill Competency before the granting of the Demonstration Method

Table 4.8: Characteristics of the variable skill competency of respondents before the administration of the Demonstration Method at Gambiran Hospital in Kediri City which was carried out on September 2 - October 2, 2023 to 35 respondents.

No.	Skill Competency	Frekuensi	Prosentase (%)
1.	Trainee	3	8,6
2.	Pemula	20	57,1
3.	Kompeten	10	28,6
4.	Cakap	2	5,7
5.	Ahli	0	0
TOTAL		35	100%

Based on table 4.8, it is known that most of the respondents' skill competency before the provision of the demonstration method was beginners, namely 20 people (57.1%).

a) Skill Competency after the Demonstration Method

Table 4.9: Characteristics of the variable skill competency of respondents after the provision of the Demonstration Method at Gambiran Regional Hospital, Kediri City which was carried out on September 2-October 2, 2023 to 35 respondents.

No.	Skill Competency	Frekuensi	Prosentase
1.	Trainee	0	0
2.	Pemula	0	0
3.	Kompeten	3	8,6
4.	Cakap	24	68,5
5.	Ahli	8	22,9
TOTAL		35	100%

Based on table 4.9, it is known that most of the respondents' skill competency after the administration of the demonstration method is capable, namely 24 people (68.5%)

Table 4.14: Results of the statistical test t test paired demonstration method on nurse skill competency conducted by researchers on September 2-October 2, 2023 with a total of 35 respondents.

	Mean	T	Sig
Pre pemberian metode <i>virtual learning</i>	-5.6000	-12.257	.000
Post pemberian metode <i>virtual learning</i>			

Based on table 4.13, it can be known that the mean (average) before and after the administration of the demonstration method, the average skill competency of nurses is -5.6000, the mean value indicates that the pre-test results are smaller than the results of the post-test, namely beginners. The results of the statistical t test paired indigo t obtained of -12,257 are greater than the t table with a p value of 0.00 so the hypothesis decision is to accept H1 which means that there is a difference in the skill competency of nurses before and after the provision of modern wound care demonstration methods in the Medical Surgery Room of Gambiran Hospital Kediri City.

The demonstration method is a method that combines theory and practice directly carried out through training and face-to-face with mentors. The practice of wound care

directly through this training is one of the learning techniques in controlling infection in wounds because infection can inhibit the wound healing process. Postoperative wound infections are one of the main problems in surgical practice (Potter, 2016). In the wound healing process, experts initially thought that wound healing would be very good if the wound was left to dry. They thought that bacterial infections could be prevented if all the fluid that came out of the wound was absorbed by the dressing. As a result, most of the wounds are wrapped in cotton material in dry conditions (Puspitasari, Ummah, & Sunarsih, 2021).

Based on the results of a study conducted by Sinaga & Tarigan (2012), it was found that all nurses in some hospitals have not received modern wound care training so they still use normal saline as a cleaning liquid in acute wound care such as surgical wounds, superficial wounds, and chronic wounds, including chronic wounds that produce necrotic tissue. According to the AHCPR guidelines (1994) in Sinaga, 2012 modern wound care training is very important because in it it can be trained on how to treat wounds, choose the right dressing and the use of cleaning liquid recommended for wound care is normal saline (sodium chloride 0.9%) which has the same composition as blood plasma, thus safe for the body. Another finding in this study is that all nurses still use povidone iodine on clean wounds such as wounds clean as surgical wounds and chronic wounds.

According to WHO guidelines, povidone iodine is toxic and can damage the development of new tissues. So that wound care appears with a method of maintaining wound moisture by using moisture-retaining wraps that aim to accelerate the wound healing process and Tissue growth occurs naturally with the principle of "Moist Wound Healing", this is the basis for the emergence of modern wound dressings that can be obtained when we take part in modern wound care training (Sinaga & Tarigan, 2012).

Based on the results of the study, it was found that most of the respondents had beginner competency skills before getting training with the demonstration system and none of them had trainee competencies, this is because the respondents before the training did not have knowledge about wound care, the wound care obtained was still conventional wound care so that it greatly affected the results before getting training in the form of demonstrations. Meanwhile, after getting the training method with demonstration, the results obtained have increased significantly, where most of the respondents are at the competent to expert stage. This is a good result for the development of wound care and will be applicable to patients to accelerate healing.

Anova Statistic Test

Table 4.15: Results of the anova statistical test of differences in wound book methods, virtual learning, and demonstration of nurse skill competency conducted by researchers on September 2-October 2, 2023 with a total of 105 respondents.

	Mean Square	F	Sig
Uji statistic anova	145.610	30.574	.000

Post Hoc Test

	Mean Square	Sig
Wound book dengan virtual learning	-.20000	1.000
Wound Book dengan demonstrasi	-3.62857	0,00
Virtual learning dengan demonstrasi	-3.42857	0,00

Based on table 4.14, it can be known that the p value is $0.00 < 0.05$ so that the hypothesis decision is to accept H1 which means that the average of the three methods is significantly different with the demonstration method more effective than the wound book and virtual learning methods, from table 4.15 it is obtained that the skill competency of nurses with the wound book and virtual learning methods is not different in skill competency but from the three most effective methods using the demonstration method.

Learning methods are very diverse and varied. It can be manually by reading books, or it can be electronically. Learning by participating in training is also a trend to increase the knowledge and expertise of nurses. With various problems that exist in nurse competency skills, education is needed as an alternative media and teaching materials so that the learning process can take place according to the desired learning objectives, namely nurse competency skills in modern wound care with the moist wound healing method (Fazilla, 2014). This learning method can be given to nurses who have never received modern wound care training, this learning can be in the form of wound books, visual learning and demonstrations or direct training to nurses so that the expected wound care competencies are created

Wound care using modern dressing is still not optimal so that the length of the patient's stay is prolonged and sometimes causes other complications. Several nurses have participated in modern wound care training, but it is felt that the equalization of perceptions related to modern wound care is not optimal. The development of nursing procedures, especially in wound care, is currently a demand for clients in accepting new service standards. The health system can satisfy clients with promote the clinical competence of their nurses including wound care. Therefore, nursing graduates are required to carry out a competent role in order to be able to adapt to professional changes in the world of service (Ghalje et al., 2009 in Alva Cherry Mustamu, et al, 2020)

The difference in learning methods can be adjusted to the needs of each hospital that has the available budget or current costs, Modern wound care demonstrations or training are seen as more effective but the costs incurred to hold training for a long time certainly cannot send nurses to take part in training at the same time. The provision of training in stages to nurses is expected able to be a solution for the development of wound care in hospitals. After receiving periodic training, hospitals can provide refreshment by holding internal hospital training using virtual learning so that nurses can recall the material that has been obtained during training. The demonstration method is more effective because in the demonstration method, in addition to learning directly with the mentor, it is also directly practiced to the patient so that the knowledge gained is easier Absorbed by respondents, the wound book method is less effective because it only reads and sees images, while virtual learning looks at demonstrations from the screen so that it is not so clear in adopting the knowledge and skills gained

Conflict of Interest

The authors declare there is no conflict of interest during the conduct of this study.

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