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The Effectiveness of Smartphones Video to Improve Skill Performance and Confidence of Student Nurses in Performing Hygiene Care

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ABSTRACT

Self Confidence is a crucial component for students to achieve effective clinical performance. Lacking confidence may affect clinical skills performance which later can cause consequences in the safety of care delivered by the student nurses. This study proposes a method to use video on smartphones in teaching hygiene care nursing procedures. This study aimed to evaluate the effects of video of hygiene care on the skills and confidence of nursing students. The main contributions of video using smartphones have a great potential to provide clinical nursing education that is accessible, relevant, and supports patient safety. This study used a quasi-experimental, pre-test, and post-test design. Seventy-one students divide into thirty-six students in the control group and thirty-five students in the intervention group. The intervention group used a validated video on hygiene care on a smartphone, and the control group only used their nursing procedure book. Both groups were assessed for confidence level using the Confidence Scale and for the skill using Skill Performance Checklist as a pre-test. The same group of students were reassessed after a four-week intervention for post-test. Using descriptive analysis, independent t-test, and paired t-test. Pre-test confidence score, no significant difference in mean in both groups compared to a post-test confidence score. There is a substantial difference between the control and intervention groups. The mean confidence score between the pre-test and the post-test was significantly different (p <0.001,95% CI of the mean difference (-10.038, -9.229). After the test, the total skill performance score improved from the total skill performance score before the test with a mean difference of -29.789. The mean Skill Performance Score before and after was significantly different (p <0.001, 95% CI of the mean difference (-31.515, -28.063). The creation of video in the study serves as a roadmap for future research, particularly electronic learning in nursing education and other hospitals.

Keywords

Clinical placement, Confidence, Skill performance, Student nurses, Video hygiene care.

Introduction

Nursing students need the experience to be competent before they become staff nurses in the future [1]. A clinical learning environment

(CLE) offers the ability for students to incorporate the experience of a registered nurse by combining cognitive, psychomotor and affective skills, attitudes, and values [2]. Understanding barriers to clinical education can lead to better and faster detection of these barriers, identify solutions, resolve them by improving learning quality, avoid unnecessary expenses, and develop better strategies based on identified obstacles [3].

The management of semester-one nursing students in the clinical area is crucial. There is no experience, and the students cannot imagine the clinical situation. It was indicated in a previous study that ninety per cent of the respondents (n=171) lacked confidence in their ability to provide and manage patient care [4]. Changes in a nursing curriculum that promote more student-centred study activities can change students' clinical confidence [4]. The other difficulties and concerns about their clinical expertise were difficulties with clinical skills, such as forgetting something important. Remember that the actions of the procedure are very crucial for most students. Bed bathing is one of the most common procedures in clinical practice. However, students generally have difficulty performing it because it involves several phases. Opportunities for repetitive patterns are necessary to develop psychomotor skills and perform operations correctly [5]. We found that nurse instructors cannot just verify a skill once and expect students to remember it. Instead, they must be performed and reinforced regularly.

Millennials are a new generation on the rise, a larger group, wealthier, highly trained, and come from a broader range of ethnic backgrounds than previous generations [6]. The University ensures that sufficient equipment and resources are available in the nursing skills laboratory to demonstrate and demonstrate nursing skills [7]. The students uses the mannequin for simulation during the theory session. Students interact with a computer-controlled mannequin that simulates human interaction in a controlled, simulated clinical scenario [8].

When they come to the hospital for clinical posting, they need to meet actual patients. It is challenging for the semester one nursing student to handle a new environment and perform procedures with confidence. The transition from learning in mannequins to practising with actual patients in clinical settings involves effective learning and the treatment of challenging situations. 'Do not harm' is a fundamental ethical precept that supports health care delivery [9]. Patient safety training for nursing students has become a valuable tool for ensuring patient safety. Maintaining the quality and safety of therapy is crucial to meeting patient care demands [10]. Clinical nursing abilities are required to provide patients with high-quality and efficient nursing care [11]. A practical clinical training setting has a significant impact on nursing skills, knowledge, and professional socialisation. Clinical placement engages students by applying their experience and skills to real-world scenarios. When it comes to serving patient needs, maintaining the quality and safety of the treatment is crucial [10].

In an era of rapid technological advancement, nurse education providers are responsible for ensuring student learning and satisfaction by facilitating the highest quality experiences accessible, flexible, and exploiting the strengths of new technology [10,12,13]. An integrative review study incorporated research on blended learning, in which students could integrate theory and practice employing realistic video presentations in blended learning. Nursing education should embrace new technology, offer learning opportunities for active and engaged students, link their past knowledge, and provide realistic real-world learning experiences [14]. Nurse educators and students should consider adopting smartphones as handheld devices to improve clinical nursing education and practice [15]. Modern curricula should incorporate available mobile learning devices, applications, and technologies as a means of engaging students in their learning opportunities and optimising patient care quality [16]. The use of mobile devices during clinical encounters can help students learn more and apply what they have learned in the classroom [17].

In a clinical setting, video-assisted therapy is still in its early stages. Development may be hampered by a lack of resources or budgetary limitations. With the evolution of mobile technology and the wide availability of Internet access, video-assisted programs on smartphones have become a viable option. Ebbinghaus Theory and Mayer Theory act as a theoretical framework; Interactive audiovisual communication improves learning by improving memory and retention [18,19]. A recent study looked at differences in confidence and skill performance between an intervention using video on the smartphone and a control group in a university skill lab and found substantial improvements in confidence and skill [12,20,21]. Furthermore, the experimental group had more knowledge and pleasure in the learning approach than the control group, although the differences were not statistically significant [20].

The efficacy of the video-assisted program in the study was assessed by looking at the students' learning outcomes. Based on the current situation in Malaysia, the present study aims to evaluate the effects of video on the smartphone on hygiene care towards confidence and skill performance of semester one nursing students in clinical placements. We hypothesised that nursing students' confidence and skill performance performing hygiene care among nursing students who received video-assisted programs in the intervention group is improved than those of the control group.

Methodology
Study Designs and Settings.
The study used a quasi-experimental research design of two group pre-test and post-test approaches in clinical placement at KPJ Johor Specialist Hospital for ten months, from February 2020 to December 2020. KPJ Johor Specialist Hospital is the first private hospital among KPJ Healthcare Berhad located in Malaysia, Southern Region.

Population and Sample Size
Two groups were involved in this nonrandomised pre- and post-interventional study .The control group used a conventional procedure book. The intervention group had a smartphone on which to download a video-assisted bed bath process application.

The target group was semester one diploma-level nursing students. The participants met the inclusion criteria and came for the first time clinical placement and had no prior clinical experience on hygiene care technique despite taking a theoretical course. The whole idea of this study was to evaluate the confidence and skill performance of the students after receiving a video on hygiene care. The researcher calculated the estimated sample size to prove our hypotheses based on α precision 0.05, a two-sided test, and an assumption of moderate effect. Our power calculation was performed in G-Power 3 software. The total population of semester one nursing students were 85, and this study required 70 individuals (n = 35 in each group) to achieve 80% power with a significance level of 5% [22]. Although a priori sample sizes of 35 for each group were necessary, we gave all semester one student's equal chances, fully informed that research participation was not mandatory. We enlisted 72 people and assigned them nonrandomly to the experimental and control groups, resulting in 36 people in

each group. One person in the experimental group dropped out due to an extended hospital stay. The study was completed with a total sample of 71 individuals, 35 in the experimental group and 36 in the control group (Figure 1).

Materials and Procedures
During the early stages of the study, we explained the objectives, design, and procedure of the study to these participants. Written informed consent was obtained once they clearly understood and agreed to participate in the study. We created our own video-assisted hygiene care process programme based on checking the script's content using the Delphi Technique with eight expert panels. An experienced panel of eight nurses validated the scripts on procedure hygiene care. Two are nurse instructors, and two are lecturers who taught undergraduate nursing students. At the same time, the other four are clinical nurses with more than two years of expertise in their specialities who frequently provide hygienic care
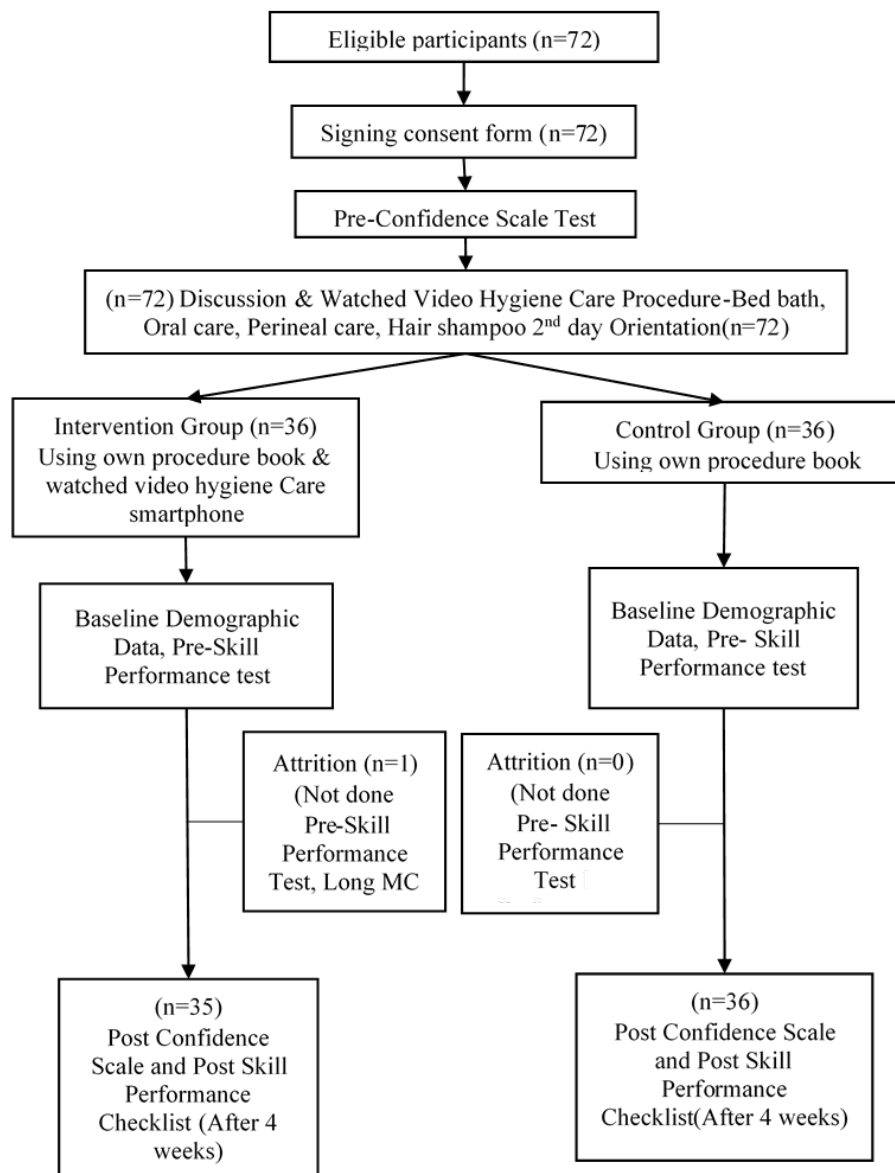

Figure 1: Study Framework/Study Phase.

in their practice. All scripts were deemed legitimate in their content from the final stage evaluation round, with experts agreeing on the suitability of sequence, clarity, and language, with results more significant than 80%. Filming and editing were the subsequent phases, followed by a preliminary video-assisted software pilot test with 30 nursing students.

Measurements/Instruments

The instruments presented in English consist of two questionnaires concerning demographic data, a confidence scale, and a checklist for the performance of hygiene care skills. Before the questionnaire was administered to nursing students, the study questionnaire was sent to an expert for comments and editing. The content validity of the tools was evaluated by two lecturers with experience teaching nursing skills in the laboratory to assess the content validity of these tools. Two clinical nursing instructors, two chief nursing officers and Deputy chief nursing officers, and two hospital nurses. They reviewed the items and examined the validity of the content. They suggested some modifications. Content validity checks ensure that there are enough relevant questions that cover the aspect of the study. The questionnaire for this study, the Confidence scale (C-Scale), was adopted from the research [12]. The researcher received written permission from the original author [23]. The scale consists of five assertions (1-indicating lack of self-confidence, 5-indicating the highest self-confidence), and minimum and maximum scores are 5 (low self-confidence) and 25 (high self-confidence). The higher the score, the more confident the individual is in hygiene care practices. When reviewed by eight experts, the C scale exhibited high validity with an average CVI of 1.0. The questionnaire scale has good internal consistency (Cronbach's Alpha α = 0.89).

Skill performance was measured using questionnaires developed from a nursing textbook and an official nursing protocol on hygiene care and adopted from the previous study[24]. The Bed Bath Skill Performance checklist demonstrated good internal consistency (Cronbach's alpha, α = 0.80). The Skill Performance Checklist exhibited high validity with an average CVI of 1.0.

Data Collection and Outcome

A noninvolved individual allocated participants to the intervention and comparison groups after they completed an informed consent form. Participants required 10 minutes to complete the demographic data and pre-test the confidence scale instrument. The nurse instructor conducts tutorial sessions and revisions using video demonstrations on procedural bed baths, hair shampoo, perineal care, and oral care. All students write short notes in a small procedure book as guidelines in clinical placement.

The researcher collected the pre-test data on the skill performance in the bed bath technique following the acquisition of the tutorial class. Researchers frequently recruit helpers to gather data, especially in large-scale quantitative investigations [25]. The demonstration video was only given to the control group during the tutorial class. In both the video and the video via a smartphone,

the video snippets are identical. The learning materials (the skill demonstration video) were then downloaded to their smartphones by a research assistant in the intervention group, who advised them not to share the file with other students. Furthermore, the intervention groups received text messages three times a week on their smartphones reminding and encouraging them to watch the movie. Assessors collected data from the post-test intervention four weeks after the data from the pre-test.

A rater/assessor assessed the skills of each participant. Five assessors were instructed on how to use the checklist and were unaware of the students' assignments. The scoring range of the list is 0-56. The higher the score, the better the participant's competency/performance to complete hygiene care procedures. Five assessors were blinded to the students' assignments and collected data on their skills and confidence. Assessors were trained to reduce any potential differences between them. The assessors were unaware of the student's participation in the study. A participant (1 of the Interventional) was excluded because their answers were incomplete due to extended hospitalisation. Finally, the sample size was 71 (36 for the control group and 35 for interventional) and was considered acceptable.

Statistical Analysis

Participants who did not meet the inclusion criteria were excluded from the statistical analysis. Statistical analysis was performed using IBM SPSS Statistics version 20.0 (SPSS, Chicago, IL, USA). Numerical data are reported as mean (SD). Categorical data reported as a percentage (%). Descriptive statistics were used to identify the homogeneity of the characteristics and outcome variables of the participants at baseline. In the initial phase, the Skewness and Kurtosis, Levene test, Shapiro-Wilk test, and Kolmogorov-Smirnov normality test were applied to determine the data distribution. i.e., expected or not a normal distribution. P-value> 0.05 means that the difference between the two samples is significant to follow a normal distribution, Pearson's correlation to identify the relationship between variables. An independent t-test was used to compare differences in confidence and skills performance between the experimental and control groups. The paired t-test is used to compare different pre-and post-score scores, two scores at different levels of an independent variable when the data are from a single respondent group.

Results

Demographic characteristics.

A total of 71 nursing students in semester one took part in the study. There were 36 participants in the control group and 35 participants in the intervention group. The predominant gender was female participants. 62 (87.3%) are 18-20 years old, and 9 (12.7%) are 21- 23 years old (Figure 1).

Confidence Level

The mean confidence score before the test (total score 25) in the experimental group was 12.37 (SD=1.537), and this increased to 22.57 (SD = 0.850) after the test. The mean confidence score

before the test in the control group was 12.22 (SD = 1.396), rising to 21.31(SD = 0.980) after the test (Table 1,2). There were no significant differences in the term of the confidence score before the test between Control Group (Mean=12.22; S.D.=1.396) and Intervention Group (Mean=12.37; S.D.=1.537), where the values show t (69) = - 0.423; p=0.674, ($p > 0.05$) (Table 3).

There was a significant difference in the term of the post-test confidence score between Control Group (Mean=21.31; S.D. =0.980) and Intervention Groups (Mean= 22.57; SD). =0.850), where the values show t (69) = - 5.806; p=0.000, ($p < 0.05$) (Table 3).

Table 4 shows there were statistically significant differences in the Total Confidence Score before the test (M = 12.30, SD = 1.477), and the Post-Test Confidence Score (M = 21.93, SD = 1.113) where the values show t (70) = -47.495, $p = 0.000$ ($p<0.05$).

The finding shows that the total confidence score after the test increases from the total confidence score before the test, with a mean difference of -9. 634. The mean confidence score before and after was significantly different ($p < 0.001$, 95% CI of the mean difference (-10.038, -9.229) (Table 5).

Skill Performance Level
Similarly, the mean pre-skill performance score (total 56) in the experimental group was mean=5.49 (SD=2.430), and this increased

mean= 40.63;(SD =4.045) at post-test. In the control group, the mean initial pre-skill performance was 3.86; (SD.=2.727)and this increased mean=28.44; (SD = 4.866) at post-test (Table 6).

There was a significant difference in terms of pre-test total skill performance score between control group (Mean=3.86; SD =2.727) and intervention group (Mean=5.49; SD =2.430), where the values show t (69) = -2.648; $p = 0.010$ ($p < 0.05$) (Table 7).

There was a significant difference in terms of post-test total skill performance score between control group (Mean=28.44; SD. =4.866) and intervention groups (Mean= 40.63; SD. =4.045), where the values show t (69) = - 11.456; $p = 0.000$ ($p < 0.05$) (Table 8).

There were statistically significant differences in the pre-test total skill performance score (M = 4.66, SD = 2.694), and the post-test total skill performance score (M = 34.45, SD = 7.578) where the values show t (70) = -34.423, p = 0.000 ($p< 0.05$). The post-test total skill performance score was improved from the pre-test total skill performance score with a mean difference of -29.789. The mean Skill Performance Score between pre and post was significantly different p =0.000; p < 0.001, 95% CI of the mean difference (-31.515, -28.063) (Table 9).

Table 1: Demographic characteristics of the participants (n=71).

Characteristics		Frequency (f)	Percentage
Gender	Male	7	9.9
	Female	64	90.1
Age	18-20	62	87.3
	21-23	9	12.7
	24-26	-	-
	>27	-	-
Race	Malay	58	81.7
	Indian	10	14.1
	Chinese	1	1.4
	Other	2	2.8
Educational	M	68	95.8
	Diploma	3	4.2
Interest towards nursing	Not Interest 0	1	1.4
	Less Interest 1-3	7	9.8
	Interest 4-6	44	62
	Very Interest 7≥10	19	26.8
Economic Status	RM2000-RM3000	44	62.5
	More than RM3000- RM4000	12	16.9
	More than RM4000-RM5000	5	7
	More than RM5000	10	14.1

Confidence Level
Independent T-Test
Table 2: Group Statistic.

	Group Participate	N	Mean	Std. Deviation	Std. Error Mean
Pre-Test	Control Group	36	12.22	1.396	0.233
Total Confidence Score	Intervention Group	35	12.37	1.573	0.266
Post-Test	Control Group	36	21.31	0.98	0.163
Total Confidence Score	Intervention Group	35	22.57	0.85	0.144

Table 3: Independent T-Test.

| | | Levene Test for Equality of Variance | | t | df | T-Test for Equality Means | | | | | |
| | | F | Sig. | | | Sig. (2 Tailed) | Mean Diff | Std Error | 95% Confidence Difference | | |
									Lower	Upper
Pre-Test Total Confidence Score	Equal variances assumed	0.972	0.328	-0.423	69	0.674	-0.149	0.353	-0.853	0.555
	Equal variances not assumed			-0.422	67.534	0.674	-0.149	0.353	-0.854	0.556
Post Test Total Confidence Score	Equal variances assumed	0.653	0.422	-5.806	69	0	-1.266	0.218	-1.701	-0.831
	Equal variances not assumed			-5.818	68.126	0	-1.266	0.218	-1.7	-0.832

Paired Sample T-Test

Table 4: Paired Samples Statistics.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Total Confidence Score	12.30	71	1.477	.175
	Post Test Total Confidence Score	21.93	71	1.113	.132

Table 5: Paired Samples Test.

| | | Paired Differences | | | | | | | |
| | | Std. Mean | Std. Error Deviation | Interval of the Mean | 95% Confidence Difference | | t | df | Sig. (2 Tailed) |
					Lower	Upper			
Pair 1	Pre-Test Total Confidence Score	-9.634	1.709	0.203	-10.038	-9.229	-47.495	70	0
	Post Test Total Confidence Score								

Skill Performance Level
Independent t-test

Table 6: Independent t-test.

	Group Participate	N	Mean	Std. Deviation	Std. Error Mean
Pre-Test Total Skill Performance	Control Group	36	3.86	2.727	0.455
	Intervention Group	35	5.49	2.43	0.411
Post Test Total Skill Performance	Control Group	36	28.44	4.866	0.811
	Intervention Group	35	40.63	4.045	0.684

Table 7: Independent T-test.

| | | Levene Test for Equality of Variance | | t | df | t-test for Equality of Mean | | | | |
| | | F | Sig. | | | Sig. (2 Tailed) | Std. Error Mean | Interval of the Mean | 95% Confidence Difference | |
									Lower	Upper
Pre-Test Total Skill Performance	Equal variances assumed	0.349	0.556	-2.648	69	0.01	-1.625	0.614	-2.849	-0.4
	Equal variances not assumed			-2.652	68.487	0.01	-1.625	0.613	-2.847	-0.402
Post Test Total Skill Performance	Equal variances assumed	1.448	0.233	-11.456	69	0	-12.184	1.064	-14.306	-10.062
	Equal variances not assumed			-11.486	67.385	0	-12.184	1.061	-14.301	-10.067

Table 8: Paired Samples Statistics.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Total Skill Performance	4.66	71	2.694	0.32
	Post Test Total Skill Performance	34.45	71	7.578	0.899

Table 9: Paired Samples Test.

| | | Mean | Std. Deviation | Std. Error Mean | Paired Differences | | t | df | Sig. (2-tailed) |
| | | | | | 95% Confidence Differences | | | | |
					Upper	Lower			
Pair 1	Pre-Test Total Skill Performance	-29.789	7.292	0.865	-31.515	-28.063	-34.423	70	0
	Post Test Total Skill Performance								

Pearson Correlations

Table 10: Pearson Correlations.

		Frequency watch video	Post Test Total Skill Performance	Post Test Total Confidence Score
Frequency watch video	Pearson Correlation	1	.746**	.565**
	Sig. (2-tailed)		0	0
	N	71	71	71
Post Test Total Skill Performance	Pearson Correlation	.746**	1	.527**
	Sig. (2-tailed)	0		0
	N	71	71	71
Post Test Total Confidence Score	Pearson Correlation	.565**	.527**	1
	Sig. (2-tailed)	0	0	
	N	71	71	71

**. Correlation is significant at the 0.01 level (2-tailed).

Pearson Correlation

The correlations between frequency watch video and post-test total skill performance were statistically significant and had a high positive correlation [r=0.746**, p=0.000(p<0.05)]. The correlations between the frequency of the watch video and the total confidence after the test were statistically significant and had a moderate positive correlation [r=0.565**, p=0.000(p<0.05)] (Table 10). A correlation coefficient of 0.746 is considered a high positive correlation, while a correlation coefficient of 0.5653 is a moderate positive correlation [26].

Discussion

The current study found that the distribution of learning materials to nursing students using smartphones was effective. The results revealed that seeing a video of hygiene care skill demonstration on a smartphone was more beneficial than using a conventional nursing procedure book. In this study, the researcher sample group was semester one nursing students with first time come for clinical placement. The results show that most of the students were 18 years old with no work experience. They finish their secondary school. Overall, the results show they lacked confidence and that skill performance did not meet the pre-test survey requirements. A study found that students with prior experience in health services reported considerably greater mastery of exercise content (sponge washing bedridden patients) during clinical practice compared to nursing students who had no prior knowledge, on the other hand, did not show significant changes [27].

This study demonstrated that, in general, the confidence score level of the students is not confident in both groups. There is no significant difference in the term of the pre-test confidence score between the control group and the intervention group t (69) = -0.423; p = 0.674 (p > 0.05). The first clinical placement of some nursing students can be a very stressful experience. The study found that the initial clinical placement caused anxiety in 74% (n = 42) of the participants, as it was their first time interacting with patients and providing treatment [28]. Our finding was similar to other studies [12,21]. However, those previous studies focused on videos on smartphones, and the evaluation occurred in skill laboratories using OSCE in the mannequin compared to this study in real patients. The current study revealed that the

confidence score after the post-test of nursing students performing hygiene care in both groups increased after watching the video on a smartphone. Learning with a mobile device effectively increases motivation, confidence in learning clinical nursing skills, and overall happiness of nursing students [29]. Another study believes that early in a nursing student's tertiary education, teaching assertiveness skills and building a framework to 'stand up for safety' may have significant psychological consequences for their confidence, empowerment, and success. Four essential pillars have affected first-year students' continued success and participation: self-efficacy, emotions, belonging, and wellness [30]. A strong sense of self-efficacy in nursing students is the basis for the confidence needed for effective clinical practice [31].

In addition to performing the procedure on actual patients, confidence in performing the nursing steps is essential. Patient perceptions are critical to guide nursing care and devise measures to reduce patient discontent. Patients who had previously been admitted had an unfavourable opinion about bed and shower compared to those who had never been hospitalised before [32]. As students must perform this procedure during clinical posting, they must act confidently to prevent patient dissatisfaction. However, patients' feelings and results are required in future studies.

Our study demonstrated the skill performance performing hygiene care improved in the intervention group in post-test skill performance findings. It is backed up by studies from [12,15,21,29,33]. Compared to regular courses, the researchers wanted to see how video-supported lectures affected learning. A single focused study with just 30 emergency medicine residents (EMR) as participants [34]. The method was based on lecture techniques, with two distinct groups: the traditional lecture group (TLG) and the video-supported lecture group (VSLG). However, there were no differences between the groups in terms of the MCQ findings from the outcome.

Nevertheless, there is a significant variation in OSCEs' work. The questions on the MCQ test involve general information from the lectures, but the questions on the OSCE stations are all about clinical skills. As a result, OSCEs allow us to compare the clinical and interventional skills of the groups more effectively. In clinical

and interventional disciplines, video visuals in lectures improve abilities [34]. Furthermore, smartphone applications assist Korean-speaking nursing students in enhancing their understanding, talents, and competence in providing emergency treatment to babies with airway obstructions [29].

The learning materials used in this study are a video-assisted program consisting of hygiene procedures. There were three separate videos on hygiene procedures. The video of the bed bath and the perineal nursing procedure lasted 6.49 minutes. The video of the hair shampoo procedure consisted of 6.19 minutes. The video of the oral care procedure lasted 5.17 minutes. The video can be rewinder and paused. In the nursing procedure, nurses must prepare equipment before the process begins. The author chooses to divide the hygiene care procedure into a short video. Easy for students to rewind and pause. Many online learning experts advise teachers to avoid making long videos. The attention of research students during traditional lectures is a source of support for this recommendation. According to most people, the video should be between 5 and 20 minutes long [35]. There are other benefits to using video. The option to rewind, replay, and fast forward allows students to study at their own pace, facilitating personalisation and competency-based teaching techniques [33]. The video by [24] lasted 21 minutes and 21 seconds. It covered the following topics: bed bath concept (36 seconds), bed bath indication (21 seconds), procedure: patient instructions, material preparation, and the technique itself (17 minutes and 24 seconds), and possible related complications, such as falls (17 minutes and 24 seconds) (3 min). The video is still within the time recommendation of the study [35], but the researcher believe that it is not easy to rewind the essential tips if it is too long. Another study was found that the video used for participants with the title wound care can be viewed in 38 minutes [36]. It is recommended that the maximum duration not exceed 15 minutes [37]. Others claim that 10-minute videos are more likely to retain viewer interest [38,39]. Video is a great way to show how people behave. Another study argues that 'doing outcomes' may be divided into attitudes and abilities. People learn quickly by imitating other people's behaviours, as evidenced in this study. Learning may happen unintentionally since people can model other people so effectively [40]. Unfortunately, the feedback about the video is not in this study.
It showed that using the video-assisted hygiene care program was significantly more effective than using conventional tools in enhancing student confidence and performance in nursing skills.

Study Limitation
This research has several limitations. The restrictions were that it was necessary to consider technology limits during the application development process. Due to the methodology and research design, the sample size was limited. The findings cannot be applied to other students, such as different semesters, clinical placements, or nursing procedures. The capacity to examine the reason for the lack of confidence and the varying skill levels in the practice session is limited by closed instruments. We do not know if the senior nursing students in this study would have generated

different results. Future research should include a higher level of nursing students or a more comprehensive range of nursing procedures and further instrument validation. Finally, we only collected data from nursing students during a clinical placement at one private Hospital, limiting our findings' generalizability.

Implication
As Malaysia is a developing country, and we are toward digital learning, this matter should be a priority and has implications for nursing practice. Increased confidence and skill practice will help new registered nurses provide adequate care. Instructional knowledge using digital aids can help better understand the hygiene care nursing procedure, recognise the physical assessment and hygiene needs of patients and reduce infection transmission. Efforts should be made to educate and share that digital learning is essential for new registered nurses with all hospital nurses.

Students are the future nurses who will be working at the bedside. Although the nursing procedure like bed bath, mouth care, perineal care, and hair shampoo is covered in the entire nursing curriculum, staff nurses lack the necessary expertise and experience to teach the new registered nurses and nursing students. Demonstrations, documentaries, role-plays, audiovisual recordings, slide displays, and other interactive teaching methods provide an additional dimension to presentation, enhancing knowledge and retention and allowing learners to use their visual capacity. Nurses must have professional abilities, but they must also have the necessary knowledge, skills, and attitude to succeed in the 21st century. Nursing practice is a shared profession in the 21st century. In the United States and around the world, both academia and service play an essential role in the future of nursing. Together, they are responsible for equipping prospective nurses with the information, skills, and attitudes required for professional practice in today and tomorrow's health care settings. Hopefully, academia and the service will collaborate to advance nursing as a profession.

There is a growing need for high-quality care these days. Nurse administrators are uniquely positioned to develop policies, implement them, and evaluate them to provide high-quality care. The nurse administrator should work together with the nursing education services and the nursing school at the University to develop nursing practice standards, protocols, and manuals to plan and implement a high-tech video teaching program for all procedures.

Conclusion
Finally, while working with millennial students, today's nurse educators (mainly from Gen X and Baby Boomer eras) must be willing to use various delivery methods. This generation prefers collaborative and immersive learning environments that incorporate collaboration and technology. The pedagogical approaches that Millennials may consider commonplace (teacher-driven passive learning models) must be changed to meet the expectations of this generational cohort. Active student-driven learning approaches that take advantage of Millennials in visual

processing and collaboration can revitalise many courses. The students gained confidence in their abilities as a result of their clinical experiences. Nurse educators had the opportunity to design learning activities to promote the ability to develop clinical skills and the maturation of behaviours in a clinical setting. Ending clinical experiences with preclinical preparation and post-clinical activities can help students develop more effectively. Here in our study, we concluded that video-assisted programs enhance confidence and skill performance and at the same time improve satisfaction and knowledge retention in the clinical setting with actual patients.

Ethics Committee Approval

This study was approved by the KPJUC Research Ethics Committee (no: KPJUC/RMC/SON/EC/2020/255, Date 1.2.2020) and the management of KPJ Johor.

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