SYSTEMATIC REVIEW

Effectiveness of Role-playing Method on Knowledge, Clinical Skills, and Soft Skills Among Undergraduate Nursing Students: A Systematic Review

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ABSTRACT

Introduction: It is necessary for undergraduate nursing students to learn diseases through effective teaching methods, role-playing has a positive effect on the learning of various disorders. This study provided an overview of the role of role-playing in teaching undergraduate nursing students. **Materials and methods:** Searching for studies published from 2019 to 2024 in six online databases: PubMed, Embase, the Cochrane Library, ScienceDirect, Web of Sciences, and Wiley Online Library. The search was limited to full-text research articles in English. The review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. **Results:** This systematic review included 11 studies. The findings showed that implementing role-playing method into the teaching paradigm positively impacts nursing students' knowledge, clinical abilities, and soft skills (e.g., communication skills, empathy, self-efficacy, and critical thinking) across a variety of nursing-related topics. **Conclusion:** Role-playing can be effective in increasing the interest of undergraduate nursing students in learning about the disease and can be helpful in terms of knowledge and skills. Therefore, role-playing can be implemented as a teaching method for nursing students in learning.
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INTRODUCTION

The development of health care cannot be separated from the cultivation of nursing talents, and the education of nursing students is particularly important. However, there is a growing recognition that current medical education faces many problems. For example, changing healthcare environment, changing societal expectations, patient safety, ethics --"see one, do one, teach one", changing curricular emphasis – competencies and milestones, explosion of medical knowledge, need for life-long learning, new generation of learners, rapidly changing technology (1–3). The traditional lecture mode can no longer meet the needs of teachers and students, and various teaching models have entered the nursing education classroom one after another, such as online and offline hybrid teaching, problem-based Learning (PBL), case-based learning (CBL), research-based learning (RBL), scenario-based learning (SBL).

Simulations with standardized patients (SPs) and role-playing are also used by nursing educators to support student transitions and promote safe and competent practice. Standardized Patients, are normal people or patients who have been standardized and systematically trained to represent a patient's clinical problems accurately. It has been utilized in the United States at least since the 1970s (4). A systematic review indicates that standardized patients may be an effective educational intervention for increasing the cultural competence of nursing students (5). Moreover, it seemed to have positive effects on the cognitive, affective, and psychomotor domains of learning (6). Despite this, research demonstrates that standardized patients frequently require more human, material, and financial resources than role-play or other teaching methods. As a result, nursing educators may choose

to use role-playing as a teaching method to improve nursing students' overall learning outcomes for reasons related to economics.

Role-playing is a teaching technique that allows students to explore real-life situations by interacting with others in a managed way to develop experience and try out different strategies in a supported environment (7). On the other hand, it is a rapid, participatory and interactive learning method that can be used to develop nursing students' knowledge of disease care (8). Numerous studies have shown that role play is a relatively effective teaching method.

To our knowledge, however, there have been little systematic reviews that have been published on the topic of whether or not the use of role-play teaching methods has a positive impact on the learning outcomes of nursing students. Therefore, this study conducted a systematic review of pertinent articles to collect relevant intervention studies as a guide to role play that could improve nursing students' knowledge, clinical skills, and soft skills outcomes.

Objectives

This study provided an overview of the role of role-playing in teaching undergraduate nursing students.

MATERIALS AND METHODS

The review was conducted and reported in accordance with the Preferred Reporting Items for PRISMA guidelines (9).

Data Sources and Literature Search Strategy Results

The author of this systematic review searched for relevant studies published from 2019 to 2024 in six online databases: PubMed, Embase, the Cochrane Library, ScienceDirect, Web of Sciences, and Wiley Online Library. The search was limited to full-text research articles in English.

The key search terms utilized a combination of Medical Subject Heading (MeSH) and entry terms included "role-playing", combined with "nursing students" and multiple search terms. Boolean operators such as "AND" and "OR" and wild cards "*" were used in addition to search terms for search in the databases. Reference lists of included papers and relevant systematic reviews were evaluated and a snowball search was conducted manually to identify articles not found by the search strategy (See Table I).

Table I: Search strategy used in databases

Date from 2019 to 2024
#1 Role playing*
#2 Role-playing*
#3 Role play*
#4 Role-play*
#5 Roleplay*
#6 Playing* role
#7 (#1 OR #2 OR #3 OR #4 OR #5 OR #6)
#8 Nursing student*
#9 Pupil nurse*
#10 Student* nursing
#11 Nurse* pupil
#12 (#8 OR #9 OR #10)
#13 (#7 AND # 12)

Inclusion Criteria

The following criteria were used for inclusion:

Types of study

• Intervention studies (e.g. randomised controlled trials (RCTs), and non-randomised controlled trails (NRCTs).
• Studies with or without control groups.

Types of participants

• Undergraduate nursing students.
• There is no age limit.

Types of intervention

• Role play teaching method that implemented at school or in hospital.
• The role-playing conducted by educators.

Types of outcome measures

Knowledge of related subjects, clinical skills, soft skills (e.g. communication skills, empathy, self-efficacy, and critical thinking), students' satisfaction, and their performance.

Outcome

Search Outcome

The authors searched six different online databases and found a total of 585 relevant articles (Figure 1). Because of the duplicate records, 18 articles were disqualified. And the preliminary screening, which consisted of reading the titles and abstracts of the studies, led to the elimination of 567 of them. The full-text papers of 19 different studies were analysed, and each article's introduction, methodology, results, discussion, and conclusion were evaluated in terms of their content by the author. Nine of the studies were thrown straight rejected for one of

two main reasons: either they were written in a language other than English or their study design did not meet the inclusion criteria. In the early stages, only randomised controlled trials and quasi-experimental studies were considered for inclusion. However, as more information became available, studies that did not include control groups were considered for inclusion.

Quality Assessment and Data Extraction Process

At the beginning, two researchers independently searched the above databases and read the titles and abstracts of the literature according to the literature type, study population, and interventions, and further read the full text if they met the inclusion criteria. Then, the two researchers screened the results again on the basis of the first independent initial screening. If there was disagreement, the decision to include was made through discussion or arbitration by the third researcher. A self-made data extraction table was used, and the data were extracted by two researchers independently and cross-checked, with the original authors being contacted for additional information where possible. Information extracted included: basic information about the literature (year of publication, author(s), country), sample size, intervention(s) for intervention group and control group, study duration, follow-up & timeline, outcomes and quality assessment. The table of data extraction is presented in Table II.

Table II: Characteristics of included studies

No.	Author (year) country	Intervention group (IG)	Control group (CG)	Study duration, follow-up & timeline	Outcomes	Quality assessment
1.	Kim et. al. (2022) South Korea	Handover education programme that included lectures, expert observations role playing, peer learning and reflection (n = 38)	Lectures and observed handovers (n = 39)	Duration: IG: 82 h CG: 82h Follow-up: 2 weeks before and on the last day of the clinical practicum	The post-test findings: Handover **performance** ability: the improvement was significantly greater in IG (61.42 ± 1.81) than in CG (51.43 ± 6.84) (p < 0.001); Handover clinical judgement ability: a greater improvement in IG (41.63 ± 2.84) (p < 0.001); Handover self-efficacy: a greater improvement in IG (43.34 ± 0.87) (p < 0.001)	Moderate
2.	Jasemi et al. (2022) Iran	Two groups: role play (n = 38) & lecture (n =38)	No intervention (n = 38)	Duration: Role play group: 8 days Lecture group: 15 days (one session every three days, 1.5 h / day) CG: no intervention Follow-up: Before, immediately after, and two months after the intervention	**The mean scores were significantly higher in the role play and lecture groups compared to the control group** after the intervention (p < 0.001), ethical sensitivity between the three groups immediately (CG: 63.50 ± 12.02, Lecture: 85.30 ± 10.15, RP: 97.7 ± 11.55, p < 0.001) and two months after the intervention (CG: 62.15 ± 12.82, Lecture: 76.02 ± 10.71, RP: 94.62 ± 12.50, p < 0.001), ethical **performance** between the three groups immediately (CG:122.23 ± 28.47, Lecture: 151.85 ± 27.60, RP: 167.00 ± 23.07, p < 0.001) and two months after the intervention (CG:121.13 ± 28.77, Lecture: 138.05 ± 28.71, RP: 163.22 ± 24.88, p < 0.001)	Moderate
3.	Valizadeh et. al. (2021) Iran	Role play simulation (n = 16), Demonstration (n = 15)	No intervention (n = 15)	Duration: IG: role play simulation: 70 mins demonstration: 70 mins CG: not clear Follow-up: Before and after the intervention	The posttest PVC insertion skill total score among groups (role paly simulation group: 33.81 ± 6.86, demonstration: 41.14 ± 7.67, IG: 20.66 ± 5.65) is statistically significant (p < 0.001)	Good
4.	Libin Gu et.al. (2021) China	Role play and real-world contact (n = 371)	No CG	Duration: IG: 10 weeks Follow-up: Before and after the intervention	The students' stigma towards people with mental illness were positively changed (pretest mean score of stigmas: 53.77, posttest mean score of stigmas: 49.01, 95% CI: 2.63 – 6.87) and their willingness to care for the people with mental illness was also significantly increased (pretest mean score of willingness: 5.45, posttest mean score of willingness: 7.38, 95% CI: -2.22 – -1.65).	Moderate

CONTINUE

Table II: Characteristics of included studies. (CONT.)

No.	Author (year) country	Intervention group (IG)	Control group (CG)	Study duration, follow-up & timeline	Outcomes	Quality assessment
5.	Cortes-Rodriguez et.al. (2021) Spain	Role-play group (n = 62)	Standardized patient simulation group (n = 64)	Duration: IG:3 h & 6-week follow up CG: 3 h & 6-week follow up Follow-up: Pre-test, post-test and 6-week follow-up	Participants' **knowledge** (pretest 11% vs follow-up 74%), **skills** (pretest 11% vs follow-up 74%), **self-efficacy** (pretest 48% vs follow-up 82%) and **overall competence** (pretest 50% vs follow-up 93%) in interprofessional communication in elderly care significantly improved in both the SPG and the RPG ($p < 0.05$).	Good
6.	Ahmady et al. (2021) Iran	Role play (n = 18)	Lecture (n = 18)	Duration: IG: 1day justification workshop, 1week to prepare. At class time (not clear), subgroups played the role CG: not clear Follow-up: Baseline, posttest	A statistically significant difference ($p < 0.05$) between the mean score of **students' satisfaction** (IG: 19.03 ± 1.49, CG: 17.15 ± 0.89) with teaching method and their **performance** (IG:118.28 ± 3.59, CG:115.31 ± 2.07).	Moderate
7.	Heidarzadeh et.al. (2020) Iran	Role play (n = 23)	Lecture (n = 23)	Duration: IG: 2h+270 mins CG:2h+270 mins Follow-up: Immediately before the intervention and 4 weeks after the training	The mean scores of **knowledges**, attitude and **performance** increased after intervention in both groups ($p < 0.05$). The mean (SD) difference of total performance score from baseline to follow-up in the experimental group and the control group was 23.91 (13.83) and 7.00 (13.20), respectively ($p < 0.001$). While there was no significant difference between the mean (SD) difference of knowledge and attitude scores in the experimental group and the control group before and after the intervention ($p > 0.05$).	Moderate
8.	Kim et.al. (2020) Korea	Standardized Patients (n = 29)	Peer role play (n = 33)	Duration: IG:180 minutes CG:120 minutes Follow-up: Before and after the intervention	**knowledge** of standard precautions score: SP group (0.83 ± 1.34) vs. PRP group (0.61 ± 1.22), with the simulation using SP group showing a greater degree of increase in knowledge, but no statistically significant difference (z =-0.839, p = 0.401). Awareness of Standard Precautions: SP group (0.17 ± 0.40) vs. PRP group (0.29 ± 0.48), with the PRP group showing a greater increase in degree of awareness. but no statistically significant difference (z = -0.1.304, p = 0.192). Infection-Related Anxiety: SP group (3.00 ± 16.44) vs. PRP group (-3.00 ± 15.11), with no statistically significant difference between them (z =-1.468, p = 0.142). Infection control performance, the simulation using SP group showed significantly higher scores (20.50 ± 3.03) than the PRP group (14.81 ± 3.04) (z = -7.354, $p < 0.001$).	Moderate
9.	Yeung (2019) Hong Kong, China	Peer role-play (PRP) (n = 23)	Simulated patients (SP) (n = 21)	Duration: IG: 2-hour training lecture and 10 mins PRP CG: 2-hour training lecture and 10 mins SP Follow-up: Pre-test and post-test	Students in the SP group perceived their **self-efficacy** as best in professionalism (post-test: M = 6.5), while students in the PRP group perceived their self-efficacy as best in handling emotions (post-test M.= 7.4), **performance** on "interpersonal and communication skills" was the highest among both groups (M = 7.3 in SP groups, M = 7.6 in PRP groups).	Moderate
10.	Dorri et.al. (2019) Iran	Role-playing educational method (n = 39)	The common method of education (n = 35)	Duration: IG: 16 h CG: 16 h Follow-up: Baseline, the end of the semester	There was a significant difference between the CG (46.41 ± 16.22) and IG (63.85 ± 13.88) in **knowledge** score ($p < 0.001$), there was also a significant difference between the CG (47.32 ± 6.83) and IG (73.26 ± 3.47) in patients' satisfaction scores with the students' education **performance** ($p < 0.001$).	Good

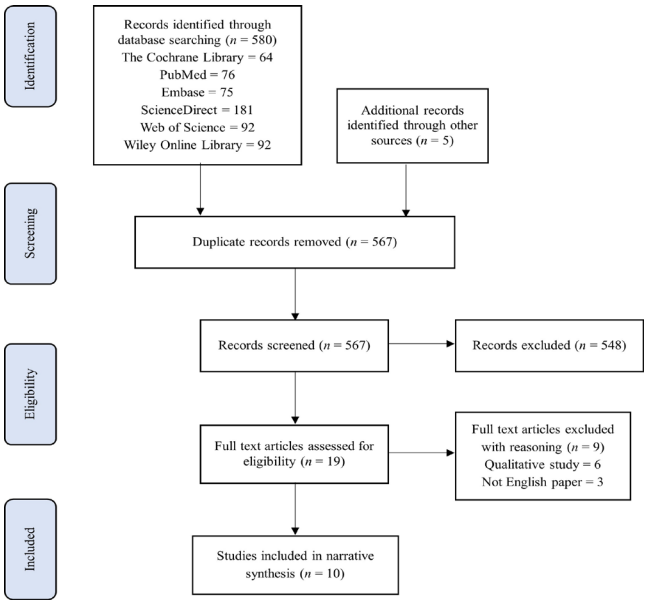

Figure 1: PRISMA 2020 flow diagram for process of study selection

The included studies were evaluated for its methodological critical assessment by using the Downs and Black Quality Index (QI) (10), which assesses the quality of studies for both randomized and non-randomized trials. This scale consists of six dimensions with 27 items: reporting (10 items), external validity (3 items), internal validity - bias (7 items), internal validity - confounding (selection bias) (6 items) and power (1 item), and their maximum scores are 11, 3, 7, 6 and 5, respectively. Twenty-six items were rated either as yes (= 1) or no or unable to determine (= 0), and one item was rated on a 3-point scale (yes = 2, partial = 1, and no = 0). The total score ranges from 0 to 32 with higher scores indicating a better methodological quality of the study. The quality scores were calculated and ranked on a four-category scale: poor (< 18), moderate (18 – 23), good (24 – 29) and excellent (≥ 30) (10). In this systematic review, the authors included 10 studies, of which three were assessed as good, and seven were rated as moderate.

RESULTS

Finally, 10 studies with 1019 participants were included in the final analysis (Table II). Initially, medical students outside the nursing programme were included, and in order to make the study population for this review more precise, the authors included only nursing students as participants in the study.

Types of Intervention

One article was reported as randomised controlled trials (RCTs) (11), eight were of non-randomised controlled trails (NRCTs) (12–19), and one was a single group pretest and post-test design with no control group (20). All 10 studies conducted peer role plays. And seven studies used role play as the intervention group (11–14,16,19,20), while two studies used role play and lecture (18) or demonstration (17) as the intervention groups. Only one study reported the application of theory in the study: situated learning theory (19). Furthermore, one study reported that the development of their education program was based on the analysis, design, development, implementation, and evaluation (ADDIE) model (15).

The role-playing themes covered in the included literatures include educating ethics codes (18), patient handover (19), psychiatric-mental health education (20), teaching Interprofessional Communication in Care of the Elderly (11), patient education (16), pediatric peripheral venous catheter insertion skill (17), pre-hospital triage training (14), infection control education (15), adverse event disclosure training (12), orthopedic, digestion, and water and electrolyte disorders (13).

All educational interventions were implemented under the guidance of nursing faculty members or nurses, most of whom were from the participants' nursing schools.

Setting and Sample

These studies involved a total of four countries: five studies were conducted in Iran (13,14,16–18), two studies in Korea (15,19), two studies in China (12,20), and one in Spain (11).

Six studies were conducted in the nursing school (e.g. classroom and skill or practice lab) (11,13,15–18).Some studies did not clearly report where the researches were conducted (12,14,20). Only one study was conducted in the hospital (19).

Eight studies were conducted in groups (11,13,15–20), and the number of individuals in each group ranges from 2 to 20, with the majority consisting of 4 or 6 participants. Two studies failed to indicate whether role play was performed in groups (12,14).

Regarding the control group, four studies reported that participants received lectures to learn the theoretical knowledge (13,14,16,19). Standardized patient simulations were used as a control group in three of the studies (11,12,15). Two other studies reported that their control groups did not receive any intervention (17,18). In addition, there was one study in which each small group received different cases of role play (11). There was only one study did not have control group (20).

The number of nursing students included in each study ranged from 36 (16) to 371 (20), with the majority comprising between 45 and 80 individuals.

Duration, Follow-up and Evaluation

The duration of role play method in the studies ranged between 70 minutes and 10 weeks. The shortest duration was 70 minutes (17) and six studies used more than 6 h to conduct the role play (13,18,20).

The duration of follow-up and assessment varied between studies. Most studies evaluated at before (Time 1) and immediately after (Time 2.1) the intervention (12,13,15–17,19,20). One study measured participants before (Time 1) and one month after the intervention (Time 2.2) (14), while three studies were assessed at before (Time 1), after (Time 2.1) and several months after (Time 3) the intervention (11,18).

Outcome Measures

The outcomes measured in these articles include knowledge of related topics (knowledge on interprofessional communication skills, pre-hospital triage, standard precautions, patient's education, and psychiatric mental health nursing), clinical skills (the peripheral venous catheter (PVC) insertion skill), soft skills (handover performance ability, handover clinical judgement ability, handover self-efficacy, interprofessional communication self-efficacy, general self-efficacy, ethical performance, moral sensitivity, the students' stigma towards people with mental illness, the willingness to care for the people with mental illness, patient clinical information exchange and awareness of standard precaution), students' satisfaction, and their performance.

The outcome measurement instruments employed in each study were different. Four studies used multiple-choice questions (MCQs) to evaluate nursing students' knowledge of research topics. The MCQs for three of the studies were derived from previous research (11,13,14), while the remaining one study employed a self-administered questionnaire (15).

With regard to clinical skills, one study used questionnaires to assess. Valizadeh et al. (17) developed the PVC insertion skill assessment rating scale based on the steps of the pediatric PVC insertion skill introduced in the third edition of the Pediatric Nursing Procedures textbook.

Regarding soft skills, Patient Clinical Information Exchange and interprofessional communication Self-Efficacy Scale (PIE-SES) (11) was employed by some researchers to evaluate the self-efficacy. Yeung et al. (12) developed a questionnaire to assess Self-efficacy of student nurses. Five studies have evaluated the performance of nursing students by using handover performance ability scale (19), the student performance evaluation checklist (16), a 10 items checklist developed by research team based on Simple Triage and Rapid Treatment (START) protocol content (14), a performance checklist was with a 9-point Likert scale, with "1" to "not satisfactory" and "9" to "very satisfactory" (12) and patients' satisfaction scale with education performance of nurses (13).

Finding Summary

The primary research findings were an improvement in the level of nursing students' knowledge, soft skills and performance. Five studies showed an improvement in both knowledge and soft skills (11,14,15). Two studies showed an improvement in both performance and soft skills (12,14). The soft skills in these studies improved in lower self-efficacy score (11,12), lower communication score (11), negative attitudes (14,15), poor clinical judgement ability (19), and moral sensitivity (18,20). In conclusion, all studies reported improvements in nursing students' knowledge, skills or performance.

DISCUSSION

Types of Intervention

This systematic review evaluated the 10 literatures of different study designs, including RCTs and NRCs. Only one RCTs was included in this study (11). Generally speaking, the risk of bias is higher in NRCs (with or without control group) compared to RCTs; nonetheless, most of the studies also provide a relatively rigorous design of the role-playing process. And after evaluating the quality of the included studies, we found that all 10 studies were on a "Moderate" or "Good" level. Studies either implemented role play for all participants individually or used it in combination with or in comparison to other teaching methods. Role play involved playing patients, nurses, doctors, observers or family members in most included studies; nevertheless, there are studies that do not go into detail about the part that nursing students have to play and only give a general summary.

All interventions were delivered by professional nursing teachers. This method is beneficial because it eliminates observer bias while also providing a powerful educational method for nursing students.

One study developed handover education programme (role-playing) based on situated learning theory (19). Situated learning theory strategies include the provision of real life situations, their foundation in real-life work, expert observations, various perspectives and types of information, clarification of thought processes, cooperative knowledge formation, coaching, practical reflection opportunities and evaluation (21). A theory, in its broadest sense, is an intellectual framework for explaining some facet of knowledge (22). In other words, a theory is a collection of interconnected propositions that seeks to characterize, clarify, foretell, and/or exert influence over some observed phenomenon. Applying theory can serve as a primary guide for organized curriculum development in both the classroom and the clinical setting (23). When educators have a firm grasp on the fundamentals of theory, they are better equipped to adapt their expertise to a wide range of contexts.

One study used ADDIE model to conduct the intervention (15). In the analysis stage, the authors used a questionnaire to analyse educational needs, target learners and the educational environment. In the design

stage, they developed educational objectives, content and strategies. In addition, the development stage is based on a pilot study to revise and add to the programme and develop the educational content. In the implementation stage, they applied the developed program accordingly. The evaluation stage was conducted to determine the appropriateness of a systematic and cyclical education program. The ADDIE model is a collection of recommendations and a framework for training design that can be applied in a wide range of contexts (24). It is utilized in the process of developing a training program that is geared toward the production of a variety of distinct learning outcomes (25).

The included studies explored a variety of topics related to role-playing method. The study's design, implementation, and evaluation were all carried out by the researchers in accordance with their research questions and research objectives. Most of the role plays in the study were conducted in small groups with at least two nursing students in each group. This approach permits immersive learning, with some groups observing, discussing, and reflecting, and can provide students with a playful learning experience. However, disadvantages include the fact that this method is unfamiliar to the students and requires a great deal of adjustment time, as well as the possibility of bias in the role play process because the instructor is not a trained actor. Some of the most important information was missing from the literature included in this systematic review, which may have contributed to bias. Some studies, for instance, did not specify whether role-playing nursing students worked in small groups (12,14). In addition, one study lacked a control group and only did a single group pretest and post-test design, making it difficult to draw credible conclusions.

Setting and Sample

Basically, nine of studies were conducted in Asian countries. Half of the studies were conducted in Iran, which maybe indicate that role-playing method is widely practiced in nursing schools in this country. Two other studies were conducted in China. Most of the studies were conducted in nursing schools under the supervision of nursing teachers, which provided a relatively safe role-playing environment for nursing students.

The number of participants was described in detail for each study. The minimum sample size included in each study was 36 and the maximum was 371 (a single group). Some academics calculated sample sizes using G*power program, which was relatively plausible. However, some studies did not calculate based on the formula or sample sizes from previous studies as a reference, but selected nursing students from the same school based on inclusion and exclusion criteria, which may have resulted in selection bias.

Duration, Follow-up and Evaluation

In the studies reviewed, differences in duration between follow-up and assessment were observed, depending on the researcher's study objectives and outcome measures. One study (13) used the Kirkpatrick's model to assess the short-term outcomes and the long-term outcomes, therefore, the study lasted for a longer period of time, two semesters. Most of the studies conducted only immediate post-tests after the implementation of role play and did not follow up on students' learning outcomes, which may result in some evaluation bias and make it difficult to determine the profound impact of the new teaching methods on students.

Outcome Measures

In the studies we analysed here, various methods for measuring outcomes were employed. The majority of researchers utilize questionnaires and scales to evaluate outcomes, and these research instruments have been extensively tested for reliability and validity, making them generally credible. The major advantage of the questionnaire method is that it may circumvent time and geographical limitations and simultaneously poll a huge number of respondents across a large area. It enables quantitative analysis of the findings. Self-administered questionnaires are distinguished by their anonymity. Additionally, questionnaires, particularly self-administered questionnaires, are more convenient for all sides of the survey. Self-administered questionnaires eliminate all potential distractions from human interactions. Another remarkable advantage of questionnaires, especially self-administered questionnaires, is the ability to save manpower, time, and money.

The results of measuring the same outcome with different instruments may vary. In this review, the self-efficacy questionnaires utilized in each study varied, as did the role-playing topics, which may have influenced the interpretation of the findings. For example, there was a study using the 'Patient clinical Information Exchange and interprofessional communication Self-Efficacy Scale' (PIE-SES) from the 'Clinical Communication Self-Efficacy Toolkit' developed (26) to assess the self-efficacy of nursing students. And in one study, a self-designed questionnaire was employed (12).

Participants for the study came from a number of different nations. As a consequence of this, the outcomes of the program may be marginally impacted by variations in the cultural and geographical contexts of the participants. A study was carried out in Korea (19), and they found that the performance of nursing students in the role-play group significantly improved when compared to the performance of nursing students in the lecture group. However, a study conducted in Iran (14) found that there was no statistically significant difference in the performance of nursing students when

comparing the role-play and lecture groups across the groups. The study compared the performance of nursing students in both types of settings.

There were also two studies (14,16), both of which were carried out in Iran, which had the same control group and an outcome, but also had relatively varied results. It is likely that this was due to the fact that the nursing students who participated were from various grades: one study was of fourth semester nursing students and the other was of third year students.

Finding Summary

Although many nursing students profited from the role-play teaching method, some students may have been exhausted or dissatisfied with it due to the extra work required to prepare for the role-play. However, more researchers believed that role play would be less expensive, easier to implement, and more engaging for students. They also believed that after role play, undergraduate nursing students could think more from the patient's perspective, providing experience in caring for actual patients in the future. Some studies reported adverse outcomes or found no statistical differences compared to standardized patient teaching methods. Role-playing has some sizable advantages over lectures, but the findings must be further verified because of various research methods and cultural norms variations. Thus, there is an increasing demand for rigorous and scientific randomized controlled trials to advance research in the training of undergraduate nursing students.

Limitations

The limitations of the literature included in this study focus on the quality of the research methods and the tools used. Initially, the researcher wanted a meta-analysis with the researcher being an undergraduate nursing student, the intervention being a role play, the control group being a lecture, the outcomes being knowledge, communication skills, and self-efficacy, the type of study being a randomized controlled trial. However, after a systematic literature search, it was found that there were few relevant papers, so the keywords were modified, and only the study population and intervention were retained; trials with or without a control group were included, and after reading the complete text, it was found that all studies, even if they had the same outcome, used different instruments and could not be combined for data, so the authors of this paper only did a systematic evaluation and not a meta-analysis.

There may be some risk of bias, because most included studies were not randomized controlled trials. Other studies could have explained how sample sizes were determined and how role plays were carried out or provided more thorough explanations of the interventions that were used. Some studies did not have strict procedures for randomization, allocation concealment, or blinding.

Limitations of this review include the fact that the search was limited to the period 2019 to 2024, the language was restricted to English, and the inclusion criteria were pre-determined, which may have missed some high-quality literature. In screening the literature, the authors found some literature with titles and abstracts that were more in line with expectations but could not be included due to language restrictions, which may have resulted in selection bias.

CONCLUSION

Previous researchers have found that implementing role-playing into the teaching paradigm positively impacts nursing students' knowledge, clinical abilities, and soft skills (e.g., communication skills, empathy, and self-efficacy) across a variety of nursing-related topics. This has been demonstrated through the use of role plays. The findings could be different depending on the subject of the study, the size of the sample, the country, and the location.

Therefore, further evaluation of other studies utilizing role-play teaching methods is required in order to increase the nursing students' knowledge, clinical skills, and soft skills.

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