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Short Article

Applying Blending Problem-Based Learning with Group Discussion in Clinical Nursing Process Education: An educational evaluation study

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Background: The nursing process (NP) is an organizing framework for planning and providing individualized nursing care. Nurse educators are encouraged to pare down curricular content and integrate ingenious learning-centered education. In this contemporary period, nurse educators need improve nursing education and move beyond traditional education. In this regard, problem-based learning (PBL) has become increasingly popular and group discussion (GD) increases the focus on the topics and facilities learning. This study aimed to determine the effect of blending PBL with a GD on clinical NP education.

Methods: This educational evaluation study by quasi-experimental, one side blind methods was conducted on all 28 third-semester undergraduate nursing students by census sampling method. The students were taught all of the phases of NP and PBL at the beginning of the semester. This study was performed on the "Medical-Surgical Nursing 1"(Med-Surg 1) clinical course. Three group (n = 18) was randomly selected as the experimental group and three other groups (n = 20) were randomly selected as the control group.

Results: The results of independent samples t-test indicated a significant difference between the mean scores of the two groups for each of the assessed nursing process stages, as well as for the all NP phases and overall score; t= 3.36 , P= 0.002, which confirmed that blending PBL with GD was effective.

***Conclusion*:** This blended method might encourage students to engage more effectively in the learning process and to be considered as an influential method in teaching the clinical nursing.

Keywords: Problem-Based Learning, Education.

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Introduction

The nursing process (NP) is an organizing framework for planning and providing individualized nursing care. It is a systematic method for professional nursing practice, a critical thinking process for the nurse to apply in offering the best care possible for the patient. The NP follows a problem-solving approach to identify and treat client problems and offers a framework for helping patients to promote health.

Nursing practice as an embedded phase of the NP needs more attention. Nurse educators usually respond to the vast amount of new knowledge by adding more material to the curriculum without removing any content. Therefore, classes are overcrowded, and the time available for activities to improve student skills in critical thinking, problem-solving, and clinical decision-making decreases. Recent research emphasizes the need to focus on curricular content to address the challenges new graduates face (1), creative methods of learning, and brand new ways of actively engaging the students. Considering such clinical and educational challenges, curricula should be dynamic and must be flexible to socioeconomic and health care trends. Nurse educators are encouraged to pare down curricular content and integrate ingenious learning-centered education. In this contemporary period, nurse educators need improve nursing education and move beyond traditional education. In this regard, problem-based learning (PBL) has become increasingly popular (2) and group discussion(GD) increases the focus on the topics and facilities learning. This study aimed to determine the effect of blending PBL with a GD on clinical NP education. We hypothesize that blended learning is positively effective in clinical NP education.

Methods

This educational evaluation study by quasi-experimental, one side blind methods was conducted on all 28 third-semester undergraduate nursing students by census sampling method. No ethical approval has been necessary for the research and only head of department approval was obtained prior to study initiation. The students were taught all of the phases of NP and PBL at the beginning of the semester. This study was performed on the "Medical-Surgical Nursing 1"(Med-Surg 1) clinical course. The education design fit with the lesson plan confirmed by the department. Based upon the Med-Surg Department's criteria, a nine-day period was designed and students were divided into small groups. Three group (n = 18) was randomly selected as the experimental group and three other groups (n = 20) were randomly selected as the control group. Except for the instructor of the experimental group, neither the experimental and the control groups nor their instructors were aware of the study. The inclusion criteria was: registering for the 'Med-Surg 1' course. The exclusion criteria was: failure to provide the assignments.

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The educational steps for each day were carried out for both the experimental and control groups. In the experimental group, in addition to the mentioned educational steps that consisted of familiarity with goals, assignments, evaluation methods, scientific topics under discussion, and familiarity with serums, catheters, various tests, and drugs, etc., the following responsibilities were also given to the students:

Day One: Emphasis on the need for developing a nursing care plan (NCP) based on NP and PBL, as well as the presentation of that plan by the second day of internship.

Days two to nine: 1- Development of a written NCP and implementation of all the stages of the NP on the assigned patient based on PBL. 2- Verbal and complete handover of the patient in the presence of the other students during the final hours of the training session, at the discretion of the instructor and without the prior knowledge of the student. 3- Discuss and exchange views about the presented reports, including their strong and weak points, with the active participation of students and with the instructor's guidance. During the training period, students were responsible for increasing their knowledge and, therefore, were allowed, if needed, and with the coordination of the instructor, to leave the ward for at most half an hour to carry out library research to gather more extensive information about diseases and required nursing interventions.

Two weeks after the end of the internship, a NCP as the projects of both the control and experimental groups were handed to the instructor and corrected. In this study based on a check-list, 2 points for assessment, 2 points for ND, 1.5 points for nursing goals, 4.5 points for nursing interventions, 5 points for implementation, and 5 points for evaluation were given. Since the students had to be available in the ward two days a week, they could not complete the implementation and evaluation phases of the designed NCP, thus, the grades related to those phases were removed from the final analysis. Data analysis was performed using SPSS v.21, with a significance level of 0.05. The research results were presented to the Med-Surg Department.

Statistical Analysis

SPSS software model 22 was used for statistical analysis. Descriptive statistics including mean and standard deviation were estimated in two groups. The Shapiro-Wilk test was used to evaluate the normal distribution of the data, and to compare the two groups of men and women in the pre-test and post-test stages, the inferential ANOVA method and Post-Hoc Bonferroni tests (power= 0.8) were used ($P \leq 0.05$).

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Results

The results of an independent samples t-test revealed a significant difference between the mean scores of control (0.9 ±0.51) and experimental (1.74±.4) groups for the Assessment phase; t= 4.12 , P< 0.001, control (0.77±0.5) and experimental (1.37 ±0.58) groups for the Nursing Diagnosis phase; t= 2.72 , P= 0.01, control (0.89 ±0.47) and experimental(1.48±.3) groups for the Planning phase: Goals; t= 3.44 , P= 0.002, control (M= 1.01 ±1.96) and experimental (3 ±1.48) groups for the Nursing Intervention ; t= 2.13 , P= 0.04, control (4.72±**2.14**) and experimental (7.77±2.21) groups for the overall score; t= 3.36 , P= 0.002, which confirmed that blending PBL with GD was effective.

Discussion

The aim of the study was to determine the effect of blending PBL with GD on clinical NP education. This outcome confirms the effect of the blended methods on clinical NP education. The study hypothesis is therefore accepted and the results are consistent with Adi and Fathoni(3) as well as Asarta and Schmidt(4). This study shows that it is important for nursing educators to recognize that PBL with GD has the potential to encourage students to engage more effectively in the learning process and motivate them to be involved in self-directed learning. Although for the reason of our small sample size the results are not generalized, they suggest that the nursing teacher should pay special attention to new learning and shift traditional education to blended education. The students involved in this educational method engaged in self-directed learning more effectively than those in the traditional curriculum. Interestingly, when students realize the gaps between their current knowledge level and the desired one, their motivation is likely to increase.

Among the noteworthy difficulties and challenges in this process was the limited number of students' specialized information and knowledge of diseases, symptoms, diagnosis, treatment, side effects, nursing interventions, etc., that are among the needed requirements for developing a comprehensive and scientific NCP. Of course, considering the fact that the students were in their third term and had only begun to take specialty units during that semester, such a state was not unexpected and, to a great extent, efforts to deal with this problem were made through emphasizing library research.

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Conclusion

Considering the fact that nurses make up the largest number of the individuals in a healthcare team and that nurses are present at the bedside of patients more than any other member of the team, increasing the depth of their learning of basic theoretical and practical principles from their first years as students must be a top priority for those who develop and implement nursing teaching plans and nursing education needs to change and should be shifted from traditional methods to blended methods. These findings could have a positive effect on nursing educators' interaction with students, as well as their teaching attitudes towards nursing training. The positive outcome that nursing students and patients receive from the implementation of this method would be to the advantage of the country's healthcare system.

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Authors contribution:

All authors contributed to the study conception and design. Data collection by KH ,TA, KH, and analysis was performed by KH. The first draft of the manuscript was written by KJ and all authors commented on the manuscript. All authors read and approved the final manuscript.

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The authors declared no conflict of interest.

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