Mini Review

Effectiveness of case-based physiology training for nursing students

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ABSTRACT

Objectives: Teaching basic sciences using case studies is a relatively recent concept. Despite the fact that this method has been utilized in medical education for a long time, there have been few attempts to test its efficacy in nursing students. The purpose of this study was to assess the effectiveness of didactic versus case-based physiology instruction among our college's second-year nursing students.

Methods: The students served as their own controls in a descriptive cross-over research in which they were assessed after each of two sessions. Traditional lectures were used to teach intestinal physiology to the students in the first session. The same students were taught renal physiology utilizing a case-based approach in the second session by the same instructor. After each session, multiple-choice questions were used to measure and compare each student's comprehension. Students completed a questionnaire at the end of the two sessions to rate the teaching method. To examine differences, paired t tests were utilized.

Results: Following didactic lectures (mean, 17.53), test performance was statistically substantially better than after case-based teaching (mean, 16.47) (two-tailed p 14 0.003). However, 65-72 percent of students believed that case-based learning increased their understanding of the material more than lectures.

Conclusions: Although students' feedback indicated that case-based teaching could be used as an alternative to lectures and may facilitate skill acquisition, which is considered to be important in professional problem-solving during nursing care, the students' feedback indicated that case-based teaching could be used as an alternative to lectures and may facilitate skills acquisition.

Keywords: Didactic lecture; Nursing student; Case-based teaching

Introduction

Nurse educators are grappling with how to effectively train nursing students to care for patients in an increasingly complex health-care setting. In order to deliver high-quality care to patients, new nurses must be prepared to solve problems and think critically, as well as collaborate, evaluate data, understand outcomes, think critically, develop reasoned conclusions, and make complicated judgments [1]. Early detection and assessment of deteriorating health state, as well as prompt action, are critical to a patient's rehabilitation. Nurse educators help students apply their knowledge of nursing-related sciences and other disciplines to make independent nursing care decisions. Educators must utilize innovative teaching tactics to engage nursing students in active learning, which promotes motivation, sharpens thinking, deepens learning, and strengthens classroom teamwork. Active learning stimulates pupils' higher-order thinking processes.

Traditionally, college understudies are educated in instructional talks, functional activities and instructional exercises, which are primarily latent educating and learning strategies and don't foster the critical thinking or thinking abilities of the understudies. Moreover, there is not really any contribution of understudies in the showing eLearning process. Albeit no single showing strategy guarantees an exhaustive comprehension of a theme, different techniques are being utilized in many organizations to support addresses in showing physiology, for example, case-invigorated learning, issue based learning8 and patient-focused learning. In the event that based learning, understudies are propelled to utilize clinical information from

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genuine situations to take care of issues. With this strategy, the two understudies and employees add to conversations on recognized learning issues [2]. Addresses are certainly a strong technique for conveying data to an enormous number of understudies rapidly, however there has generally been a requirement for an option in contrast to the customary configuration in fundamental sciences schooling. Case-based instructing is generally utilized in clinical and other wellbeing sciences courses, and has been utilized as of late in nursing schooling. Genuine cases that attendants could experience in medical clinic are utilized to rehearse and apply essential logical ideas in going with clinical choices and methodical reflection in a patient-care situation. By examining a clinical case connected with the point instructed, understudies get the idea at a high request of perception. This interaction supports dynamic learning and may have a more useful result.

One more issue in showing systems is the dullness of talks. Typically, the focus level of understudies begins falling 10-20 min after the beginning of a talk and improves marginally towards the end [3]. A few understudies like talks, in light of the fact that the data is exact, direct and they should simply tune in. Instructive showing stays the fundamental showing mode in numerous foundations, while different dynamic learning strategies, for example, case-based, issue based and group based educating and little gathering conversations, could likewise be utilized [4]. Regardless of various investigations on case-based learning in different disciplines, there is as yet insufficient proof of the productivity of this strategy for undergrad nursing understudies, as the consequences of the examinations are assorted. The motivation behind present review was to decide any distinction in the impact of talks and case-put together instructing with respect to understudies' exhibition in assessments and to test whether nursing understudies found case-based showing more agreeable and more instructively invigorating than conventional talks [5]. As far as anyone is concerned, this is the main review to contrast the viability of case-based and pedantic instructing for nursing college understudies.

Materials and Methods

In 2013, we conducted a descriptive cross-over study in our university's physiology department, in which the same students served as their own controls. The study population consisted of nursing students enrolled in second-year anatomy and physiology at the nursing college. The study included 86 students out of a total of 96. The ethics committee authorised the study procedure, and each subject gave informed consent.

The understudies were shown physiology in two meetings. In the principal meeting, the educator gave 5 h of talks on stomach related physiology, trailed by a 2-h instructional exercise. The's comprehension understudies might interpret the point was surveyed from a different decision poll. For the subsequent meeting, five case-put together talks with respect to renal physiology were ready and checked on by a panel including an individual from the nursing division. In this meeting, a similar educator utilized the case-based technique more than 5 h. Every meeting began with a case, trailed by a 25-min understudy conversation about the physiology of the case. During the following 25 min, the teacher made sense of the idea, trailed by a wrap-up meeting. This meeting was trailed by a 2-h case-based instructional exercise for certain pre-arranged exploratory inquiries connected with the case to be talked about in the gathering. The instructors were approached to address every one of the applicable focuses that surfaced in conversation prompts. Toward the finish of the meeting, the's comprehension understudies might interpret the theme was evaluated from a different decision survey, in which 30% of the inquiries tried mental abilities from the case-based situations. To keep away from any inclination in the educator's assessment of execution, the teacher knew nothing about which showing strategy had been utilized.

After finishing of every one of these two showing meetings, the understudies filled in an input structure after the assessment, to decide if they concurred with proclamations about the showing technique utilized on a five-point Likert scale. Instances of the assertions are: "The case-based study is more useful for getting the subject than addresses." "This course assisted me with working on my capacity to think and tackle issues instead of simply remember data." "This case-based course assisted me with working on how I might interpret the inquiries on the assessment and to effortlessly answer the test."

The information were investigated with SPSS programming bundle adaptation 19.0. Spellbinding measurements were utilized to

dissect the understudies' reactions in regards to case-based stanzas educational instructing. Understudies' input on the showing techniques is communicated as rates. Understudies' assessment execution after addresses and after case-based educating was investigated in a matched example t test. The degree of importance was set at 0.05.

Results

The understudies performed genuinely fundamentally preferred in assessments after addresses over after case-based educating. With respect to understudy input, 71% found that case-based showing further developed their insight the point better compared to addresses. Of these, 68% found that case-based instructing was more valuable for getting the point; 67% thought about that the tasks, instructional exercises and labs for the situation based strategy were useful for fostering the information and abilities the course was planned to educate; 70% found case-based instructing supportive for thinking and fostering their own thoughts; and 69% thought about that the case-based course would assist them with applying their fundamental information experiencing the same thing. The time distributed for the course was viewed as adequate to comprehend the substance by 72%, and 65% observed the course more fascinating than addresses and asked that different themes be instructed similarly.

Discussion

The consequences of this study show that the information on understudies isn't fundamentally improved by this new showing strategy, as their assessment execution was better with the instructional technique. Different examinations revealed better execution after case-based instructing or comparable adequacy. Better understudy execution after case-based than instructive training in a review to decide understudies' view of integrating little gathering case-based learning into customary pharmacology addresses. Despite the fact that we observed a huge expansion in our understudies' exhibition after addresses, the understudies' fulfillment survey showed that they favored free learning.

Conclusion

The traits of each teacher have a significant impact on the learning experience and the teaching style they employ. However, rather than focusing on the teacher, we aimed to address the effects of the teaching technique. The cross-over design was used to accomplish this, with the same teacher offering different teaching approaches to the same set of students. The study's limitations include the fact that the two techniques taught different ideas, and students may find digestive physiology simpler to comprehend than renal physiology. Furthermore, the study did not look into the resource and economic consequences of the two instructional techniques.

Despite the fact that there was a significant difference in exam performance between didactic and case-based education, students' feedback suggested that case-based teaching might be used as an alternative to lecture-based instruction. Undergraduate nursing students found interactive case discussions more fun and educationally stimulating than lectures, according to one study. In order to make basic sciences courses, particularly physiology, more appealing and appetising, case-based teaching should be considered in nursing, rather than standard teaching methodologies. For gauging students' views toward course restructuring, a multi-stage assessment of changes in student perceptions would be more trustworthy.

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