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Effectiveness of Context Based Learning on formulation of NANDA-I Nursing Diagnoses among third year B.Sc. Nursing students of selected nursing college of Udupi District, Karnataka

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Abstract: *Formulation of NANDA-I Nursing Diagnosis is an area of nursing profession that requires critical thinking and clinical reasoning. To inculcate the critical thinking abilities in nursing students, the education system requires adequate teaching methods. Context Based Learning (CBL) is a self- directed teaching method that is based upon scenarios and helps the students to learn better with proficiency over the topic. A pre-experimental one group pretest posttest was conducted to assess the effectiveness of CBL on formulation of NANDA-I Nursing Diagnoses among third year undergraduate nursing students. Purposive sampling was used and 46 students were selected for CBL sessions after pre-test. Data was collected using a demographic proforma and clinical scenarios for formulation of NANDA-I Nursing Diagnoses. After CBL sessions for three scenarios, post-test was conducted. Results showed a significant improvement in the knowledge score of students selected for CBL sessions on formulation of NANDA-I Nursing Diagnoses (Z value – 5.742, p < 0.001). CBL is effective in imparting knowledge on formulation of NANDA-I Nursing diagnoses to undergraduate students and it utilizes the critical thinking ability of students through a team approach.*

Keywords: *Context Based Learning, NANDA-I Nursing Diagnoses*

I. Introduction

Nursing is a profession which requires critical thinking skills and situation-specific problem-solving behavior with nurses who are proficient in clinical and academic domains of nursing. The formulation of nursing diagnoses is an area of nursing that requires critical thinking skills and reasoning. A correct nursing diagnosis provides the base for selecting appropriate nursing interventions to attain achievable outcomes, for which the nurse is held responsible1.

The whole nursing process, which includes Nursing Diagnoses, is often given ample importance in each course syllabus. But in classroom lectures and discussions, focus is predominantly on medical diagnoses, diagnostic studies, medication and complications2. Thus, in nursing education system, there is an increasing need for change, especially in developing self- directed teaching methods in which the student will be an active contributor in the learning process3.

A descriptive study was conducted in University of Turkey to determine the use of nursing diagnoses by the undergraduate students and their viewpoints about the use of nursing diagnoses. Of 346 students who participated in the study, 23.1% did not know what nursing diagnosis was and 31.5% expressed difficulty to formulate nursing diagnoses4.

There have been many teaching strategies in the nursing education to enhance critical thinking in nursing students which includes group discussion, case studies, concept map, problem based learning and context based learning. Among this, Context Based Learning (CBL) acts as a substitute to the more traditional lecture method of teaching. CBL is a philosophical variation of problem based learning5. Problem based Learning is a learning concept that originated at McMasters University in Canada in 1960s. It was used initially to prepare medical students for practice.

CBL is being used to enhance the critical thinking ability of the students through group participation. The student exercises or develops his/ her problem solving skills5. The CBL approach to learning is based on the assumption that nursing is holistic and that nurses appreciate the life context of their patients. In CBL, the process of learning involves small groups of students working with a faculty tutor to discuss situations that nurses typically encounter in their practice6. The CBL process includes 4 phases: Examining the situation, Self-directed study, Integrating new information and Reflecting5.

A study was done in 2011 to study the effectiveness of PBL on nursing diagnosis. It included 30 fifth semester students of the undergraduate nursing program who were randomly distributed across the experimental and control group. In the post-test, participants in the experimental group identified more nursing diagnoses and related risk factors. The students' clinical reasoning and diagnostic skills were enhanced6.

As noted by the researcher, in the clinical settings, nurses have a hesitancy to write the appropriate nursing diagnoses for the patients. They are unaware of the present NANDA-I nursing diagnoses as well as how

to prioritize the nursing diagnoses for each individual. It is very evident that most prefer to write nursing diagnoses based on the medical diagnosis and not on the individual. Thus, the researcher felt the need to teach the nursing students regarding formulation of NANDA-I Nursing Diagnoses. Through literature review and expert opinion, researcher came up with CBL as a teaching method to teach formulation of NANDA-I Nursing Diagnoses.

II. Objective

To assess the effectiveness of CBL on formulation of NANDA-I nursing Diagnoses in terms of posttest knowledge score.

III. Materials And Methods

A pre-experimental one group pretest posttest design was used to study the effectiveness of CBL on formulation of NANDA-I Nursing Diagnoses among third year B.Sc. Nursing students. The study was conducted at selected nursing colleges in Udupi District, Karnataka.

The target population was 88 third year B.Sc. Nursing students of selected colleges of nursing, Udupi district, Karnataka. A purposive sampling method was adopted. A total of 67 students were participated in the pre-test and 46 students who scored < 70% in the pre-test were selected for the CBL sessions. Data was collected after getting the necessary administrative permissions and informed consent from the participants.

Data was collected using two tools – Demographic proforma and Clinical Scenarios for formulation of NANDA-I Nursing Diagnoses. Three adult patient's real life clinical scenarios were selected and the tool included a brief description of their present condition, physical examination, laboratory values and management. NANDA-I Nursing Diagnoses were formulated for each of these scenarios. Content validity of the tools was done by experts in Medical Surgical Nursing Department with experience and expertise in nursing diagnoses. Reliability was done on 20 students using test retest method and it was calculated to be 0.79.

The CBL sessions were conducted after orienting students to CBL, which included the methods employed, the student's and the teacher's role during the CBL sessions. The students were divided into four groups and three different real life clinical scenarios of adult patients were introduced to the students sequentially. CBL sessions on single scenario were divided into four phases taking five days in total for a scenario. After completing the CBL sessions for all the three scenarios, post-test was conducted for all the participants.

Null hypothesis formulated was that there will be no significant improvement in the knowledge score on formulation of NANDA-I Nursing Diagnoses among the students participating in the CBL sessions at 0.05 level of significance. Data was analyzed using descriptive and inferential statistics and SPSS version 16.0 was used to compute and organize the data.

IV. Results

4.1. Description of sample characteristics

As per the demographic data given in Table 1, majority (95.7%) of the students participated in the study were females. Majority (95.7%) of the students were aware of the 2012 – '14 version of the NANDA-I nursing diagnosis and none of the students had previous exposure to Context Based Learning sessions on NANDA-I nursing diagnoses.

4.2. Distribution of the sample based on pretest and posttest knowledge score

Table 2 shows that the pretest knowledge score on formulation of NANDA-I Nursing Diagnoses for students selected for CBL sessions were poor and in the posttest, 11 of the students (23.9%) had moderate knowledge score.

4.3. Effectiveness of CBL sessions

Wilcoxon signed rank test was used to find the significance since the distribution did not follow normality. Data presented in Table 3 shows that the median score at pretest was 12.87 and at post- test was 20.5. The data shows that there is significant improvement in the knowledge score of students selected for Context based Learning sessions on formulation of NANDA-I Nursing Diagnoses (Z value – 5.742, $p < 0.001$). Hence, the null hypothesis was rejected and research hypothesis was accepted.

V. Discussion

Studies were not conducted to assess the knowledge of nursing diagnoses among nursing students. In this study, the pretest knowledge scores of all the students selected for Context Based Learning were poor. In a study conducted in 2010 by Yont et al in Turkey, questionnaire was administered to the students of II, III and IV

year B.Sc. Nursing. Among 346 students, 35.1% had difficulty in stating nursing diagnoses according to the needs of the patients4.

The present study showed that there was significant improvement (Z value 5.742, P value <0.001) in the pretest and post-test knowledge scores of students after the Context Based Learning session. This showed that Context based Learning sessions helped to improve the knowledge on formulation of nursing diagnoses. These findings are congruent with a study conducted by Lira ALBC and Lopez MVO in which Problem Based Learning was used to teach nursing diagnoses in 2011 in Brazil. Students from the experimental group identified a higher number of diagnoses (p=0.010) and related factors (p=0.000) in the post-test. The experimental group's mean scores were statistically higher in comparison with the control group's mean scores. The pre and post-test scores within the groups were assessed and it showed a statistically significant difference for experimental group scores only7.

The present study concluded that CBL sessions were effective in improving the knowledge of students regarding formulation of Nursing Diagnoses. This method will be more useful in clinical settings where students as well as staff nurses can develop their skills in writing NANDA-I Nursing Diagnoses. Since the participants are divided into groups, it will boost a team approach and learning from peers.

VI. Conclusion

The study findings showed that all students selected for the Context Based learning had poor knowledge on formulation of NANDA-I Nursing Diagnoses. In the post-test, 24% of the students showed moderate knowledge score. The students' knowledge scores improved significantly after the CBL sessions. So, it was concluded that the Context based Learning can be incorporated in the nursing curriculum to teach the formulation of nursing diagnoses. It can be used in every area of nursing practice like pediatrics, medical surgical, psychiatric, obstetric and gynecologic and community.

Table 1: Frequency and percentage distribution of sample based on sample characteristics (n =46)

Sample characteristics	f	%
Age (in years) 17-20 21-25	 38 08	 82.6 17.4
Gender Male Female	 02 44	 4.3 95.7
Awareness about NANDA-I Nursing Diagnoses Yes No	 44 02	 95.7 4.3
Previous exposure to CBL/PBL on NANDA-I Nursing Diagnoses Yes No	 0 100	 0 100

Table 2: Frequency and percentage distribution of the pretest and posttest knowledge scores on formulation of NANDA-I Nursing Diagnoses (n =46)

Score range	Pretest		Posttest	
	f	%	f	%
Poor (0-28)	46	100	35	76.1
Moderate (28.1- 58)	0	0	11	23.9
Good(58.1- 87)	0	0	0	0

Table 3: Median, Quartiles, Z value and P value of the pretest and posttest knowledge scores (n=46)

Pretest				Posttest		Z value	P
Median	Q1	Q3	Median	Q1	Q3	5.742	<0.001
12.87	7.69	17.31	20.5	14.87	28.06		

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