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# EFFECTIVENESS OF PROBLEM BASED LEARNING STRATEGY FOR OBSTETRIC AND GYNAECOLOGICAL NURSING ON CLINICAL REASONING AMONG NURSING STUDENTS

Nursing

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## ABSTRACT

Nurses contribute to a major part of the health care providers throughout the world. Their capacity for decision making is crucial in providing quality patient care. Right clinical decisions are made out of good clinical reasoning. Clinical reasoning is the process whereby clinicians collect, organize and analyse the information, make most appropriate decisions, act accordingly and reflect on during patient care situations with uncertainty. The purpose of the present study was to assess the effectiveness of Problem Based Learning strategy for Obstetric and Gynaecological Nursing on clinical reasoning among nursing students of selected College of Nursing in Kerala. Two group post-test only design was used. Eighty eight B Sc Nursing students belonging to two consecutive batches were selected on the basis of non-random purposive sampling, 44 each in control and study group. The clinical reasoning was measured using script concordance test. The result of the study was that the mean score of clinical reasoning for control group was 29.34 ±3.612 and experimental group was 34.55± 4.051. Problem based learning was found effective in improving clinical reasoning skills of B Sc Nursing students(t=6.3676; p<0.001)

## KEYWORDS

Problem Based Learning Strategy; Clinical reasoning; Script Concordance Test; Nursing students

### Introduction

Performance of nursing requires not only the acquisition of theoretical knowledge; but also a cognitive ability which includes problem solving, decision making and clinical judgment. It is important for nurse educators to find appropriate teaching methods to enhance students'performance of these tasks for practising clinical nursing. Clinical reasoning is central to clinical practice. Levett-Jones, T. (2013) states that, 'Nurses are responsible for a significant proportion of the judgments and decisions made in healthcare and engage in multiple clinical reasoning episodes every day….the ability to respond to challenging situations requires not only psychomotor skills and knowledge but also sophisticated thinking abilities.'

### Back ground of the study

The professional recognition of Nursing as a discipline depends greatly upon the ability of practicing nurses to correctly define and solve problems which are uniquely nursing in origin. A close observation to the clinical nursing practice throws light into the fact that nurses with effective clinical reasoning skills have a positive impact on patient outcomes. Poor clinical reasoning skills often fail to detect impending patient deterioration.

A number of studies reveal that more than half of adverse clinical events are caused by errors in clinical judgment and decision making. Clinical reasoning is the backbone of health care professions, without which our activities would be random and purposeless. Experience has been identified as one of the key factors in decision making. Problem Based Learning (PBL) is a relatively new educational strategy that provides scope for student centred, experiential and reflective learning. As clinical reasoning is one of the core elements in providing quality patient care, the investigator tries to find out how effective PBL is, in promoting clinical reasoning skills of student nurses.

### Statement of the problem

A study to assess the effectiveness of Problem Based Learning strategy for Obstetric and Gynaecological Nursing on clinical reasoning among nursing students of selected College of Nursing, in Kerala.

### Objectives

1. Determine the effectiveness of Problem Based Learning on clinical reasoning of nursing students in Obstetric and Gynaecological Nursing
2. Find out the association between clinical reasoning of nursing students in Obstetric and Gynaecological Nursing and selected socio-demographic variables.

### Hypotheses

H1. There is significant difference in clinical reasoning between students who have undergone problem based learning and those who do not.

H2. There is significant association between selected socio-demographic variables and clinical reasoning of nursing students in obstetric and gynaecological nursing.

### Data Collection Procedure

Permission was obtained from Principal, of the selected College of Nursing. The purpose and procedure of data collection was explained to the students. Consent from participants was obtained. Confidentiality of the data obtained was assured to the study participants.

The participants in the control group did not undergo any Problem Based Learning and they received only the routine didactic teaching. The routine teaching included a combination of lecture, demonstration, return demonstration and presentations.Data from the control group was collected on completion of their fourth year classes.

The intervention was given to 44 fourth year B Sc Nursing students in the study group. On Day-1 the investigator explained the purpose, gave orientation to problem based learning, explained what is expected of them and how their teachers (who act as the facilitators) and the researcher would help them. The students were divided into 4 groups with 11 members in each group randomly, a group leader and a scribe were decided and each group is assigned with one facilitator. A mock session of PBL was demonstrated with the help of the facilitators. The orientation phase took about 60 minutes followed by introduction of the first PBL scenario. The steps followed in the PBL sessions were as follows:Clarify unfamiliar terms, Define the Problem/ problems, Brainstorm possible hypotheses or explanations, Generate a list of refined problems and their explanation, Define Learning Objectives, Information gathering and private study, and Sharing the results of information gathering and private study. As the learning outcomes are completed, the PBL session ends.

Seven scenarios were prepared and implemented. The PBL process of each scenario took about one and a half hours other than the self-study. Except self-study, the researcher was present throughout the PBL process with the students, as a facilitator. All together it took 18 days spreading over a span of 3 months to complete the intervention.

**Data analysis**

Data were analysed by using descriptive and inferential statistics. Distribution of samples based on demographic characteristics and clinical reasoning are described in terms of frequency, percentage, mean and standard deviation; independent t- test was used to assess the effectiveness of problem based learning in improving clinical reasoning and chi square was used to determine the association between clinical reasoning and selected demographic variables.

**SECTION A: Distribution of B Sc Nursing students according to their Demographic Variables in the Study and Control Groups (N=88)**

**Table1 Distribution of B Sc Nursing students according to monthly family income, education agency and total percentage of marks in qualifying examination**

| | Study group n=44 | | Control group n=44 | |
|---|---|---|---|---|
| | n | % | n | % |
| **Monthly family income** | | | | |
| Up to 5000 | 7 | 15.9 | 9 | 20.45 |
| 5001- 10000 | 28 | 63.65 | 24 | 54.56 |
| 10001- 20000 | 7 | 15.9 | 4 | 9.09 |
| More than 20000 | 2 | 4.55 | 7 | 15.9 |
| **Education agency** | | | | |
| Kerala State Board | 34 | 77.27 | 36 | 81.81 |
| CBSE | 9 | 20.45 | 7 | 15.91 |
| ICSE | 1 | 2.27 | 1 | 2.27 |
| **Total percentage of marks in Qualifying Examination** | | | | |
| ≥90 | 4 | 9.09 | 3 | 6.82 |
| 80-89 | 10 | 22.73 | 11 | 25 |
| 70-79 | 21 | 47.73 | 18 | 40.91 |
| 60-69 | 7 | 15.9 | 8 | 18.18 |
| 50-59 | 2 | 4.55 | 4 | 9.09 |

**Table 2 Distribution of B Sc Nursing students according to status of previous exam result**

| Status of Previous Exam result | Study n=44 | | Control n=44 | |
|---|---|---|---|---|
| | n | % | n | % |
| **Passed with distinction** | 4 | 9.09 | 3 | 6.81 |
| **Passed with first class** | 16 | 36.36 | 18 | 40.91 |
| **Passed in first chance** | 11 | 25 | 17 | 38.64 |
| **Passed in repeat chance** | 7 | 15.9 | 4 | 9.09 |
| **Not passed completely** | 6 | 13.65 | 2 | 4.55 |

**Section B. Effectiveness of problem based learning on clinical reasoning of B Sc Nursing students**

**Table 3 Mean, standard deviation and t-value on clinical reasoning in control and study group**

**(n=88)**

| | n | Mean | SD | t- value | p- value |
|---|---|---|---|---|---|
| **Control group** | 44 | 29.34 | 3.612 | 6.3676 | 0.001 |
| **Study group** | 44 | 34.55 | 4.051 | | |

**Results**

- All the students belonged to nuclear family.
- The basic qualification was plus two with physics, chemistry and biology.
- Most of them (around 80%) studied in the State syllabus and medium of instruction was English
- The mean score on SCT for control group was 29.34 ±3.612 and experimental group was 34.55 ±. 4.051.
- There is a statistically significant difference in the clinical reasoning of B Sc Nursing students in the control and experimental group at p-0.001. PBL was effective in improving clinical reasoning of the participants
- There was no significant association between SCT score and selected sociodemographic variables.

**Conclusion**

Clinical reasoning encompasses the ability of the nurse to make prompt and accurate clinical judgement on matters pertaining to patient problems and their treatment. Experienced nurses easily identify the cues, gather additional information and carry out quick actions. By introducing problem based learning, the investigator tried to make students experience real life problems in the area of their clinical practice and find solutions on a strong base of experiential learning. Though PBL is little time consuming at the initial stages, it can be used as an effective tool to promote clinical reasoning among nursing students.

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