# "AN EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF MIND MAPPING VS. LECTURE METHOD ON KNOWLEDGE REGARDING MOOD DISORDER AMONG NURSING STUDENTS IN SELECTED NURSING COLLEGES OF SELECTED CITY"

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## Abstract

**Background of the study**: Mind Mapping is a newer method of teaching, in which a main idea will be in the centre from which sub branches arise. Lecture method is a traditional method of teaching. The purpose of the study was to find out the effective method of teaching to improve the learning ability of nursing students. A mood disorder was the topic selected to assess the knowledge because it is an important and vast topic in mental health nursing. The aim of the study was to compare the effectiveness of mind mapping and lecture method on knowledge regarding mood disorder.

**Method**: A quantitative approach with quasi experimental, two group pre-test post-test design was used for the study. The subjects consisted of 60 nursing student selected using Non-Probability purposive sampling technique. The data was collected by administering a self-structured questionnaire. The researcher gave teaching to group one using mind mapping and group two using lecture method. A post test was conducted on the seventh day.

**Result**: mean pre and post-test knowledge score for group 1 were 8.53+1.83 and 11.60

+2.60 respectively, whereas in group 2 it was 7.17+1.63and 11.37+2.20 respectively. The calculated Paired't' value if group 1 and group 2 were 7.54 And 8.76 respectively (t29=1.69, p<0.05). The comparison of effectiveness between mind mapping and lecture method were done using independent't'test. The computed't' Value of lecture method was 8.76 and for mind mapping was 7.54 and the mean difference of lecture method was 4.21 which is higher than mind mapping method i.e. 3.07, which indicated that lecture method is more significant in increasing the knowledge of nursing students comparing to mind mapping. There was no any association between pre-test knowledge scores and selected demographic variable which is calculated by fisher exact test.

**Conclusion**: The study findings showed that lecture method is more significant increasing the knowledge on mood disorder among nursing student comparing to mind mapping. No significant association was found between the pre-test knowledge and selected demographic variables.

## Introduction

Teaching learning situations various method are used for the effective teaching learning like lecture, demonstration, discussion, seminar, symposium, laboratory, projects, process recording, case method, computer assisted teaching, concept mapping and mind mapping. Besides it is most important as an educator to keep in mind the principles which serve as guidelines for the selection and the use of teaching and learning methods it includes, Methods should be suited to the objective and the content of the course, Methods should be adapted to the capacity of the student, Method should be in accord with sound psychological principles, Method should suit the teacher's personality and capitalize on his /her special assets, Method should be used creatively.

In spite of having various teaching and learning method, lecture method is the most common and oldest method used in the nursing education. It is used as traditional teaching method that has been employed by the teachers to teach almost all the subjects of the curriculum at all levels.

### Background of the Study

Lecture method is usually followed at college or university levels. It is the most commonly and traditionally used method, exercised since ages for the higher education. It is mostly a teacher centered and expository method involving one-way communication. In addition, it transmits good quantum of knowledge or subject matter to large number of individuals. There is economy of time and energy in this method. It also provides better opportunity for clarification of concepts of learners.

Mind mapping is a powerful tool that teachers can use to enhance learning and create a foundation for learning. It is helpful for visual learners as they are illustrative tools that assist with managing thought, directing learning, and making connections. It is a great way to introduce an overall topic, increase student involvement, and get thoughts down quickly. Mind mapping is a skill that cuts across ability levels and encompasses all subject matters.

As both methods has its own positive and negative points it is most important to investigate still which method will be more useful for improvement of the student's knowledge

### Need of the Study

In recent years researches have been conducted and published regarding various teaching methods like web based learning, didactic learning, and problem-based learning (PBL), evidence based learning (EBL) and case based learning (CBL). Though different methods differ in efficacy and applicability, they are all rooted in conceptual framework which states meaningful learning. Mind mapping is a learning technique which uses a non-linear approach to learning that forces the learner to think and explore concepts using visuospatial relationships flowing from a central theme to peripheral branches which can be inter- related.

This study demonstrates that mind mapping can be easily learnt and as well can be easily taught to undergraduate students who have no previous background in mind mapping and doing so requires no cost or expensive equipment. It can be suggested that the use of mind maps as an aid in dental undergraduate education is a potentially valid tool that can be used by students and teachers for multiple purposes.

Prior studies on the use of mind mapping in science, psychology, and other areas have shown positive effects on students' achievement, attitudes, knowledge, retention and recall. The lecture method is a traditional method which helps the students to relate the changes occur in each system, which is difficult to memorize in a sequential manner. Review of literature found that both lecture and mind mapping are effective in improving the knowledge of the students. So the investigator wants to find out which method is effective on learning regarding mood disorder among nursing students.

### Aim of the Study

To assess the effectiveness of Mind Mapping vs. Lecture Method on knowledge regarding Mood Disorder among nursing students in selected Nursing Colleges of selected City

### Objectives of the Study

1)To assess the level of knowledge regarding mood disorder among nursing students before administering teaching using mind mapping and lecture method.

2)To assess the level of knowledge regarding mood disorder among nursing students after administering teaching using mind mapping and lecture method.

3)To determine the effectiveness of mind mapping on knowledge regarding mood disorder among nursing students.

4)To determine the effectiveness of lecture method on knowledge regarding mood disorder among nursing students.

5)To compare the effectiveness of mind mapping and lecture method on knowledge regarding mood disorder among nursing students.

6)To find an association between the pre-test levels of knowledge in mind mapping regarding mood disorder among nursing students with their selected demographic variables.

7)To find an association between the pre-test levels of knowledge in lecture method regarding mood disorder among nursing students with their selected demographic variables.

### Hypothesis

Hypothesis for knowledge

HO-There is no significant difference between the effectiveness of mind mapping and lecture method knowledge on mood disorder among nursing students at 0.05 level of significance.

H1- There is significant difference between the effectiveness of mind mapping and lecture method knowledge on mood disorder among nursing students.

Hypothesis for association

HO- There is no association between the effectiveness of mind mapping and lecture method knowledge on mood disorder among nursing students with selected demographic variable at 0.05 level of significance.

H1- To find an association between the pre-test levels of knowledge in mind mapping regarding mood disorder among nursing students with their selected demographic variables.

H2- To find an association between the pre-test levels of knowledge in lecture method regarding mood disorder among nursing students with their selected demographic variables.

**Research Design:-** Pre-experimental (two group pre-test post-test) Design.

**Subject and methods:-** Third year B.Sc. Nursing students studying in selected nursing Colleges of Selected city.

The samples were selected by non-probability continent sampling technique

60 samples included in the study

The tool divided into 3 sanctions

• Section I; Consent form.

• Section II: Demographic variable.

• Section III: Self-structured questionnaire knowledge on mood disorder.

**Data collection**

a.Approval from the research committee member and written permission from the head of institution to conduct research.

b.Explain the purpose of the research to the samples.

c.Obtained informed written consent from samples.

d.Assess effectiveness of Mind Mapping vs. Lecture Method on knowledge regarding Mood Disorder among nursing students in selected nursing colleges of selected city

**Ethical review**

This study was reviewed and approved by the Ethics committee of the college. All participants singed informed consent. The authors promise that there will no academic misconduct such as plagiarism, data fabrication, falsification and repeated publication.

**Statistical analysis**

The data were computerized and verified using the SPSS (statistical package for social science) version 16.0 to perform tabulation and statistical analysis. Qualitative variables were described in frequency and percentages, while quantitative variables were described by mean and standard deviation.

**Organization of the findings:**

| Section I | - | Finding related to socio-demographic data of participants for Lecture Method |
|---|---|---|
| Section II | - | Finding related to socio-demographic data of participants for mind Mapping Method |
| Section III | - | Finding related to effectiveness of Lecture Method in terms of gain in knowledge regarding Mood Disorder. |
| Section IV | - | Finding related to effectiveness of Mind Mapping method in terms of gain in knowledge regarding Mood Disorder. |
| Section V | - | Finding related to the effectiveness of Mind Mapping and lecture method on knowledge regarding Mood Disorder. |
| Section VI | - | Findings related to the Association of Pre-test knowledge score of participants with selected demographic variable in Lecture Method. |
| Section VII | - | findings related to the Association of Pre-test knowledge score of participants with selected demographic variable in Mind Mapping Method. |

**SECTION –I**
**Finding related to socio-demographic data of participants in Lecture Method**
**Table: 1** Frequency Distribution of the participants as per Demographic Variables (**n=30**)

| SR.NO | DEMOGRAPHIC VARIABLE | FREQUENCY | PERCENTAGE |
|---|---|---|---|
| 1 | **AGE IN YEARS** | | |
| | 20-21 years | **30** | **100%** |
| | 22-23 years | 0 | 0% |
| | 23 years and above | 0 | 0% |
| 2 | **GENDER:** | | |
| | Male | 0 | 0% |
| | Female | **30** | **100%** |
| 3 | **TYPE OF FAMILY:** | | |
| | Joint family | 8 | 27% |
| | Nuclear family | **22** | **73%** |
| | Extended family | 0 | 0% |

**Table No 1** shows that in the lecture method all female participants are in the 20-21 years age group. Maximum 22(73%) of students belongs from nuclear family and only 8 (27%) students are from joint family.

**SECTION –II**
**Finding related to socio-demographic data of participants in mind mapping method.**
**Table 2**- Frequency Distribution of the participants as per Demographic Variables. (**n=30**)

| SR.NO | DEMOGRAPHIC VARIABLE | FREQUENCY | PERCENTAGE |
|---|---|---|---|
| 1 | **AGE IN YEARS** | | |
| | 20-21 years | **30** | **100%** |
| | 22-23 years | 0 | 0% |
| | 23 years and above | 0 | 0% |
| 2 | **GENDER:** | | |
| | Male | 0 | 0% |
| | Female | **30** | **100%** |
| 3 | **TYPE OF FAMILY:** | | |
| | Joint family | 7 | 24% |
| | Nuclear family | **22** | **73%** |
| | Extended family | 1 | 3% |

**Table no 2** shows that in mind mapping method all students are in the 20-21 years age group and female. Maximum 22(73%) of students belongs from nuclear family and only 7 (24%) students are from joint family.

## SECTION III
**Finding related to effectiveness of lecture method in terms of gain in knowledge regarding Mood Disorder**
Table 3- Comparison of pre-test and post-test knowledge scores for Lecture Method. **(n=30)**

| Pre-test knowledge Score | Frequency (N) | Frequency Percentage % | Post-test knowledge Score | Frequency (N) | Frequency Percentage % |
|---|---|---|---|---|---|
| **Poor (0-6)** | 9 | 30% | Poor (0-5) | 0 | 0% |
| **Average (7-12)** | 21 | 70% | Average (6-12) | 22 | 73% |
| **Good (13-20)** | 0 | 0% | Good (13-20) | 8 | 27% |
| **TOTAL** | **30** | **100%** | **TOTAL** | **30** | **100%** |

**Table no 3** shows that comparison of the lecture method, pre-test and post-test knowledge scores of the participants regarding mood disorder in the form of frequency and percentage. was poor in 9 (30%), average in 21 (70%) participants, none of them had good score in the pre-test, whereas in post-test 8 (27%) participants, had shown good knowledge scores, 22 (73%) participants, had average score and no one had shown poor knowledge regarding Mood Disorder.

**Table 3.1 Mean and standard deviation of knowledge score in Lecture Method (n=30)**

| Knowledge | Mean Score | Mean % | Standard Deviation (SD) |
|---|---|---|---|
| Pre test | 7.17 | 38.67% | 1.63 |
| Post test | 11.37 | 61.33% | 2.20 |
| Total | **18.54** | **100 %** | **3.83** |

**Table 3.1** showing the Mean and standard deviation of lecture method pre and post-test Knowledge scores. In pre-test mean score was 7.17±1.63 while gain in knowledge due to lecture method regarding mood disorder among participants. In post-test mean score was observed in 11.37±2.20.

**Table 3.2 Lecture Method Mean Score, Standard Error of the Mean and Paired t Test. (n=30)**

| Knowledge score | Mean score | Standard Error of Mean | Degree of freedom | 't' value | Level of Significance |
|---|---|---|---|---|---|
| **Pre test** | 7.17 | 0.483 | | 8.76 | |
| | | | 29 | | 0.05* |
| **Post test** | 11.37 | | | | |

**Table 3.2** Shows that effectiveness of lecture method is assessed by using inferential statistics; a paired t test was applied to ensure significant increase of knowledge in post-test after administration of lecture. The value of 't' at 29 degree of freedom is 8.76 which is higher than tabulated value i.e. 1.69 at significance level $p<0.05$ shows the lecture is highly significant in increasing knowledge of participants regarding mood disorder.

**SECTION IV**

**Finding related to effectiveness of Mind Mapping method in terms of gain in knowledge regarding Mood Disorder.**

**Table 4- Comparison of pre-test and post-test knowledge scores for Mind Mapping Method**. (n=30)

| Pre-test knowledge Score | Frequency (N) | Frequency Percentage % | Post-test knowledge Score | Frequency (N) | Frequency Percentage % |
|---|---|---|---|---|---|
| Poor (0-6) | 2 | 7% | Poor (0-5) | 0 | 0% |
| Average (7-12) | 27 | 90% | Average (6-12) | 22 | 73% |
| Good (13-20) | 1 | 3% | Good (13-20) | 8 | 27% |
| TOTAL | 30 | 100% | TOTAL | 30 | 100% |

**Table 4-** shows the comparison of the Mind Mapping method, pre-test knowledge scores of the participants regarding mood disorder in the form of frequency and percentage, that was poor in 2 (7%), average in 27 (90%) participants 1(3%) of them had good score whereas in post-test 8 (27%) participants had shown good knowledge scores, 22 (73%) participants had average score and no one had shown poor knowledge regarding mood disorder.

**Table 4.1 Mean and standard deviation of knowledge score in Mind Mapping Method** (n=30)

| Knowledge | Mean Score | Mean % | Standard Deviation (S) |
|---|---|---|---|
| Pre test | 8.53 | 42.37% | 1.83 |
| Post test | 11.60 | 57.62% | 2.06 |
| Total | **20.13** | **100 %** | **3.83** |

**Table 4.1** showing the Mean and standard deviation of test scores of mind mapping method Knowledge in pre-test mean score was 8.53±1.83 while gain in knowledge due to mind Mapping regarding mood disorder among participants was observed in post-test mean score was 11.60±2.06.

**Table 4.2 Mind Mapping Method Mean Score, Standard Error of Mean and Paired T Test**. (n=30)

| Knowledge score | Mean score | Standard Error of Mean | Degree of freedom | 't' value | Level of Significance |
|---|---|---|---|---|---|
| Pre test | 8.53 | 0.406 | | 7.54 | |
| | | | 29 | | 0.05* |
| Post test | 11.60 | | | | |

**Table 4.2** showing the effectiveness of mind mapping method is assessed by using inferential statistics; a paired t test was applied to ensure significant increase of knowledge in post-test after administration of mind mapping. The value of 't' at 29 degree of freedom is 7.54 which is higher than tabulated value i.e. 1.69 at significance level $p<0.05$ shows the mind mapping is highly significant in increasing knowledge of participants regarding mood disorder.

**SECTION V**

**Finding related to the effectiveness of Mind Mapping and lecture method on knowledge regarding Mood Disorder.**

**Table 5- Mean score and Mean difference of lecture and Mind Mapping Method**. (n=30)

| Knowledge score | Mean score for lecture method | Mean Difference | Mean score for Mind Mapping method | Mean Difference |
|---|---|---|---|---|
| **Pre test** | 7.16 | 4.21 | 8.53 | 3.07 |
| **Post test** | 11.37 | | 11.6 | |

**Table 5** shows the comparison of mind mapping method and lecture method is assessed by using mean difference of pre-test and post-test of both lecture and mind mapping method; The mean difference of lecture method is 4.21 which is higher than mapping method i.e. 3.07. So here it shows that lecture method is more significant in increasing knowledge of participants comparing to mind mapping.

**SECTION VI**

**Findings related to the Association of Pre-test knowledge score of participants with selected demographic variable in Lecture Method.**

**Table 6 Association of pre-test knowledge score with demographic variables of Lecture Method participants.** (n=30)

| Demographic Variables | | Knowledge Score | | | fisher's exact test |
|---|---|---|---|---|---|
| | | Poor | Average | Good | |
| **Type Of Family** | Joint family | 1 | 5 | 0 | 3.397 (p Value by fisher's exact test) |
| | Nuclear family | 5 | 19 | 0 | |
| | Extended family | 0 | 0 | 0 | |

**Table 6** shows the Association of pre-test knowledge score with demographic variables of lecture method students. Calculated p value is more than 0.05 so there is no significant association of knowledge score with selected demographic variables in lecture method.

**SECTION VII**

**Findings related to the Association of Pre-test knowledge score of participants with selected demographic variable in Mind Mapping Method.**

**Table 7: Association of pre-test knowledge score with demographic variables of Mind Mapping method participants**.

(n=30)

| Demographic Variables | | Knowledge Score | | | fisher's exact test |
|---|---|---|---|---|---|
| | | Poor | Average | Good | |
| Type Of Family | **Joint family** | 0 | 8 | 0 | 2.884 (p Value by fisher's exact test) NS |
| | **Nuclear family** | 2 | 17 | 1 | |
| | **Extended family** | 0 | 2 | 0 | |

**Table 7** shows the Association of pre-test knowledge score with demographic variables of Mind Mapping Method participants. Calculated p value is more than 0.05 so there is no significant association of knowledge score with selected demographic variables in Mind Mapping method.

## Conclusion

This chapter dealt with analysis and interpretation of the data collected, to assess the effectiveness of Mind Mapping vs. Lecture Method on knowledge regarding Mood Disorder among nursing students. Knowledge score Data obtained from participants analysed and interpreted by using Descriptive (Frequency, Percentages) and Inferential statistics (Paired 't' test and Fisher Exact test) then too organized in the table and graphs under the headings. It concluded that lecture method is more significant in increasing knowledge of participants comparing to Mind Mapping.

**Recommendations:**

1. A study can be done to prepare the find out the effectiveness of the mind mapping method only.

2. A study to find out the effectiveness of the mind mapping vs. demonstration of the nursing subject.

3. A study can be conducted on different specialty students like, pharmacy, engineering, architecture students.

**Implications:**

The findings of the study have several implications for nursing services, nursing education, nursing administration, and nursing research.

**Nursing services:**

1. This study will help to improve the quality of the teaching methods in in the nursing services.

2. This study help to nursing students improve and implement their knowledge about new teaching methods.

3. This study will help to students to reduce time in studying through different methods of teaching.

**Nursing education:**

1. The teachers can also plan the topics and teach the students in the nursing education for the different topics.

2. This study will help to teachers for time saving teaching, method and for student it helps to increase critical thinking.

**Nursing administration:**

1. Findings of the study can use to by nursing students to conduct more studies on different topics.

2 .In nursing education subject mind mapping teaching method can be include.

**Nursing research:**

1. The findings of the study have to add to the existing body of knowledge in the nursing profession.

2. Other researcher may utilize the suggestions and recommendations for conducting further study.

3. Same intervention study can be done on the different topics of the nursing education field.

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