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An Experimental Study to Assess the Effectiveness of Concept Mapping on Depression among Nursing Students in Selected Nursing Colleges of Gandhinagar, Gujarat

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ABSTRACT

An experimental study was conducted to assess the effectiveness of concept mapping on depression among Nursing students in selected Nursing colleges of Gandhinagar, Gujarat. The study was conducted in partial fulfillment for the awards of degree of B.Sc. Nursing at Apollo institute of Nursing, Gandhinagar.

The main objective of the study was to evaluate the effectiveness of concept mapping on depression among Nursing students in selected Nursing colleges of Gandhinagar, Gujarat.

The 'General system model' adopted from Ludwg Von Breatalanaffy was used as the conceptual framework. A quantitative approach with experimental study design was used to achieve the objective of the study. The samples consisted of 60 students of selected Nursing colleges of Gandhinagar. The samples are divided into two groups, 30 students in control group and 30 students in experimental group. The control group was treated using traditional method and the experimental group was treated using traditional method and concept mapping both. The simple random sampling technique was used to collect the sample. A structured questionnaire was used to assess the knowledge of Nursing student of selected colleges and the tool was found reliable.

KEYWORDS

Concept map, traditional method, effectiveness, depression

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INTRODUCTION

Concept mapping was developed by Dr. Joseph Novak, in 1970s as a learning strategy to enhance learning in a meaningful way. Concept mapping is a way to envisage information, exchange few words, solve problem, collaborate with colleagues and manage projects. It helps in turningideas and thoughts into an imaginary diagram that will boost learning and retention of material. Since 1970, concept mapping is a part of science education.[1]

Concept maps are visual diagramming tools. It is used for improving learning and teaching methods. It visually demonstrates the connection between concepts and thoughts. Often represented in circles or boxes, concepts are linked by words and phrases that explain the relationship between the ideas, helping students organize and structure their thoughts to further understand information and discover new relationships. Most concept maps represent hierarchical structure, with the overall, broad concept first with connected subtopics, more specific concept following..[2]

Concept mapping is a unique integrative mixed method designed to enable a group of people to map their views for any topic. It is a structured concept which can be used by groups to develop a conceptual framework which can guide evaluation and planning. In typical cases, six steps are involved: preparation, generation, structuring, representation, interpretation and utilization. It diagrammatically symbolizes a domain of ideas in a framework that can be utilized directly for developing specific planning objectives and evealuation.[3]

Concept mapping uses sophisticated and rigorous multivariate data to construct maps. It creates a series of maps that visually depicts the composite thinking of the group. The maps constitute an outline that can immediately be used to guide action planning, program development or evaluation.[4]

Concept mapping benefits both presenters and those learning new information. It is also useful in understanding the problems within the current system and creating a solution. With a concept map, people can often grasp ideas much more quickly than by reading the whole article or book. People can easily skim through a concept map for a quick understanding of the entire system, because of its brevity and highlighting of key points.[5]

The traditional approach largely encourages students to memorize concepts even in the area of problem solving, explanation of observed phenomenon and comprehension. It helps in learning

the facts, rules, laws and formulae. It is such a strategy that may be used to enable students to think about connections on what is being learned, organize their thoughts, visualize relationships between key concepts in a systematic way.[6]

Concept mapping is also used along with traditional method that can communicate the intrinsic interest of a subject through their enthusiasm. The traditional method can be used to provide large amount of information. It can present how professionals work through disciplinary questions or problems. Additionally, it allows to instructor maximum control of learning experience. It applies to those who learn by listening.[7]

The main objectives of the study were to

To evaluate the effectiveness of concept mapping on Depression among nursing students in selected nursing colleges of Gandhinagar.

HYPOTHESIS

- Ho: There will be no significant difference between mean pre-test and post-test scores in the experimental and control group after the treatment among Nursing students of selected colleges of Gandhinagar, Gujarat.
- H1: The mean post-test knowledge score will be significantly higher in experimental group among Nursing students of selected colleges of Gandhinagar, Gujarat.

METHODS

Research design selected for the present study was true experimental study. A pre-test post-test control group design was used. The true experimental design helped the investigator to assess the effectiveness of concept mapping on Depression among 30 Nursing students in selected Nursing colleges of Gandhinagar, Gujarat.

RESULTS

Analysis and interpretation of the demographic data of samples in Experimental group and Control group

In Control group:

- 20 out of 30 samples are in age group of 20 years, 5 out of 30 samples are in age group of 19 years, 4 out of 30 samples are in the age group of 21 years and 1 out of 30 samples is of 18 years.
- 28 samples were females and 2 samples were male.

- 23 out of 30 samples does not have knowledge about concept mapping and 7 out of 30 samples have knowledge about concept mapping.

Experimental group:

- 23 out of 30 samples are in age group of 20 years, and 5 out of 30 samples are in age group of 21 years, 2 out of 30 samples are in age group of 19 years and none in 18 years of age.
- 29 samples were females and 1 sample was male.
- 22 out of 30 samples does not have knowledge about concept mapping and 8 out of 30 samples have knowledge about concept mapping.

Analysis and interpretation of the data related to knowledge of the sample before and after administration of concept mapping on depression.

In control group, in pretest 19 of samples had average knowledge whereas 11 samples had good knowledge. In the posttest, 20 sample had average knowledge whereas 9 samples had poor knowledge and 1 sample had good knowledge regarding concept mapping on depression.

In the experimental group, in pretest 18 samples had poor knowledge whereas 11 samples had average knowledge and 1 sample had good knowledge. In the posttest, 16 sample had good knowledge whereas 13 samples had average knowledge and 1 sample had poor knowledge regarding concept mapping on depression.

Evaluation of on concept mapping on depression in the samples

The mean, median, SD, and paired t test of samples on concept mapping. The mean and standard deviation on concept mapping in pre-test is 5.16+_1.85where as the mean and SD of post-test was 5.93+_1.76 in control group. The mean and standard deviation on concept mapping in pre-test is 6.33+_2.19 whereas the mean and SD of post-test was 10+_2.35 in experimental group. The calculated “t” value was greater than tabulated “t” value. Hence the null hypothesis was rejected and the research hypothesis was accepted. Therefore, it can be concluded that there is effectiveness of traditional method in both the groups but after giving treatment to the experimental group, it is seen that the experimental group has more knowledge on concept mapping as compared to control group.

DISCUSSION

The knowledge regarding concept mapping on depression as described by various studies

According to present study the majority of students were young in the age group of 19-20 years which is similar to the study of Fereshteh A.[15] et.al in which the majority of samples who participated in the study were in the age group of 19-20 years.

In the present study the majority of the samples were females which are in contrast to the study of Nasrin R. Z[35] in which the ratio of male and female samples were almost equal.

The study of Wheeler L. A[25] reported that experimental group scored more significantly than the control group regarding knowledge on concept mapping which is identical to the present study in which, it is seen that the experimental group has more knowledge on concept mapping as compared to control group.

In the present study it is seen that control group improved in scores when it was given traditional method and experimental group who was given concept mapping along with traditional method improved more in scores as compared to control group which is identical to the study of Indra S.[6] et.al in which experimental group who was given concept mapping along with traditional method improved more in scores as compared to control group who was only given traditional method.

Table 1 Analysis and interpretation of the demographic data of samples in Experimental group and Control group.

Sr. No	Variables	Control Group	Experimental group
		Frequency (Percentage)	
1.	Age (in year)		
	a) 18	1 (3.33%)	0 (0%)
	b) 19	5 (16.67%)	2 (6.67%)
	c) 20	20 (66.67%)	23 (76.67%)
	d) 21	4 (13.33%)	5 (16.67%)
2.	Gender		
	a) Female	28 (93.33%)	29(96.67%)
	b) Male	2 (6.67%)	1(3.33%)
3.	Do you have knowledge regarding concept mapping?		
	a) Yes	7 (23.33%)	8 (26.67%)
	b) No	23(76.67%)	22(73.33%)

Table 2 Distribution according to the obtained score on concept mapping.

Categories of Score	Poor	Average	Good	Possible range of score	Range of Obtained Score
Control Group					
Pre-test					
Frequency	11	19	0	0-14	2-9
Percentage	36.66%	63.33%	0%		
Post test	9	20	1	0-14	3-14
Frequency	30%	66.66%	3.33%		
Percentage					
Post test	1	13	16	0-14	4-12
Frequency	3.33%	43.33%	53.33%		
Percentage					

Table 3 Evaluation of concept mapping on depression in the sample.

Test	Mean	Median	SD	"p" value	"t" value
Control group					
Pre test Post test	5.16 5.93	6 6	1.85 1.76	3.16*	2.05
Experimental Group					
Pre test Post test	6.33 10	6 10	2.19 2.35	6.59*	

*= significant at 0.05 level

CONCLUSION

The study intends to access the effectiveness of concept mapping on depression among Nursing students in selected Nursing colleges of Gandhinagar. The study reveals that there is effectiveness of traditional method in both the groups but after giving concept mapping to the experimental group, it is seen that the experimental group has more knowledge on concept mapping as compared to control group. Hence we can conclude that traditional method along with concept mapping is more effective.

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