



IMPACT OF JIGSAW TECHNIQUE ON KNOWLEDGE REGARDING PSYCHIATRY EMERGENCY AMONG NURSING STUDENTS

Mental Health Nursing

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ABSTRACT

Background- The Jigsaw method is a cooperative learning technique in which students become experts on a specific aspect of a topic and then teach it to others, fostering collaboration and individual accountability and to motivate students for self-directed learning and to enhance their communication skills. The nursing faculty need to plan their class teaching with more innovative teaching methods ensuring thorough participation of each students which would trigger the interest in the students which improve their skill to handle the Psychiatry Emergency tactfully and effectively and also improve the academic performance. **Objectives-** 1.To compare the pretest and posttest knowledge regarding psychiatric emergency among the nursing students in selected college of nursing, Ranchi. 2.To determine the association of pretest knowledge scores regarding psychiatric emergency with selected baseline variables of nursing students. **Methods-** The research design for the study was quasi-experimental one group pretest-posttest design. The sample size was 50 nursing students of selected college of nursing. Samples was chosen by purposive sampling technique. Data was collected using structured knowledge questionnaire regarding Psychiatry Emergency which was followed by Technique of Jigsaw. **Result-** The score of the pretest had lower values ($M = 2.6000$, $SD = 1.39971$) than the score of the posttest ($M = 5.5200$, $SD = 1.92979$). A paired samples t-test showed that the participant's level of knowledge increased from pre-test ($M = 2.6000$, $SD = 1.39971$) to post-test ($M = 5.5200$, $SD = 1.92979$; $t = -9.751$, $p < .001$, $d = -.73$). A t-test for dependent samples showed that this difference was statistically significant, $t = -9.751$, $p = 0.000$. **Interpretation And Conclusion-** The paired "t" value computed between the pretest and posttest knowledge ($t = -9.751$, $p = 0.000$) was statistically significant. The study revealed that there was a significant difference between the pretest and posttest knowledge scores regarding Psychiatry Emergency among nursing students. Majority of the nursing students 65% doesn't like to study the Psychiatric Emergency. All the students 100% had not heard about the Jigsaw Technique before. Study concluded that the Jigsaw method was found to be more effective than didactic method in promoting knowledge gain and retention among students.

KEYWORDS

Jigsaw technique, Nursing students, Knowledge, Psychiatry Emergency.

INTRODUCTION

Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences.^[1] Coordinated and Integrated learning is the main focus of this study, which as a creative teaching-learning measure would improve the learning outcome.^[2] Cooperative learning is an educational approach where all students work in small groups to achieve a common goal, fostering both social and social academic learning. Among cooperative learning methods, the Jigsaw strategy is attractive for teachers. A goal is achieved by working together, which otherwise could not have been achieved by striving alone or by competing with each other in this method.^[3]

Under a cooperative learning technique, the Jigsaw method is a good learning technique, in which students become experts on a topic (specific aspect of a topic) and then teach it to others, fostering collaboration and individual accountability and to motivate students for self-directed learning and to enhance their communication skills.

Slavin conceptualized, jigsaw learning is a student-centered, instructor-facilitated technique.^[4] It is a method of teaching and learning activity termed and designed by a Professor named Elliot Aronson in 1971 in Austin, Texas. It is a kind of collaborative study where students rely on one another to achieve their learning goals.

Jigsaw is designed to bring out individual effort, responsibility and accountability as students learn the course material well enough to teach it to others. In this method, each student's area of responsibility is well-defined, they can more clearly understand their own individual impact as group members to achieve their collective goals within the group. Jigsaw technique promotes deeper understanding and retention of information through peer teaching and learning. It involves dividing students into groups, assigning each student a specific part of the topic to study, and then having them teach their expertise to their new "jigsaw" group.^[5]

A psychiatric emergency refers to a sudden, acute disturbance in a person's thoughts, feelings, or behaviors that requires immediate intervention to prevent harm to themselves or others. This can include situations like suicidal threats, violent behavior, panic attacks, or catatonic stupor. Mental health nurses play a crucial role in assessing, managing, and providing support during these emergencies.

Need For The Study –

We all know that human learning starts at birth (it might even start before^[6] and continues until death as a consequence of ongoing interactions between people and their environment. Learning is a ongoing process. creative teaching learning methods helps the nurse student to excel, especially in the professional courses where the entire learning methods into 3 to 4 years, A psychiatric emergency is an acute disturbance of behaviour, thought or mood of a patient which if untreated may lead to harm, either to the individual or to others in the environment. Lippincott emphasizes that nurses must be able to assess, intervene, and provide support during these emergencies. It is necessary for the nurses to acquire skill to handle the psychiatric emergency. Therefore the faculty of nursing need to plan their class teaching with more innovative teaching methods ensuring thorough participation of each students which would trigger the interest in the students which improve their skill and academic performance.

Students work with their peers to accomplish a shared or common goal in cooperative learning., and jigsaw is one type of cooperative learning structure. Research shows that well-structured cooperative learning is beneficial for students in terms of engagement, achievement (especially with respect to reasoning skills), and enjoyment.^[6]

Review Of Literature

Hira Moin, Sadaf Majeed & et.al (2024), Conducted study on Assessing the impact of jigsaw technique for cooperative learning in undergraduate medical education: merits, challenges, and forward prospects^[6]. This study was designed to introduce jigsaw model of cooperative learning to early-year undergraduate medical students, measure its effectiveness on their academic performance, and evaluate the perspectives of both students and faculty members regarding the same. The students and faculty found this technique to be an effective cooperative learning strategy in terms of enhanced student engagement, active participation, and a sense of inclusivity.

In 2024, The Effectiveness of the Jigsaw Cooperative Learning Approach in Enhancing Written Communication Skills among form 6 History Students, study was conducted.^[10] This study reveals that students exhibit a strong preference for collaborative learning methods like the Jigsaw technique, highlighting its effectiveness in promoting active participation and fostering a conducive learning environment. Using the results from students' feedback and empirical evidence, this study provides crucial information on the Jigsaw technique as one of the best ways of

teaching.

A cross-sectional study conducted among second year MBBS 95 students on Jigsaw Classroom: Perceptions of Students and Teachers (2023).⁽⁷⁾ Students were randomly divided into 10 parent groups, with 10 students each. The topic was divided into 10 subtopics. Majority students agreed that this teaching learning method enhanced their communication skills and helped in overcoming shyness and hesitation in the class. Overall the faculty also agreed that the jigsaw method was helpful for the students.

A study to Assess the effect of Jigsaw Learning Technique to Learn the Concept of Preeclampsia among Fourth year B.Sc. Nursing students of TMM College of Nursing, Tiruvalla⁽⁹⁾ by Smitha Jose & et.al. 50 B.Sc nursing students were selected and their pre-knowledge level on the concepts of preeclampsia was assessed. Jigsaw Technique of learning was used to teach the Concept of Preeclampsia. After one week, their post knowledge was assessed. There was a significant difference in the performance of the students on the self-administered questionnaire before and after the intervention. Thus, the Jigsaw Learning method proved to be an effective educational learning tool for nursing students.

In 2023 Jigsaw: A Step toward Co-Operative Learning among Medical and Nursing Student, a cross sectional study was conducted by Kumar, C. S. Vinod & et.al⁽¹²⁾. Mean retention tests scores and absolute achievement level were high in jigsaw groups. The students preferred jigsaw over the tutorial.

A Quasi-experimental crossover pretest post-test study was conducted among final year medical students of a tertiary care teaching hospital in North Kerala from June 2021 to July 2021 during the integrated sessions by Surgery and Pharmacology Departments on Effectiveness of Jigsaw Active Learning Method in Promoting Knowledge Gain and Retention among Medical Students⁽¹¹⁾. Knowledge gain and retention were assessed by immediate and delayed post-tests consisting of 20 multiple choice questions with a single correct response.

Objectives-

1. To compare the pretest and posttest knowledge regarding psychiatric emergency among the nursing students in selected college of nursing, Ranchi
2. To determine the association of pretest knowledge scores regarding psychiatric emergency with selected baseline variables of nursing students

Hypothesis

H1: There will be significant differences between the pretest and posttest knowledge scores regarding psychiatric emergency among the nursing students at 0.05 level of significance.

H2: There will be a significant association between the pretest knowledge scores of nursing students regarding psychiatric emergency with baseline variables at 0.05 level of significance.

Variables

Independent Variables:

Jigsaw Technique

Dependent Variables:

Knowledge level regarding psychiatric emergency among the nursing students

Methodology

Permission was obtained from the Principal. The participants were assured that participation in the study was voluntary, and they were informed regarding the anonymity and confidentiality of their responses. A training session was conducted before the activity. The objectives and plan of the Jigsaw technique were discussed to the students before the study began.

For the session a day and time was fixed for the pretest for 20 minutes. Purposive sampling technique was chosen for data collection. Data was collected by structured knowledge questionnaire. It was administered for 20 minutes. After the pretest, the entire class (50 Students) was divided into 5 home groups, or "parent groups," (A,B,C,D,E) consisting of 10 students each. These groups were

numbered "1 through 10."

That is -

A Group... A1, A2, A3, A4, A5, A6, A7, A8, A9, A10
B Group... B1, B2, B3, B4, B5, B6, B7, B8, B9, B10
C Group... C1, C2, C3, C4, C5, C6, C7, C8, C9, C10
D Group... D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
E Group... E1, E2, E3, E4, E5, E6, E7, E8, E9, E10

The topic selected for the activity was Psychiatric Emergency. The topic "Psychiatric Emergency" was divided into ten sub-topics as follows:-

1. Suicide
2. Refusal of food and medicines
3. Violence and aggression
4. EPS
5. PNES
6. Drug withdrawal
7. Catatonic stupor and panic
8. Delirium tremens
9. Epileptic seizures
10. Escape

All the ones (A1, B1, C1, D1, E1) to ten (A10, B10, C10, D10, E10) formed 10 groups, known as the expert groups. Each student in the home group was assigned one sub-topic. 10 expert groups discussed on 10 different topics on psychiatric emergency. Each student then studied the content of his or her study material. Each student went to their home groups and presented their program, so all the students of 5 groups was expert in 10 Psychiatric Emergency topics. After 7 days, the same group met in their class and post test was conducted for 15 minutes. In the post test, they were asked about their opinion about Jigsaw technique.

RESULTS

A. Baselines variables of the nursing students-

1. About 52% students were belong to Hindu and 48% students were others (Muslim and Christian).
2. Majority of the nursing students 65% doesn't like to study the Psychiatric Emergency. Only 35% like to study the Psychiatric Emergency.
3. All the students 100% had not heard about the Jigsaw Technique before.

B. Effectiveness Of Jigsaw Technique On Knowledge Regarding Psychiatric Emergency -

Table 1

	n	Mean value	Standard deviation	Standard error of the mean
Pre test	50	2.6000	1.39971	0.19795
Post test	50	5.5200	1.92979	0.27291

Table 2 Correlation

	n	Correlation
Pre test & Post test	50	0.222

Table 3 Paired T-test

	t	df	p
Pre test - Post test	-9.751	49	0.000

Table 4 95% Confidence Interval Of The Difference

	Mean	Standard deviation	Standard error of the mean	Lower	Upper
Pretest - Posttest	-2.92000	2.11737	0.29944	-3.52175	-2.31825

The score of the pretest had lower values (M = 2.6000, SD = 1.39971) than the score of the posttest (M = 5.5200 SD = 1.92979). A paired samples t-test showed that the participant's level of knowledge increased from pre-test (M = 2.6000, SD = 1.39971) to post-test (M = 5.5200, SD = 1.92979; $t = -9.751$, $p < .001$, $d = -.73$). A t-test for dependent samples showed that this difference was statistically significant, $t = -9.751$, $p = 0.000$, 95% confidence interval (-3.52175, -2.31825)

This results in a p-value of 0.000 which is below the defined significance level of 0.05. The t-test result is therefore significant and the null hypothesis is rejected. There was a significant difference in the performance of the students on the self-administered questionnaire

before and after the intervention. Thus, the Jigsaw Learning method proved to be an effective educational learning tool for nursing students.

Limitation

The study was limited to the third year B.sc Nursing students in a selected college of nursing whoever presents during the time of data collection.

DISCUSSION

The present study showed that the mean pretest knowledge scores of nursing students ($M=2.6000$, $SD=1.39971$) was less than the posttest knowledge score ($M=5.52$, $SD = 1.92$). The paired “t” value computed between the pretest and posttest knowledge ($t = -9.751$, $p=0.000$) was statistically significant. The study said that there was a significant difference between the pretest and posttest knowledge scores regarding Psychiatry Emergency among nursing students.

Similar study conducted in Bengaluru to assess the impact of Jigsaw Technique on knowledge regarding National Mental Health programs among the nursing students. The study revealed that there was a significant difference between the pretest and posttest knowledge scores regarding National Mental Health programs among the nursing students.

Another study conducted in Jordan to assess the effectiveness of the Jigsaw strategy on the achievement band motivation of the 7th primary grade students in the Islamic education consisted of 56 female students, 26 students in experimental and 26 in the control group. Both groups shows an apparent difference. Jigsaw Technique emphasizes the interaction between students and also helps high achievers to communicate knowledge to low achievers.

CONCLUSIONS

Co-operative learning like Jigsaw facilitates learning allowing student-student discussion, improving communication and teaching skills. Jigsaw method was found to be more effective than didactic method in promoting knowledge gain and retention among students.

Jigsaw strategy is a robust instructional tool, well perceived by the students to enhance cognitive skills as inferred by the results and can be tailored to the needs of varied topics across different disciplines.

REFERENCES-

1. Richard Gross, Psychology: The Science of Mind and Behaviour Archived 2022-12-31 at the Wayback Machine 6E, Hachette UK, ISBN 978-1-4441-6436-7
2. Johnson RT, Johnson DW. Student student interaction: Ignored but powerful J Teach Educ. 1985;34:22-6
3. Johnson RT, Johnson DW. Student student interaction: Ignored but powerful J Teach Educ. 1985;34:22-6
4. Slavin RE. Cooperative learning Rev Educ Res. 1980;50:315342.
5. American Psychological Association, 2003. How to Build a Better Educational System: Jigsaw Classrooms. <https://www.apa.org/research/action/jigsaw>.
6. Front Psychol 2023 Aug 3;14:1216437. doi: 10.3389/fpsyg.2023.1216437
7. Deepti Chopra, Gagandeep Kwatra, Bharti Bhandari, Jaspreet K Sidhu, Jayant Rai, C D Tripathi, 2023 Jun 20;33(4):853-859. doi: 10.1007/s40670-023-01805, A study conducted on Jigsaw Classroom: Perceptions of Students and Teachers
8. Hira Moin, Sadaf Majeed, Tatheer Zahra, Sarim Zafar, Amna Nadeem & Sidra Majeed BMC Medical Education volume 24, Article number: 853 (2024)
9. Smitha Jose, Manjima M J, Nidhi Alex, Santy M Thampi, DOI: 10.52711/2349 2996.2023.00039 Volume - 13, Issue - 3, Year - 2023
10. Kumar, C. S. Vinod Kalasuramath, Suneeta, Reddy, S. Jayandra, Reddy, R. Sriman Narayan, The Effectiveness of the Jigsaw Cooperative Learning Approach in Enhancing Written Communication Skills among Medical and Nursing Students 2024, International Journal of Academic Research in Progressive Education and Development
11. Sudha R. Nursing education. Jaypee Brothers Medical Publishers; Newdelhi. 2013. Pp 48- 50
12. Poonam Dhull, Gunjan Verma. Jigsaw Teaching Technique for Teaching Science. International Journal of Research and Analytical Reviews. 2019; 6(2): 809 – 815.