



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN HEALTH SCIENCE

An International Open Access, Peer-reviewed, Refereed Journal

A STUDY TO ASSESS THE EFFECTIVENESS OF SELF- INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING STEM CELL THERAPY AMONG NURSING STUDENTS IN SELECTED COLLEGE, PUDUCHERRY

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ABSTRACT:

Introduction: Stem cell therapy is an innovative and transformative area of regenerative medicine that harnesses the unique properties of stem cells to repair, replace, or regenerate damaged tissues and organs.

Methodology: The study was conducted in Kasturba Gandhi nursing college, Puducherry. The research design used for this study was quasi-experimental research design (one group pre-test and post-test). 60 samples were selected through non-probability purposive sampling technique who met the inclusion criteria. **Results:** In the post-test, 45 (75%) of the respondents had adequate knowledge, 15 (25%) had moderately adequate knowledge, and none of them had inadequate knowledge. With regard to the effectiveness of teaching, the mean knowledge of 5.48 with an SD of 2.04 in the pre-test increased to 19.45 with an SD of 1.45 in the post-test after video-assisted teaching. **Conclusion:** The study was conducted on 60 samples. In this study, most of the B.Sc. Nursing students gained adequate knowledge regarding stem cell therapy through the self-instructional model (pamphlet) teaching.

Keywords: stem cell therapy, nursing students, knowledge

Cite this Article: Nandhakumar. M, & Nivethitha, K. (2024). A study to assess the effectiveness of self-instructional module on knowledge regarding stem cell therapy among nursing students in Selected College, Puducherry. International Journal of Innovative Research in Health Science, 1(1), 7–12.

INTRODUCTION:

Stem cell therapy is an innovative and transformative area of regenerative medicine that harnesses the unique properties of stem cells to repair, replace, or regenerate damaged tissues and organs. Stem cells are often described as the body's "master cells" because they have two extraordinary characteristics: the ability to self-renew and differentiate. Self-renewal allows them to divide and produce identical copies of themselves over extended periods, while differentiation enables them to develop into specialized cell types such as muscle, nerve, blood, or skin cells. These capabilities make stem cells a powerful tool for addressing a variety of medical conditions that were previously considered untreatable.

There are several types of stem cells, each with distinct properties and applications. Embryonic stem cells (ESCs), derived from early-stage embryos, are pluripotent, meaning they can develop into almost any cell type in the body. However, their use has been the subject of ethical debates due to the methods of their derivation. Adult stem cells, on the other hand, are found in specific tissues such as bone marrow, adipose tissue, and blood. These are multipotent, meaning they can generate only a limited range of cell types. For example, hematopoietic stem cells in bone marrow can produce various blood cells but cannot develop into nerve or muscle cells. A breakthrough in stem cell research came with the development of induced pluripotent stem cells (iPSCs), which are adult cells reprogrammed to behave like embryonic stem cells. iPSCs offer the advantages of pluripotency without the ethical concerns associated with ESCs.

Stem cell therapy is being used and explored for a wide range of applications. In regenerative medicine, stem cells are employed to repair tissues damaged by injury, aging, or disease. For example, they have been used to treat spinal cord injuries, heart disease, burns, and corneal damage. In hematology, stem cell transplantation is a standard treatment for conditions such as leukemia and lymphoma. Researchers are also exploring the potential of stem cells in treating neurodegenerative disorders like Parkinson's disease and Alzheimer's disease by regenerating lost or damaged neurons. Beyond these, stem cells hold promise in the development of personalized medicine. With the ability to create patient-specific cells, researchers can test drugs on a patient's cells in vitro, allowing for more targeted and effective treatments.

The field of stem cell therapy is not without challenges. Ethical concerns, particularly surrounding the use of embryonic stem cells, have sparked significant debate. Additionally, the clinical translation of stem cell therapies faces hurdles such as ensuring safety, avoiding immune rejection, and preventing the formation of tumors from uncontrolled cell growth. Despite these challenges, advancements in research and technology continue to expand the possibilities of stem cell therapy, making it one of the most promising frontiers in modern medicine. With ongoing research, stem cell therapy has the potential to revolutionize the treatment of a wide range of diseases, bringing hope to millions worldwide.

STATEMENT OF THE PROBLEM

A Study to Assess the Effectiveness of Self-instructional Module on Knowledge Regarding Stem Cell Therapy Among Nursing Students in Kasturba Gandhi Nursing College, Puducherry.

OBJECTIVES

- To assess the level of knowledge Regarding Stem Cell Therapy Among Nursing Students
- To Evaluate the Effectiveness of Self-instructional Module on Knowledge Regarding Stem Cell Therapy Among Nursing Students
- To find the association between the mean pretest knowledge score regarding Stem Cell Therapy with their selected demographic variables.

RESEARCH METHODOLOGY:

The study was conducted in Kasturba Gandhi nursing college, Puducherry. The research design used for this study was quasi-experimental research design (one group pre-test and post-test). 60 samples were selected through non-probability purposive sampling technique who met the inclusion criteria. Assessed the effectiveness of teaching on knowledge regarding umbilical cord blood collection for stem cell therapy among antenatal women with the use of structured questionnaire respectively. Pre-test was conducted using structured questionnaire with interview technique. After pre-test, self-instructional modules issued and teaching on stem cell therapy was administered to B.Sc nursing students. Post-test was conducted after the gap of 6 days. The data were analyzed by using descriptive and inferential statistics like frequency, percentage, mean, standard deviation, paired T-Test and Chi-Square test.

MAJOR FINDING

The major findings of the study shows that in pre-test, 60 (100%) respondents had inadequate knowledge, and none of them had moderately adequate or adequate knowledge. In the post-test, 45 (75%) of the respondents had adequate knowledge, 15 (25%) had moderately adequate knowledge, and none of them had inadequate knowledge. With regard to the effectiveness of teaching, the mean knowledge of 5.48 with an SD of 2.04 in the pre-test increased to 19.45 with an SD of 1.45 in the post-test after video-assisted teaching. Statistically, pamphlet teaching was found to be highly significant for improving the knowledge of B.Sc nursing students on stem cell therapy at the 1% level. Regarding the association between knowledge and their demographic variables, the analysis showed that there was no significant association between any of the socio-demographic variables.

RESULTS AND DISCUSSION

The study result shows that distribution of demographic variables of B.Sc nursing students. Among 60 B.Sc nursing students, around 30 (49.5%) respondents were in the age group of 19–20 years, and 30 (49.5%) were

in the age group of 20–21 years. It was observed that the majority of students, 41 (68.3%), were living in nuclear families, while only 19 (31.7%) were from extended families. Out of 60 students, more than half of the respondents, 36 (60%), were from urban areas, and 24 (40%) were from rural areas. It was also observed that the majority of students, 41 (68.3%), were from the Hindu religion, 14 (23.3%) were from the Christian family, and 5 (8.3%) were from the Muslim family.

Table 1: Knowledge level of B.sc Nursing Students on Stem Cell Therapy during posttest.

[N= 60]

KNOWLEDGE LEVEL	FREQUENCY	PERCENTAGE
Inadequate	0	0
Moderate	15	25
Adequate	45	75
Combined	60	100

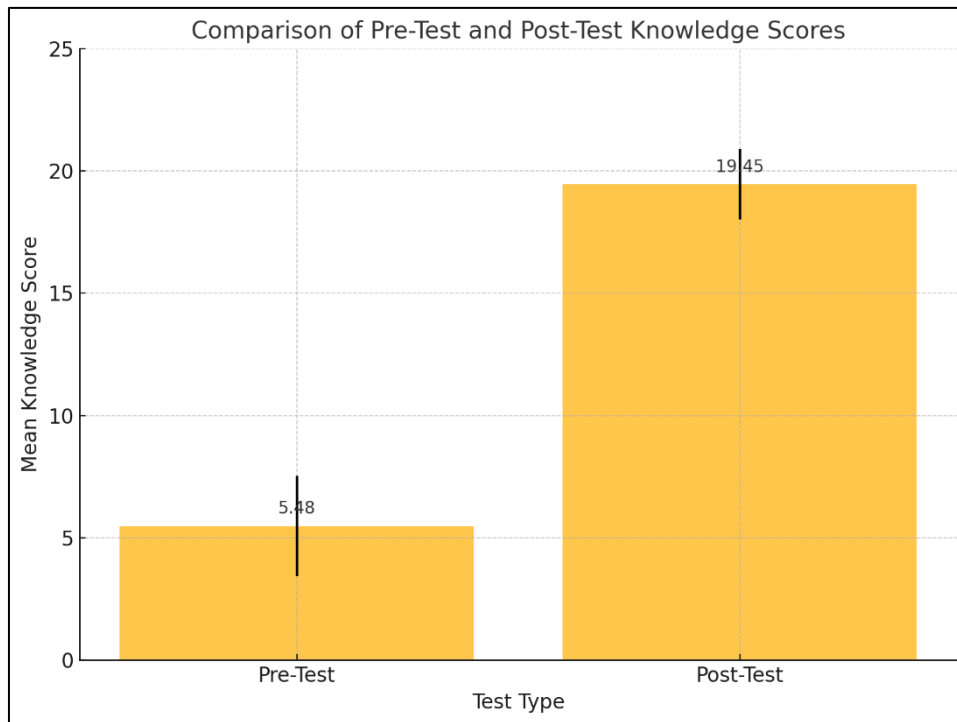
Table 1 shows the frequency and percentage of knowledge level of B.Sc. Nursing students in the post-test. In the post-test, 15 (25%) of the respondents acquired moderately adequate knowledge, 45 (75%) respondents acquired adequate knowledge, and none of them had inadequate knowledge.

TABLE 2: Comparison of Mean, Median, Standard Deviation, Wilcoxon Test, and P-value of Pre-test and Post-test Scores for Stem Cell Therapy

ASPECTS	MEAN	MEDIAN	STANDARD DEVIATION	WILCOXON TEST	P VALUE
PRE-TEST	5.48	5	2.04	6.752	<0.001*
POST-TEST	19.45	19	1.45		

This table indicates that the knowledge mean of 5.48 with the SD of 2.04 in the pre-test was increased to 19.45 with the SD of 1.45 in the post-test after this teaching programme. Statistically, quasi-experimental teaching was found highly significant in enhancing the knowledge of B.Sc nursing students on stem cell

therapy at the 1% level. So it can be inferred that the teaching programme was highly effective in improving the knowledge level of B.Sc nursing students on stem cell therapy.



Regarding the association between knowledge and their demographic variables, the analysis showed that there was no significant association between any of the socio-demographic variables.

CONCLUSION

The study was conducted on 60 samples. In this study, most of the B.Sc Nursing students gained adequate knowledge regarding stem cell therapy through the self-instructional model (pamphlet) teaching.

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