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## PLACENTAL STEM CELLS UTILIZATION KNOWLEDGE AMONG NURSES

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### ABSTRACT

“The Tissue of youth-Human placenta a wonder drug,  
Call it the oxygen bar of future.” -Amanda Schaffer.

Pre- experimental one group pre-test post-test design was adopted for this study. the conceptual framework for the study was based on the J.W. Kenney’s open system model .this study was done at Apollo Multi speciality hospital and Hannah Joseph hospital, Madurai In this study, the sample size consisted of 100 staff nurses who fulfilled the inclusion criteria working in Apollo Speciality hospitals in Madurai. Convenience sampling technique was used to select the sample. The tools used were a questionnaire examining demographic variables and multiple choice items to assess knowledge regarding placental stem cells utilization among staff nurses. The purpose of the study was explained and received their consent to collect the data day. Seven staff nurses were assessed the interview schedule, the data was collected from staff nurses. The interview lasted for 40 minutes for each sample. Self-Instructional Module was given immediately after pre-test to each sample. It lasted for about 40 minutes. Post-test was assessed with an interval of 15 days after self-instructional module to assess the knowledge regarding placental stem cells utilization by using the same tool. The working period of data collection 8a.m-1p.m and 5p.m-8.00p.m. Data was analyzed based on the objectives. Frequency and percentage was computed for describing the sample characteristics. Bio statistical methods such as frequency, percentage, were used to find out the pre-test and post-test knowledge score. Paired t-test was computed to find out the effectiveness of Self Instructional Module. Chi-square test was computed to describe the association between post-test knowledge score of the sample and demographic variables. The pre-test score reveals that 54(54%) samples had inadequate knowledge, 45(45%) samples had moderately adequate knowledge. 1(1%) had adequate knowledge. After administering Self Instructional Module the post-test score 33(33%) samples had adequate knowledge. 67(67%) samples had moderately adequate knowledge; none of them had inadequate knowledge. the mean post-test knowledge score of the samples 28.00 is higher than the mean pre-test knowledge score 16.00. The calculated ‘t’ value 35.178 is greater than of table value (1.984) at 0.05 level of significance.

### KEYWORDS

Effectiveness, Self instructional module, Knowledge, Stem cells utilization and Nurses.

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### INTRODUCTION

Health is the most important aspect of life which needs to be maintained at any time in a person’s life at any a cost. Stem cells are the basic building blocks of the body, it has the ability to replenish other cells and give rise to number of tissues which includes

different organs. Placenta and embryo, cord blood, bone marrow, peripheral blood, are the major sources of stem cells.

### **Significance and need for the study**

Placenta is an organ within the uterus which connects embryo to the wall of the uterus and provide nourishment, eliminates waste and exchange respiratory gases of the embryo.

Placental umbilical cord is the essential vitalizing direct interlink between a mother and her child, which is always depicted as the relationship and an emotional bonding of motherhood, which is a beautiful experience for a women. (Lowdermilk DL. Perry SE, 2007).

Stem cells transplantation is a lifesaving procedure for a number of malignant and nonmalignant life threatening diseases. More than 40,000 stem cells transplantations are being performed annually worldwide. India, progress has been slow and the number of transplants performed till now is around 500. (Stem cell research report, 2010)<sup>1</sup>.

### **Statement of the problem**

A pre-experimental study to assess the effectiveness of self-instructional module on knowledge regarding placental stem cells utilization among staff nurses in selected hospitals at Madurai.

### **Objectives**

To assess the pre-test and post-test level of knowledge regarding placental stem cells utilization among staff nurses..

To evaluate the effectiveness of self Instructional module on placental stem cells Utilization.

To find out the association between the post-test level of knowledge with selected demographic variables among nurses such as age, sex, religion, marital status, type of family, area of residence, professional qualification, institution studied, previous work experience, years of experience, availability of educational programme in the hospitals, sources of knowledge about placental stem cells utilization.

### **Hypotheses**

The mean post-test knowledge score of nurses who had self- Instructional module regarding placental stem cells utilization will be significantly higher than mean pre-test knowledge score.

There will be a significant association between post-test knowledge regarding placental stem cells utilization and the selected demographic variables of nurses.

## **RESEARCH METHODOLOGY**

### **Research approach**

Quantitative approach was used.

### **Research design**

Pre- experimental one group pre-test and post-test design was used.

### **Setting of the study**

### **Population**

Both female and male staff Nurses.

### **Sample size**

In this study, the sample size consisted of 100 staff nurses who fulfilled the inclusion criteria working in Apollo Speciality hospitals in Madurai.

### **Sampling technique**

In this study Convenience sampling technique was used to select the sample.

### **Inclusion criteria**

All registered female and male staff nurses.

Staff nurses who are willing to participate in the study.

Staff nurses who understand to read and speak English or Tamil.

### **Exclusion criteria**

Staff nurses who are not interested to participate in the study.

Staff nurses who are not available during the period of data collection.

Other nursing staff like ANM nursing.

### **Data collection instruments**

Structured interview schedule was used to assess the knowledge regarding placental stem cells utilization.

### **Description of the tool**

#### **Part I**

It consists of demographic variables such as age, sex, religion, marital status, type of family, Area of residence, Professional qualification, Institution studied, previous work experience, Years of experience, Availability of educational programme in the hospitals, and Sources of knowledge about placental stem cells utilization.

**Part II**

It consists of 33 multiple choice items to assess knowledge regarding placental stem cells utilization among staff nurses. All items have one correct response in 3 distracters.

**Data collection procedure**

The period of data collection was six weeks in Apollo Speciality hospitals at Madurai. Initially the investigator established rapport with the study subjects. The purpose of the study was explained and received their consent to collect the data day. Seven staff nurses were assessed the interview schedule, the data was collected from staff nurses. The interview lasted for 40 minutes for each sample. Self-Instructional Module was given immediately after pre-test to each sample. It lasted for about 40 minutes. Post-test was assessed with an interval of 15 days after self-instructional module to assess the knowledge regarding placental stem cells utilization by using the same tool. The working period of data collection 8a.m-1p.m and 5p.m-8.00 p.m.

**RESULTS AND DISCUSSION**

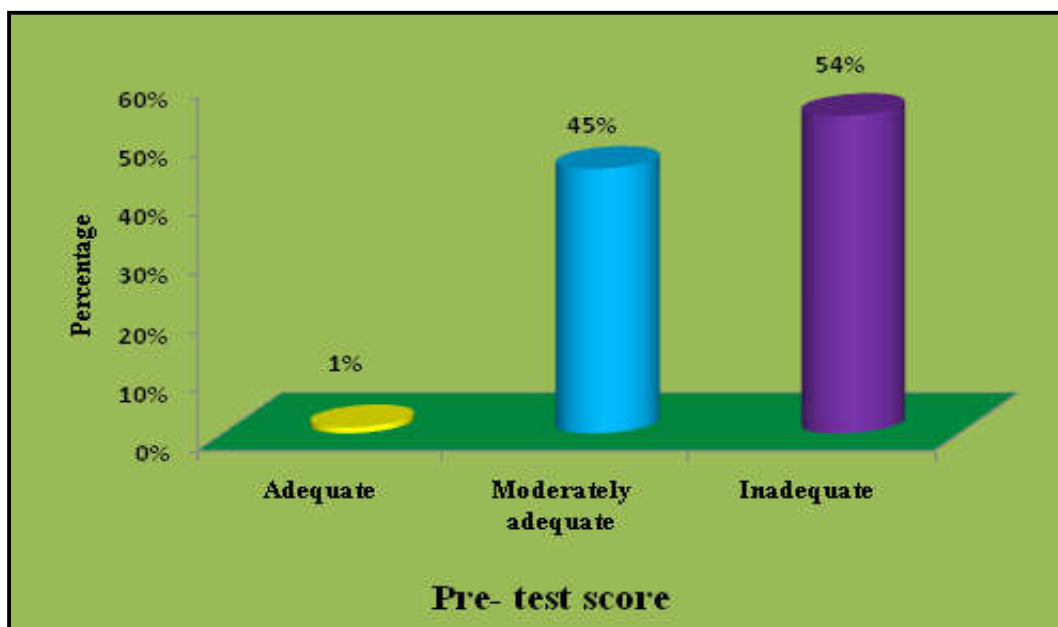
Data on table shows that the mean post-test knowledge score of the subjects 28.00 was higher than the mean pre-test knowledge score 16.00. The calculated ‘t’ value 35.178, was higher than the table value (1.984) at 0.05 level of significance.

**Discussion**

The pre -test score reveals that 54(54%) samples had inadequate knowledge, 45(45%) samples had moderately adequate knowledge. 1(1%) had adequate knowledge regarding placental stem cells utilisation. After administering Self Instructional Module the post test score 33(33%) samples had adequate knowledge. 67(67%) samples had moderately adequate knowledge; none of them had inadequate knowledge. the mean post-test knowledge score of the samples 28.00 was higher than the mean pre-test knowledge score 16.00. The calculated ‘t’ value 35.178 was greater than of table value (1.984) at 0.05 level of significance.

**Table No.1: Effectiveness of mean pre-test and post-test knowledge score of the samples**

S.No	Knowledge	N	Mean	Standard deviation	‘t’ test
1	Pre-test	100	16.00	4.383	35.178
2	Post-test	100	28.00	2.832	P<0.05 significant



**Figure No.1: Distribution of pre-test knowledge score regarding placental stem cells utilization N=100**

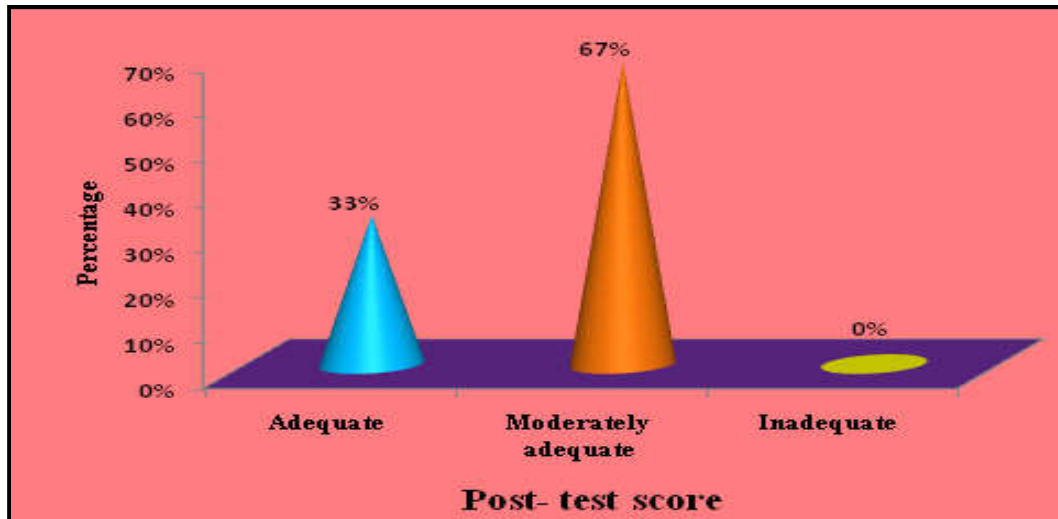


Figure No.2: Distribution of post -test knowledge score regarding placental stem cells utilization N=100

## NURSING IMPLICATIONS

### Nursing practice

Nursing personnel should plan to implement and evaluate various teaching programme regarding placental stem cells utilization.

The self-instructional module should be used as, a tool to impart knowledge for the nursing personnel in hospital and community.

Nursing students should be supervised when applying the placental stem cells utilization.

Nurses should play a pivotal role in managing chronic ill patients both in the hospital as well as in the community setting.

## RECOMMENDATIONS FOR FURTHER RESEARCH

Recommendation based on the present study.

Similar study can be done with large sample.

A study can be done between knowledge and attitude among staff nurses.

To determine the knowledge and practice of placental stem cells utilization among urban and rural hospitals.

A comparative study can be carried out on knowledge regarding placental stem cell utilization among GNM students and B.Sc. Nursing students.

A same study can be done in the community as well as in the primary health centre.

## CONCLUSION

Self- Instructional Module on placental stem cells utilization was effective in improving adequate and moderately adequate knowledge. So awareness programme could be organized related to current status in health. Periodically nurses need to be motivated to attend more conferences, workshops, and continuing education programme to get updated.

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## CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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