

# **stem cell therapy.**

## **ABSTRACT**

**KEYWORDS:** Knowledge, Effectiveness, Stem Cell Therapy .

### **STATEMENT OF THE PROBLEM:**

A Descriptive study to assess the level of knowledge among Staff Nurses regarding Stem Cell Therapy in Government Head Quarters Hospital, Cuddalore.

### **OBJECTIVES :**

1. To assess the level of knowledge among Staff Nurses regarding Stem Cell Therapy.
2. To find out the association between the level of knowledge among Staff Nurses Regarding Stem Cell Therapy with their select socio demographic variables.

### **RESEARCH DESIGN & METHOD:**

A non-experimental design was adopted for the study to assess the level of knowledge among Staff Nurses regarding Stem Cell Therapy in Government Head Quarters Hospital Cuddalore.

### **POPULATION:**

All the Staff Nurses working in Hospital.

### **SAMPLE:**

Staff Nurses working in Government Head Quarters Hospital Cuddalore who had completed either of diploma and B.Sc. nursing included for the study.

### **SAMPLING TECHNIQUE:**

By using the convenience sampling the Staff Nurses who fulfilled the inclusion criteria and the most conveniently available Staff Nurses selected as the study participants (or) as the samples.

## **RESULT:**

The structural questionnaire was used to compute the data. The statistics shows the following results.

- The results shows that Educational qualification of Staff Nurses 17(56.6%) were diploma in Nursing and 13(43.4%) were graduation in Nursing. In relation to Working area of Staff Nurses 22(73.6%) were worked in general area and 8(26.74%) were worked in Infertility ward. Staff Nurse 27 (90%) had experience more than 5 years and 3(10%) were had experience in between 2.5-5 years
- The Assessment of Level of knowledge shows that 3(10%) of the Staff Nurses had Inadequate knowledge, 22 (73.3%) of Staff Nurses had moderately Adequate knowledge and remaining 5(16.7%) of Staff Nurses had Adequate knowledge.
- In the association between the level of Knowledge among Staff Nurses regarding Stem Cell therapy with their selected Socio-demographic variables of Staff Nurses. In this there is no significant association between Level of knowledge with selected socio-demographic variables

## **CONCLUSION:**

The present study assessed the level of knowledge regarding the Stem Cell Therapy and found that the Staff Nurses had moderately Adequate knowledge regarding the Stem Cell Therapy. The formulated hypothesis was supported.

# CHAPTER I

## INTRODUCTION

**“Stem Cell research can revolutionize medicine,  
more than anything since antibiotics”.**

Stem Cells are a special type of cells that have two important properties. They are able to make more cells like themselves. That is, they self-renew. And they can become other cells that do different things in a process known as differentiation. Stem Cells are found in almost all tissues of the body. And they are needed for the maintenance of tissue as well as for repair after injury.

Depending on where the stem cells are, they can develop into different tissues. Hematopoietic stem cells reside in the bone marrow and can produce all the cells that function in the blood. Stem cells also can become brain cells, heart muscle cells, bone cells or other cell types.

There are various types of stem cells. Embryonic stem cells are the most versatile since they can develop into all the cells of the developing fetus.

The majority of stem cells in the body have fewer abilities to give rise to cells and may only help maintain and repair the tissues and organs in which they reside. The embryos being used in embryonic stem cell research come from eggs that were fertilized at in vitro fertilization clinics but never implanted in women's uteruses. The stem cells are donated with informed consent from donors. The stem cells can live and grow in special solutions in test tubes or petri dishes in laboratories

Stem cell therapy, also known as regenerative medicine, promotes the repair response of diseased, dysfunctional or injured tissue using stem cells or their derivatives. It is the next chapter in organ transplantation and uses cells instead of donor organs, which are limited in supply.

Researchers grow stem cells in a lab. These stem cells are manipulated to specialize into specific types of cells, such as heart muscle cells, blood cells or nerve cells.

. The specialized cells can then be implanted into a person. For example, if the person has heart disease, the cells could be injected into the heart muscle. The healthy transplanted heart muscle cells could then contribute to repairing the injured heart muscle.

Cord blood stem cells are pluripotent, which is the ability to differentiate into not only different blood cell types, but potentially into different types of tissue including bone, cartilage, hepatic, pancreatic, neurologic, muscle, epithelial, endothelial, and skin. Redefining health in its endeavor to bring a leading

edge healing concept is proud to introduce stem cells therapy. Umbilical cord blood is rich in stem cells. Which are the building blocks of the blood and the immune system. These biologically unique cells have the ability to develop into other cell types within the body. Stem cells collected from the umbilical cord have the ability to replace bone marrow and to produce various blood and immune cells.

In worldwide the first cord blood transplantation was in 1988, two option for cord blood banking was introduce, private and public cord blood banking. More than 780,000 cord blood units are stored in over 130 private cord blood bank world. The first cord blood repository in India was established by the company Reliance Life Science (RLS), which incorporated in 2001; their programmed is primarily oriented towards public banking.

India has a population of over one billion people with about 5% being able to afford the very best treatment, 25% in the middle class with increasing income and 70% who cannot afford a transplant unless aided by the government. The rate of haemoglobinopathies in India is high with nearly 12,000 infants being born every year with a severe disorder. These numbers imply that every hour I child is born who will suffer with this genetic disorder. The carrier rate for  $\beta$ thalassemia varies from 1-17% in India with an average of 3.2% which indicates that on an average 1 in every 25 Indians is a carrier of thalassemia. This eventually, shoots up the demand of stem cell therapy which is one of the effective treatment option. Stem cell therapy in the coming decades may provide solution to incurable ailments and sever injuries. Further stem cell break through is expected to promote effective l

low cost treatment for diseases like diabetes, stroke, spinal cord damage etc. The Indian Council of Medical Research has estimated that some 50 million patients with heart diseases, 5 million with Parkinson's disease and 5 million with Alzheimer's disease in India are 'potential beneficiaries of stem cell therapy. First generation therapy is already being offered in South Korea for spinal injuries.

### **NEED FOR THE STUDY:**

A presentation on Stem Cell therapy should cover the basis of Stem Cells their types how they work in therapy, and the potential benefits and challenges this treatment. It should also touch upon ethical consideration and the future of Stem Cell research.

Define Stem Cells as cell with the potential to develop into many different cell types explain that stem cells can be used to repair or replace damaged tissues and organs. Introduction stem cell therapy s a treatment that uses stem cell to treat or prevent diseases.

Explain that these are multi potent stem. Cell found in various tissues like bone marrow and can different into a limited range of cells that are adult cells that have been reprogrammed to an embryonic stem cell like state.

Replacing damaged cell explain how stem cells can be used replaced cells that are damage.

Stem cells have the remarkable ability to differentiate into various cell types, potentially replaced.

Converging the types of stem cell, their potential applications current research progress and associated challenges. It should include information on embryonic adult and induced pluripotent stem cell therapy in treating diseases like cancer, diabetes, and neurological disorders. Ethical considerations surrounding stem cell research, particularly with embryonic stem cell, should also be addressed.

Stem cells are needed for their unique ability to differentiate into various cell types, enabling them to repair and regenerate damaged tissues and organs, potentially treating a wide range of diseases.

They are crucial for understanding how diseases develop, testing new drugs, and for regenerative medicine, offering hope for treating condition like diabetes, heart disease, and neurological disorders. Further more stem cell are used in treating blood cancers and blood disorders through transplantation.

The use of embryonic stem cells raises ethical considerations, while induce while pluripotent stem cells offer an alternative without the ethical concerns associated with embryonic stem cells.

Stem cell therapy is an advanced treatment used in modern medicine for various diseases such as cancer, blood disorders, and degenerative conditions. It plays an important role in regenerative medicine and improving patient outcomes. Nurses are an essential part of the healthcare team and are responsible for patient care, education, and support during treatment. Adequate knowledge about stem cell therapy helps nurses provide safe and effective care to patients undergoing such treatments.

Therefore, it is important to assess the knowledge of staff nurses regarding stem cell therapy. This study will help identify knowledge gaps and provide information for planning educational programs to improve nurses' knowledge and quality of patient care.

### **STATEMENT OF THE PROBLEM**

A Descriptive study to assess the level of knowledge among Staff Nurses regarding Stem Cell Therapy in Government Head Quarters Hospital, Cuddalore.

### **OBJECTIVES :**

1. To assess the level of knowledge among Staff Nurses regarding Stem Cell Therapy.
2. To find out the association between the level of knowledge among Staff Nurses Regarding Stem Cell Therapy with their select socio demographic variables.

### **OPERATIONAL DEFINITIONS**

#### **Assess:**

In this study, assess refers to the systematic process of measuring and evaluating the knowledge regarding Stem Cell Therapy among Staffs Nurses using a structured knowledge questionnaires.

**Knowledge:**

Knowledge refers to the level of understanding and awareness of Staff Nurses regarding Stem Cell Therapy, including its definition, types, sources, indications, procedures, benefits, and complications, as measured by the structured questionnaire prepared by the researcher

**Stem Cell Therapy :**

Stem cell therapy refers to the medical treatment that uses stem cells to repair, replace, or regenerate damaged tissues or organs in patients with certain diseases such as blood disorders, cancers, and degenerative conditions.

**Staff Nurses:**

Staff Nurses refer to registered nurses who have completed General Nursing and Midwifery (GNM) or Bachelor of Science in Nursing (B.Sc Nursing) and are currently working in clinical departments at Government Headquarters Hospital, Cuddalore

**Government Headquarters Hospital, Cuddalore :**

Government Headquarters Hospital, Cuddalore refers to the selected government healthcare institution where the Staff Nurses are employed and data collection is conducted.

**ASSUMPTIONS :**

1. Staff Nurses may have some basic knowledge regarding Stem Cell Therapy.
2. Staff Nurses are willing to participate and provide honest responses to the questionnaire.
3. Knowledge regarding Stem Cell Therapy can be measured using a structured questionnaire
4. Educational qualification and work experience may influence the knowledge level of Staff Nurses.
5. Increasing awareness about Stem Cell Therapy can improve nursing practice and patient Care.

## **DELIMITATIONS**

1. The study is limited to Staff Nurses working in the Government Head quarters Hospital,
2. The study includes only Staff Nurses who are available during the period of data Collection
3. The study focuses only on assessing knowledge regarding Stem Cell therapy.
4. The study uses a structured questionnaire as the data collection tool.
5. The study is conducted within a specific time period determined by the researcher.

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## CONCEPTUAL FRAMEWORK

The health promotion model (HPM) proposed by Pender (1982; revised, 1996) was designed to be a “complementary counterpart to models of health protection”

It defines health as a positive, dynamic state, not merely the absence of disease (Pender et al., 2015). Health promotion is directed at increasing a patient’s level of well-being.

The Health Promotion Model describes the multidimensional nature of people as they interact within their environment to pursue health.

The model focuses on the following three areas

- (1) Individual characteristics and experiences;**
- (2) Behavior-specific knowledge and affect; and**
- (3) Behavioral outcomes, in which the patient commits to or changes a behavior.**

The HPM notes that each person has unique personal characteristics and experiences that affect subsequent actions.

The set of variables for behavioral-specific knowledge and affect have important motivational significance.

These variables can be modified through nursing actions. Health-promoting behavior is the desired behavioral outcome and the end point in the HPM.

Health-promoting behaviors result in improved health, enhanced functional ability, and better quality of life at all stages of development

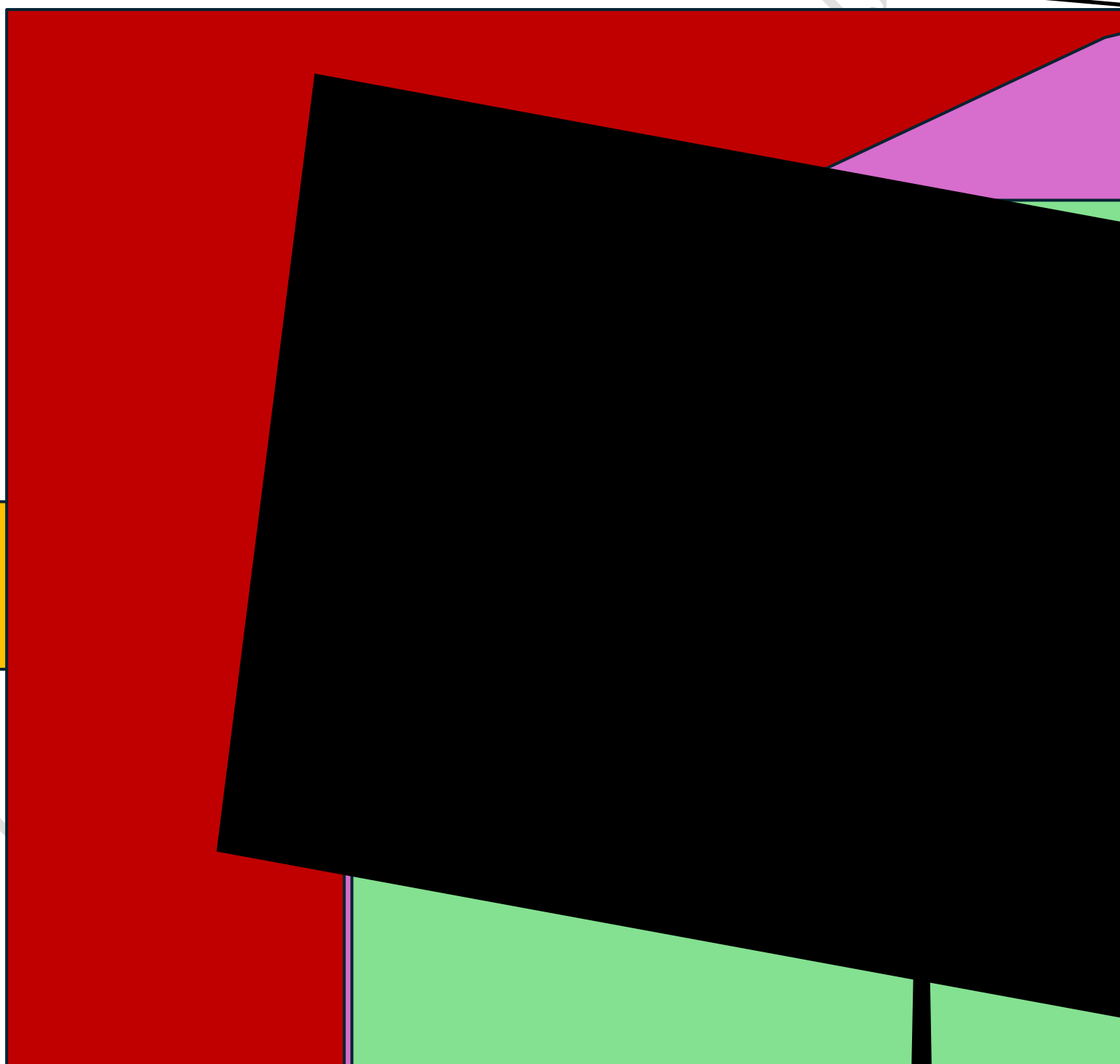
**FIGURE -I CONCEPTUAL FRAMEWORK BASED ON  
HEALTH PROMOTION MODEL(PENDER)**

INDIVIDUAL.  
CHARACTERISTICS  
AND EXPERIENCES.

BEHAVIOR- SPECIFIC.  
COGNITIONS.  
AND AFFECT

BEHAVIORAL  
OUTCOME

Perceived benefits action  
on learning new  
therapies



## **CHAPTER-II**

### **REVIEW OF LITERATURE**

Review of literature is a key step in research process. The review of literature in a research report is a summary of current knowledge about a particular practice problem and includes what is known and what is not known about a problem. This chapter deals with the review of literature which can justify the proposed research problem with an appropriate methodology and contribute towards the development of a conceptual framework. The investigator has organized the literature reviewed in the following sections.

#### **LITERATURE REVIEW RELATED TO THE STEM CELL THERAPY MARCIL SATTYAPP HOOLGERI\_(2026)”**

“A Descriptive Study to Assess the Knowledge Umbilical Cord Blood Banking among Final Year B.Sc. Nursing Students at Selected Nursing College of Koppal, Karnataka”

A descriptive study was conducted to assess the level of knowledge regarding Umbilical cord blood banking among final year B.sc Nursing students at selected nursing colleges of Koppal of the study was to assess the present knowledge regarding umbilical Cord blood banking among final year B.sc Nursing students – A simple descriptive research design was adopted and purposive technique was used to collect the data from 100 final year students of selected nursing college of Lagga Karnataka The data was collected, organized and analyzed in term of descriptive and inferential findings revealed that 81% of the sample had inadequate knowledge scores and 17% had moderate knowledge scores and 2% had adequate knowledge regarding Umbilical Cord blood Banking it was found that there is no Significant association between Knowledge score and their demographic are hence the formulated research hypothesis H<sub>1</sub> was rejected and the null hypothesis H<sub>0</sub> was Study Concluded that an attempt should be made to educate the final year -BSC nursing Students as gain complete knowledge regarding Umbilical Cord Blood Banking.

**SHREYASH KHADE,MR. SARVESH HARNE, Mr. SATYAM LAVAND, Ms. REBECCA MORE,Mr RECHAL MASCARENHAS, Ms.PRERANA RANBHISE,Ms.RAJARSHI,Mrs. SUNANDA KALE.\_ (2025)**

“A Study to Assess the Knowledge Regarding Stem Cell Therapy and Its Benefits among B.Sc. Nursing 3<sup>rd</sup> Year Students at D. Y. Patil College of Nursing, Kolhapur”.

The study finding of the knowledge related stem cell therapy and its benefits among B.Sc. Nursing 3<sup>rd</sup> years students was (49%) Good, (35%) Average, and (16%) Poor knowledge. Chi-square values indicate a significant association between the knowledge scores of B.Sc. Nursing 3<sup>rd</sup> years students with gender (5.991 at 0.05 levels) and Source of information (9.488 at 0.05 levels), But there is no significant association between the knowledge scores of among B.Sc. Nursing 3<sup>rd</sup> years students and other demographic variables such as Age in years, Religion. The study concludes that the level of knowledge regarding stem cell therapy and its benefits among B.Sc. Nursing 3<sup>rd</sup>-year students at D. Y. Patil College of Nursing, Kolhapur, is moderate, with 49% of participants demonstrating good knowledge.

**AKSA PETER<sup>1</sup>, Ms. ANGEL MARIA P. T<sup>1</sup>, Ms. ANIET BIJO<sup>1</sup>, Ms. ANI ROSE THOMAS<sup>1</sup>, Ms. ANU MOL VARGHESE<sup>1</sup>, Ms. ANNIE THOMAS<sup>1</sup>, Mr. VINEETH (2017)**  
 “The knowledge among student nurses regarding Umbilical Cord Stem Cell Banking. ”

A study was formulated to assess the knowledge level about umbilical cord stem cell banking among student nurses, compare the knowledge level of student nurses of selected nursing colleges and to associate the knowledge score with selected demographic variables of student nurses from selected colleges. A quantitative research approach was adopted and nonexperimental descriptive research design was used. After getting the administrative permission purposive sampling was used to select 100 samples from fourth year B.Sc. nursing of selected nursing colleges for assessing the knowledge about umbilical cord stem cell banking. The study findings showed that, of student nurses having moderate knowledge, 23% of student nurses having poor knowledge about umbilical cord stem cell banking. There was no significant association were found between the knowledge score and selected demographic variables.

**AMANDEEP KAUR, ARCHNA GARG\_(2017)** “A Descriptive Study to Assess Knowledge and Attitude Regarding Stem Cells and Umbilical Cord Blood Banking among Antenatal Women Attending Antenatal OPD of Selected Hospitals, Hoshiarpur, Punjab”.

A non-experimental descriptive research design was used with non-probability convenient sampling technique. Material & Methods: The study consisted of 100 antenatal women selected by non-probability convenient sampling technique. Data was collected by using self structured questionnaire to assess knowledge and likert rating scale to assess attitude of antenatal women. Analysis was done by both descriptive and inferential statistics. Findings: The study findings showed that 49% of antenatal women had average knowledge, 47% had poor knowledge and 4% had good knowledge regarding stem cells and umbilical cord blood banking. In terms of attitude 75% antenatal women had positive attitude and 25% had neutral attitude regarding stem cells and umbilical cord blood banking.

**UJALA JOSHI , GOPAL SINGH CHARAN, Dr. LALITA KUMARI\_(2017)**“Study to Assess the Knowledge on Umbilical Cord Stem Cell Collection, Preservation and Utilization among Nurses in the Selected Hospitals at Jalandhar, Punjab”.

In present study pre-experimental one group pre test post test only design was selected. Convenience sampling technique was used to select 60 nurses working in maternity units. Structured knowledge questionnaire was used collect data on knowledge of umbilical cord stem cell collection, preservation and utilization.

Result of study showed that more than half (53.3%) of nurses were in age group of 21-25 years and all (100%) of the nurses were females. Most of the nurses had done General Nursing Midwifery (91.7%). According to clinical experiences it was revealed that (31.7%) had more than 8 years experience in context of previous experiences; nurses (47.7%) had maternity ward and (40%) had labor ward and remain (18.3%) had operation theatre experience. Most of the nurses (61.7%) had mass media exposure from magazines and newspapers. The mean of the knowledge score of post test ( $23.60 \pm 5.016$ ) is higher than pre test ( $13.68 \pm 6.358$ ). There is mean difference of pre test and post test is 9.92. It means the knowledge score increased after structured teaching programme (STP). Here calculated t value ( $14.191$ ) > tabulated t-value (2.00).  $H_0$  rejected as  $t_{14.191} > t_{2.000}$  at 5% level of significance.

**HENDS. MOHAMMED, HEND A. EL SAYED\_(2015)**“ Knowledge and Attitude of Maternity Nurses Regarding Blood Collection And Stem cells”.

This Study aims to Cord blood collection and stem cell research are the most important and controversial topics of science and technology today. Nurses need to understand stem cell research so they can enter the debate on this issue. Aim was to evaluate the effect of an educational intervention on maternity nurses' knowledge and attitude regarding cord blood collection and stem cells. Quasi-experimental design (pre and post intervention) was utilized. A total sample of 53 staff nurses were recruited in the study. The study was conducted at two settings; labour unit in obstetrics department at Benha University Hospital and Maternity Hospital at Zagazig University Hospital. Data were collected through two main tools: A structured interviewing questionnaire, and nurses' attitude toward cord blood collection and stem cells. The results revealed that 88.7% of nurses had poor knowledge before intervention. However, 90.6% and 81.2% of them had good knowledge immediately and after three months of intervention respectively. As well as, only 1.9% of the studied nurses had positive attitude toward cord blood collection and stem cells before intervention. Meanwhile, immediately and after three months of intervention the positive attitude changed to 66.0% and 69.8% respectively.

**MANAL FAROUK MOUSTAFA1& ENTISAR MOHAMMAD YOUNESS:\_(2014)**

“Nurses Knowledge About Umbilical Cord Blood Banking And It' s Barriers ”.

This Study aims to Knowledge of the nurses is vital to success the science of Umbilical Cord Blood Banking Researchers sought to assess nurses 'knowledge regarding umbilical cord blood banking and identifying the barriers of it to be applied as their support is crucial to the success of development and functioning of cord blood banks in Women's Health Hospital, Assiut University Hospitals, Egypt. Descriptive study design was utilized in this study. Data were collected in interviews by using an interview form developed by the researchers according to the literature. All nurses were 150. Nurses' Knowledge about UCBB are lacking inadequate knowledge represented 79.7% and they identified from their point of view that the costs of the umbilical cord blood banks, policies and procedures are barriers of conducting such new technology in their hospitals.

**CONRAD VFERNANDEZ, KEVIN GORDON, MICHIEL, VANDENHOF, SHAUREEN Taweel, FRANCOISE BAYLIS \_ (2003)**“ Knowledge And Attitude Of Pregnant Women with regard to collection, Testing And Banking of cord”.

This Study aims To examine pregnant women’s knowledge and attitudes regarding cord blood Banking, as their support is crucial to the success of cord blood transplant programs. A total of 443 women (68%) responded. More than half of the women (307/438 or 70% (95% confidence interval, CI. 66% to 74%)) reported poor or very poor knowledge about cord blood banking. Many of the respondents (299/441 or 68% [95% CI 63% to 72%]) thought that physicians should talk to pregnant women about the collection of cord blood, and they wanted to receive information about this topic from health care professionals (290/441 or 66% [95% CI 61% to 70%]) or prenatal classes (308/441 or 70% [95% CI 65% to 74%]). Most of the women (379/442 or 86% [95% CI 82% to 89%]) would elect to store cord blood in a public bank, many citing altruism as the reason for this choice. A much smaller proportion (63/442 or 14% [95% CI 11% to 18%]) would elect private banking, indicating that this would be a good investment or that they would feel guilty if the blood had not been stored. Additional acceptable uses for cord blood included research (mentioned by 294/436 women or 67% [95% CI 63% to 72%]) and gene therapy (mentioned by 169/437 women or 39% [95% CI 34% to 43%]) .

## **CHAPTER III**

### **METHODOLOGY**

Research methodology is a systematic way to solve the research problem. It may be Understood as a scientific way of doing research.

This chapter deals with the research methodology adopted for the study which includes research approach, research design, variables, setting, population, sampling technique, inclusion and exclusion criteria, sample size development, description of instrument, data collection procedure and plan for data analysis.

#### **RESEARCH APPROACH**

A descriptive study to assess the level of knowledge among Staff Nurses regarding Stem Cell Therapy in Government Head Quarters Hospital, Cuddalore.

#### **RESEARCH DESIGN**

Polit started that the research design is the research's overall plan for obtaining answers to the research question (or) testing the research design. The Research design employed for this study was "Descriptive design".

#### **VARIABLE UNDER THE STUDY**

The **Dependent variable** of this study is knowledge regarding Stem Cell Therapy

#### **SETTING OF THE STUDY**

A Study has been conducted at Government Head Quarters Hospital, Cuddalore which is locate near Manjakuppam. This Hospital has 700 beded Hospital. There is around 500 Staff Nurses working at there.

#### **POPULATION:**

All the Staff Nurses working in Hospital.

#### **ACCESSIBLE POPULATION:**

Staff Nurses working in Government Hospital, Cuddalore.

**SAMPLE:**

Staff Nurses working in Government Head Quarters Hospital Cuddalore.

**SAMPLE SIZE:**

The sample size determined for this study was 30 Staff Nurses.

**SAMPLE TECHIQUE:**

By using the convenience sampling the Staff Nurses who fulfilled the inclusion criteria and the most conveniently available Staff Nurses selected as the study participants (or ) as the samples

**CRITERIA FOR SELECTION:****Inclusion criteria:**

1. Staff Nurses in Government Head Quarters Hospital in Cuddalore.
2. Staff Nurses who are all willing to participate in this study
3. Staff Nurses had undergone diploma in nursing and B.Sc. nursing courses.
4. Staff Nurses who are available during the data collection

**Exclusion criteria**

1. Staff Nurses who are not willing to participate in this study
2. Staff Nurses who are absent during the data collection period

**DESCRIPTION OF THE DATA COLLECTION INSTRUMENT****Development of the tool**

The data collection instrument was development after consulting the experts related to the consumed topic an after reviewing the various literature and research studies.

**DESCRIPTION OF THE TOOL;**

The instruments used for data collection was structural questionnaire which consists two sections.

## **SECTION A; DEMOGRAPHIC DATA**

It consists of Staff Nurses profile like sample number, name, age, gender, educational, qualification, working area, year of experience, worked as family welfare counsellor, is it must on doing cord blood sampling collection and previous knowledge about Stem Cell Therapy.

## **SECTION B; STRUCTURED KNOWLEDGE QUESTIONNAIRE**

It consists of 25 closed ended questions about stem cell therapy to assess the knowledge among Staff Nurses

### **QUESTIONNAIRE ON THE STEM CELL THERAPY :**

It consists of 25 closed ended question related to the basic and advanced technique to assess the knowledge of Staff Nurses regarding Stem Cell Therapy.

### **SCORING PROCEDURE :**

Regarding scoring for close ended questions the answers were scored as “one” and the wrong answers were scored as “zero”. the total score was 25 and the score were interpreted as below.

### **The score interpretation**

<b>Level of knowledge</b>	<b>Range of score</b> <b>[ Total score= 25]</b>
Inadequate knowledge	<9
Moderate knowledge	10-16
Adequate knowledge	17-25

**DATA COLLECTION PROCEDURE:**

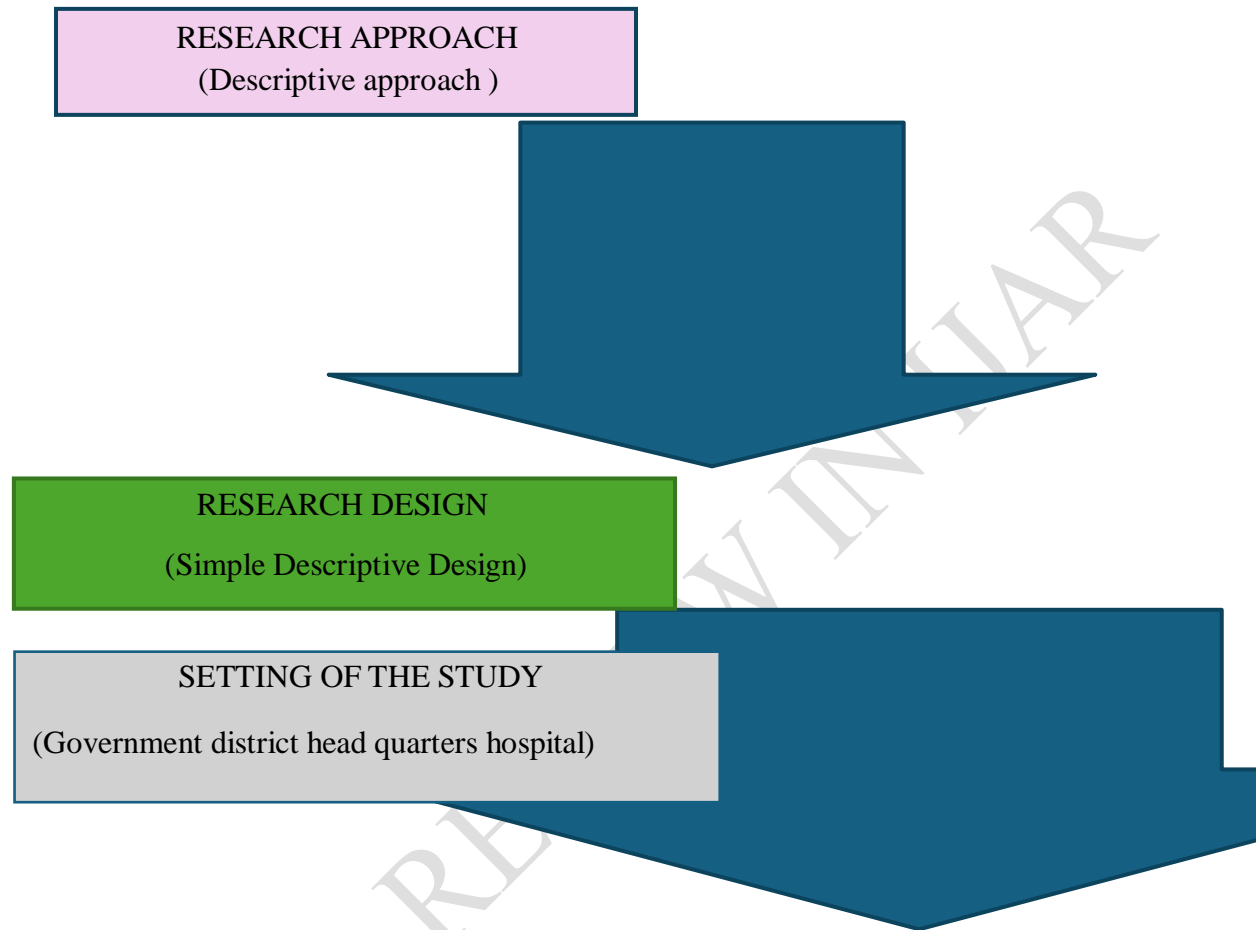
Data collection was done participants were selected by using the convenience sampling technique based on the inclusion criteria. After getting informed consent from the Staff Nurses. The study was conducted using structured questionnaire.

**PLAN FOR DATA ANALYSIS :**

The data were analyzed based on the objectives of the study using descriptive and inferential statistics.

Frequency and percentage for analysis of the demographic data.

Mean and standard deviation will be used to assess the knowledge percentage.

**SCHEMATIC REPRESENTATION OF THE RESEARCH DESIGN:****CHAPTER – IV**

TARGET POPULATION  
(Staff nurse-government head quarters hospital)

ACCESSIBLE POPULATION  
(30-Staff nurse in government head quarters hospital cuddalore)

UNDI

SAMPLING TECHNIQUE

Convenience sampling

UNDER PEER REVIEW IN IJAR

DESCRIPTION OF THE INSTRUMENT

Self administered questionnaires

DATA ANALYSIS AND INTERPRETATION

Descriptive and inferential statistics

FINDING AND CONCLUSION

UNID



UNDER PEER REVIEW IN IJAR

## **CHAPTER IV**

### **ANALYSIS AND FINDINGS**

This chapter deals with statistical analysis and interpretation of data collection form Staff Nurses in Government Head Quarters hospital Cuddalore.

The study results were tabulated, Analyzed and presented based on data collected regarding the Staff Nurses The data was collected regarding level of knowledge on Stem Cell Therapy. The descriptive and inferential statistics were used for analysis data based on the objectives of the study.

#### **THE ORGANIZATION OF THE ANALYSED DATA:**

##### **SECTION –I**

Deals with the distribution of Demographic variables of the Staff Nurses.

##### **SECTION-II**

Deals with the level of knowledge regarding the Stem Cell Therapy among the Staff Nurses.

##### **SECTION-III**

Association of level of knowledge of Staff Nurses with the selected demographic variable such as Nurses grade, Qualification, Experience in year and Exposure to previous knowledge.

TABLE -1

**DISTRIBUTION OF THE DEMOGRAPHIC VARIABLES OF THE STAFF NURSES:**

N=30

SL NO.	DEMOGRAPHIC VARIABLES	STAFF NURSE	
		No	%
1.	<b>Age in years</b> a. 20-30 b. 30-40 c. Above 40	6 11 13	20% 36% 43.4%
2.	<b>Gender</b> a. Male b. Female	- 30	- 100%
3.	<b>Qualification</b> a. Graduation in nursing b. Diploma in Nursing c. Auxiliary Nurse & Midwife	13 17 -	43.4% 56.6% -
4.	<b>Working area</b> a. ART laboratory b. OT c. Infertility ward d. General ward	- - 8 22	- - 26.7% 73.3%

5.	<b>Experience in year</b> a. 1 month – 2.5year b. 2.5-5years c. Above 5 years	- 3 27	- 10% 90%
6.	<b>Worked as a family welfare counselor no</b> a. Yes b. no	7 23	23.4% 76.6%
7.	<b>Is it must on doing cord blood sampling collection</b> a. Beneficial b. Non beneficial	27 3	90% 10%
8.	<b>Previous knowledge about stem cell therapy</b> a. Yes b. no	23 7	76.6% 23.4%
9.	<b>Sources of information about stem cell therapy</b> a. mass media b. Books c. Others	11 17 2	36.8% 56.6% 6.6%

**TABLE 1**

shows the distribution of demographic variable of this study included 30 Staff Nurses. The majority of staff nurses 13[43.4%] were above 40 years of age followed by 11[36.6%] were between 30-40 years of age and 6 (20%) were between 20-30 years. In relation to gender all 30 (100%) of Staff Nurses were female. With regard to educational qualification of staff nurses 17 (56.6%) were diploma in nursing and 13(43.4%) were graduation in nursing. In relation to working area of staff nurses 22 (73.6%) were worked general area and 8(26.7%) were worked in infertility ward. With regard to experience in years of Staff Nurses 27(90%) had experience more than 5 years and 3(10%) were had experience 2.5-5 years. About 7 (23.4%) Staff Nurses were and 23 (76.6%) staff nurses worked as family welfare counselor and welfare counselor with regard to perception of doing cord sampling collection is beneficial for Staff Nurses 27(90%) and non- beneficial for Staff Nurses 3(10%). In relation to previous knowledge 23(76.6%) had adequate knowledge in Staff Nurses and 7(23.4%) were having lack of knowledge . with regard to source of information from books 17(56.6%) in staff nurses followed by 11(36.8%) from mass media and 2(6.6%) from other sources.

**TABLE :2****DISTRIBUTION OF LEVEL OF KNOWLEDGE AMONG THE STAFF NURSES.**

N=30

SL NO	KNOWLEDGE SCORE	STAFF NURSES N=30	
		NO	%
1.	Inadequate knowledge (1-10)	3	10%
2.	Moderately adequate knowledge (11-17)	22	73.3%
3.	Adequate knowledge (18-25)	5	16.7%

**Maximum score =25**

**TABLE; 2**

Shows that 3(10%) of the staff nurses had inadequate knowledge and 22 (73.3%) of Staff Nurses had moderately adequate knowledge and remaining 5(16%) of Staff Nurses had adequate knowledge.

**TABLE-3**

Association between the level of knowledge among Staff Nurses regarding Stem Cell Therapy with their selected demographic variables.

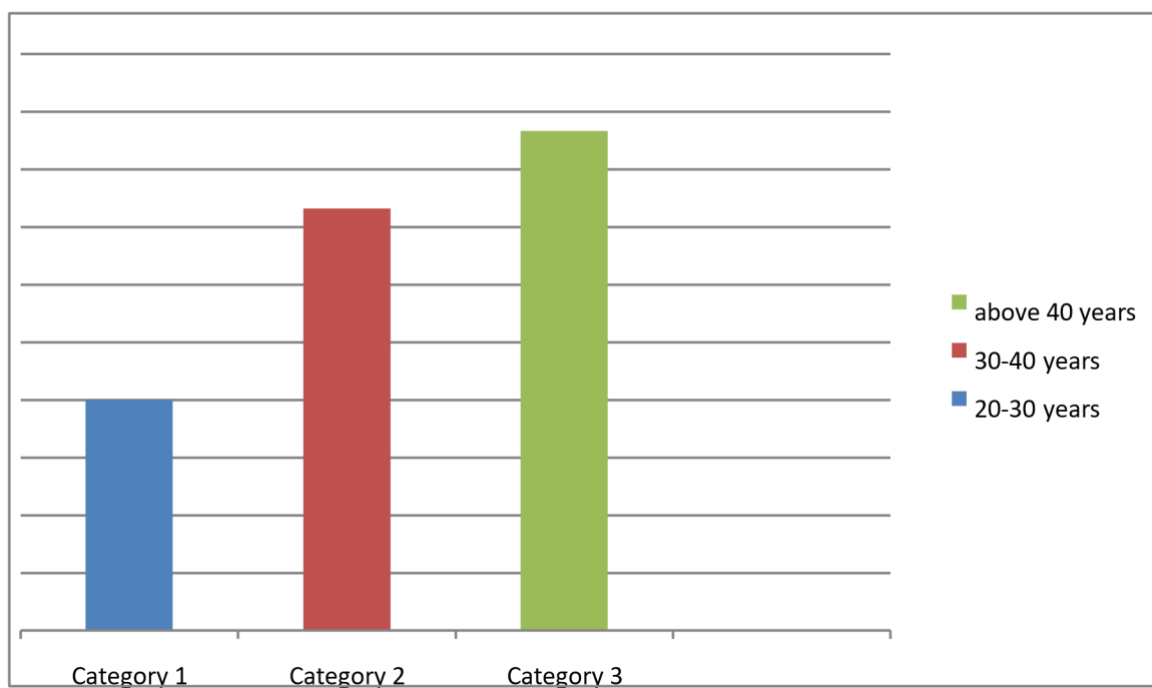
S.No	Characteristics	Inadequate	Moderate	Adequate	Chi Square	'p' Value
<b>1.</b>	<b>Age</b>					
	a. 20 – 30 years	3	1	2	7.401	(0.024) NS
	b. 30- 40 years	-	9	2		
	c. Above 40 years	-	12	1		
<b>2.</b>	<b>Qualification</b>					
	a. Graduation in nursing	1	8	4	124.00	(0.618) NS
	b. Diploma in Nursing	2	12	1		
	c. Auxiliary Nurse & Midwife	-	-	-		
<b>3.</b>	<b>Working area</b>					
	a. ART laboratory	-	-	-	49.0	(0.229) NS
	b. OT	-	-	-		
	c. Infertility ward	2	5	1		
	d. General ward	1	17	4		
<b>4.</b>	<b>Experience in year</b>					
	1) month – 2.5year	-	-	-	72.50	(0.97) NS
	a. 2.5-5years	1	2	-		
	b. Above 5 years	2	17	5		
<b>5.</b>	<b>Previous knowledge about Stem Cell therapy</b>					
	a. Yes	-	18	5	16.00	(0.88) NS
	b. no	3	4	-		

**Table 3**

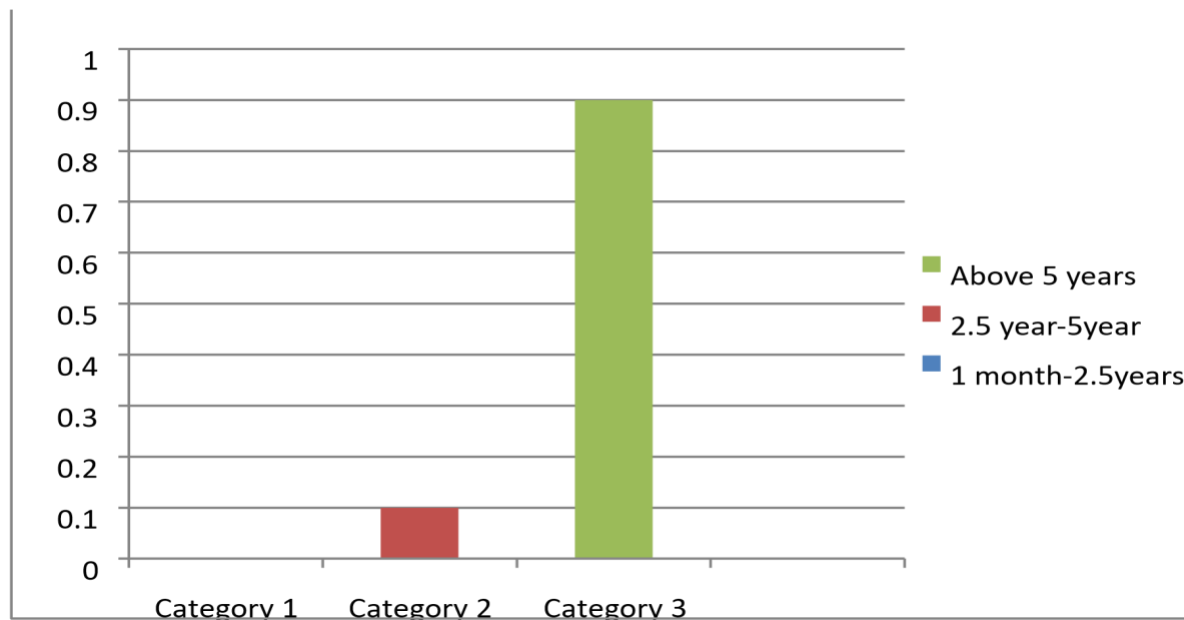
shows that association of between the level of knowledge among Staff Nurses regarding Stem Cell Therapy, with Their selected demographic variables

In this there is ( $p > 0.1$ ) No significant between Level of knowledge with selected socio-demographic variables such as Age, qualification, working area, year of experience and previous knowledge

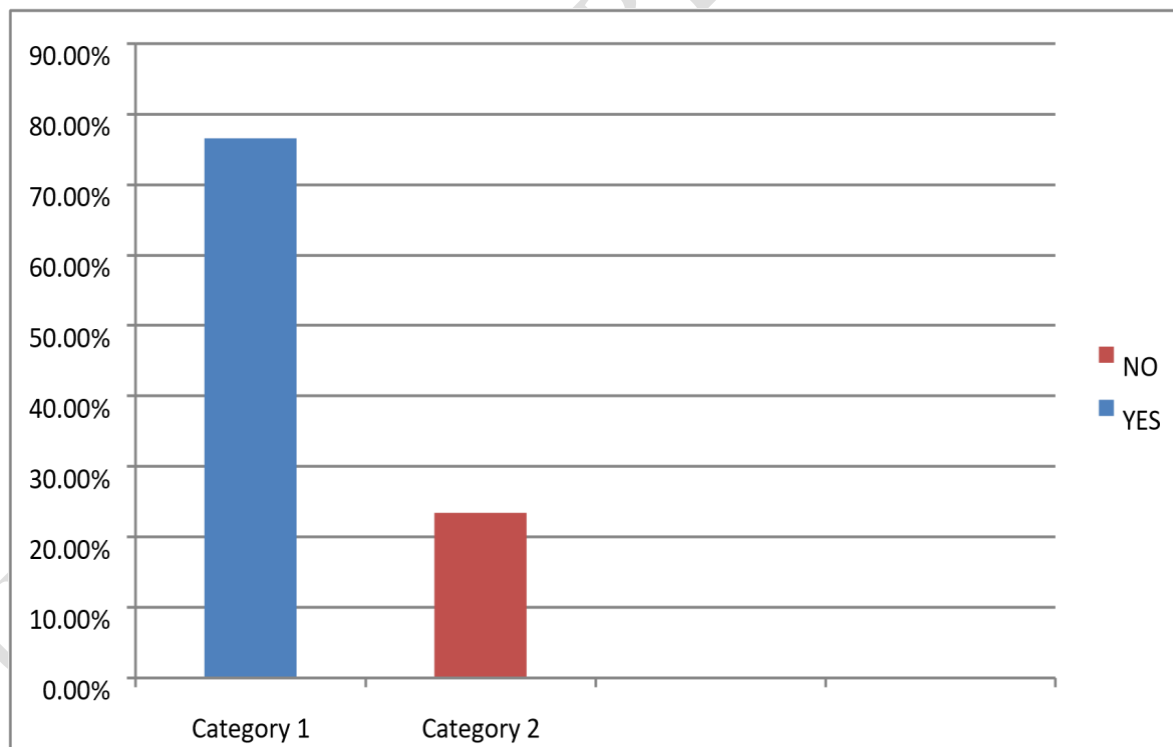
Even through there was No significant in all demographic variables, the Staff Nurses had. Moderately adequate knowledge.

**FIGURE-3: DISTRIBUTION OF AGE OF STAFF NURSES:****FIGURE-4: DISTRIBUTION OF QUALIFICATION OF STAFF NURSES:**

**FIGURE-5: DISTRIBUTION OF YEAR OF EXPERIENCE AS STAFF NURSES:**



**FIGURE-6: DISTRIBUTION OF EXPOSURE TO PREVIOUS KNOWLEDGE REGARDING STEM CELL THERAPY:**



## CHAPTER-V

### DISCUSSION

This chapter present the major findings at the study and discuss it in relation to finding at similar studies conducted by other researcher.

The main aim of the study was to assess the knowledge regarding Stem Cell therapy among Staff Nurses in Government Head Quarters Hospital ,Cuddalore.

The data collection and analysis was carried out based on the objectives of the study.

#### **The discussion is based on the objectives**

##### **Distribution of demographic variables of this study included 30 Staff Nurses.**

Table 1:show that educational qualification of the Staff Nurses s 17 (56.6%) where diploma in nursing 13(43.4%) were graduation in nursing. In relation to working area of Staff Nurses 22 (73.6%) were worked general area and 8(26.7%) were worked in infertility ward. Staff nurses 27(90%) had experience more than 5 year and 3 (10%) were experience in between 2.5-5 years.

##### **Objectives were to asses the level of knowledge among Staff Nurses regarding Stem Cell Therapy.**

Table 2: show that 3 (10%) of the Staff Nurses had inadequate knowledge and 22(73.3%) of Staff Nurses had moderately adequate knowledge and remaining 5 (16.7%) of Staff Nurses had adequate knowledge.

##### **Objectives were to find out the association between the level of knowledge among Staff Nurses regarding Stem cells Therapy with their selected socio-demographic variables**

Table 3 shows that association of between the level of knowledge among Staff Nurses regarding Stem Cell Therapy, with Their selected demographic variables

In this there is ( $p>0.1$ )No significant between Level of knowledge with selected socio-demographic variables such as Age, qualification, working area, year of experience and previous knowledge

Even though there was No significant in all demographic variables, the Staff Nurses had. Moderately adequate knowledge.

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## **CHAPTER-VI**

### **SUMMARY, CONCLUSION , IMPLICATION AND RECOMMENDATIONS**

This chapter represents the summary , conclusion, implication and recommendations which create a base for the researcher for evidence based practice.

#### **SUMMARY OF THE STUDY:**

The purpose of the study was to asses the level of knowledge among Staff Nurses regarding Stem Cell Therapy.

#### **THE OBJECTIVES FORMULATED FOR THIS STUDY WERE:**

To assess the level of knowledge among Staff Nurses regarding Stem Cells Therapy. To find out the association between the level of knowledge among Staff Nurses regarding Stem Cell Therapy with their selected socio demographic variables.

#### **MAJOR FINDINES OF THE STUDY:**

The descriptive and inferential statistics was used to complete the data the statistic shows the following result.

- The study show that 3(10%) of the Staff Nurses had inadequate knowledge and 22(73.3%)of Staff Nurses had moderately adequate knowledge and remaining 5(16.7%)of Staff Nurses had adequate knowledge.
- There was no significant association between level of knowledge with their selected demographic variables of Staff Nurses.

## **CONCLUSION:**

The study concluded that to assess the level of knowledge among the Staff Nurses regarding the Stem Cell Therapy.

The formulated hypothesis was support

**“A Good beginning makes a good ending”**

The findings showed the majority of Staff Nurses accounting for 22(73.3%) rated moderately adequate knowledge about Stem Cell Therapy. Meanwhile 5(16.7%) of Staff Nurses viewed adequate knowledge and 3(10%) felt their knowledge was poor . There is no significant association was found between knowledge level and demographic factor such as working area, years of experience showed no correlation.

The internet emerged as the primary source of information, highlighting the growing reliance on digital learning.

## **NURSING IMPLICATIONS**

The investigator has drawn the following implication from the study which is of vital concern in the field of Nursing services, Nursing education, Nursing administration and Nursing research.

### **Nursing Services**

1. The Staff Nurses should be included in the cord blood collection team which help them to improve their skills.
2. The Staff Nurses should be motivated to give health education to patients regarding the benefits of Stem Cell Therapy.

## **IMPLICATIONS OF NURSING EDUCATION:**

- This study emphasis the need for developing good teaching skill among the Staff Nurses on Stem Cell Therapy.
- The Nurse educator can provide an opportunity for the Staff Nurses to actively Participate Therapy in the Nursing procedures of Stem Cell Therapy .

- The Nurses educators should arrange for the In-service education programme (Seminars) for Staff Nurses regarding Stem Cell Therapy.

#### **IMPLICATIONS FOR NURSING, ADMINISTRATION:**

- The Nurse administrators should concentrate in offering refresher courses periodically to update the knowledge of Staff Nurses regarding Stem Cell Therapy.
- Nursing administration must make sure that the educational and information material should have consistent information regarding Stem Cell Therapy which can be displayed in the ward.

#### **IMPLICATIONS FOR NURSING RESEARCH:**

- A Similar study can conduct by the researchers to assess the practice regarding Stem Cell Therapy among Staff Nurses.
- Evidenced based Nursing practice must take higher priority in order to increase knowledge among Staff Nurses regarding Stem Cell Therapy.

#### **RECOMMENDATION:**

Based on the finding of the present study the following recommendations are made.

1. A similar study needs to be conducted for Nursing students in colleges to improve the generalization of the findings.
2. A similar study can be conducted on a larger sample size to enhance the reliability and generalizability of the results regarding knowledge on Stem Cell Therapy and its benefits.
3. A comparative study can be undertaken to assess the knowledge of Stem Cell Therapy and Its benefits among nursing students in urban and rural colleges.
4. An experimental study can be conducted to evaluate the effectiveness of various educational interventions, such as workshops or digital tools, in improving nursing students' knowledge of Stem Cell Therapy and its benefits.
5. A longitudinal study can be carried out to assess the long-term impact of educational programs on nursing students' knowledge and understanding of emerging medical therapies, like Stem Cell Therapy

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9. <https://www.irjweb.com>
10. <https://peerj.com>
11. <https://www.ijsdr.org>
12. <https://www.ijfmr>

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## REQUISITION FOR CONTENT VALIDITY

From:

3<sup>rd</sup> Batch,

B.sc nursing,

Final year (2021-2025)Batch,

PKB College of Nursing, Perambai,

Villupuram.

To:

Through The proper channel,

Respected Madam,

Sub: Expert opinion and suggestions for consent validity of the research tool Reg

We are B.sc nursing final year students of PKB College of Nursing, Villupuram. As a part of our programme we are going to conduct “A Descriptive Study to Assess the Level of Knowledge Among Staff Nurse Regarding Stem Cell Therapy in Government Head Quarters Hospital ,Cuddalore” .

I have prepared a tool. I kindly request you to go through the tool and give your valuable suggestion.

Thanking you

Date:

Enclosure:

1. Statement of the problem
2. Objectives of The study
3. Research tool.

Yours faithfully, Place:

Villupuram

## CONTENT VALIDITY CERTIFICATE

Here by certify that I have validated the tool of 3<sup>rd</sup> batch final year B.sc nursing students( 2021 Batch) of PKB College of Nursing. Who has under taken the dissertation titled as “ A Descriptive Study to assess the Level of Knowledge Among Staff Nurse Regarding Stem Cell Therapy in Government Head Quarters Hospital Cuddalore”.

Signature of the expert  
(withseal).

Place :

Date:

## APPENDIX – INFORMED CONSENT

I am \_\_\_\_\_ giving my consent to participate in the research “A Descriptive Study to assess the Level of Knowledge Among Staff Nurse Regarding Stem Cell Therapy in Government Head Quarters Hospital , Cuddalore”

I have been informed that my participation is entirely Voluntary and that even after participate at any point of the time during the the study begins: I can refuse to answer or study, I have been fully informed about the nature of the study, the researcher responsibilities and likely benefits from this study

**SIGNATURE**

## Demographic Variables

**SAMPLE NO:**

**DATE:**

1. **Name:**
2. **Age in years**
  - a. 20-30
  - b. 30-40
  - c. Above 40
3. **Gender**
  - a. Male
  - b. Female
4. **Qualification**
  - a. Graduation in Nursing
  - b. Diploma in Nursing
  - c. Auxiliary Nurse and Midwife (ANM)
5. **Working area**
  - a. ART laboratory
  - b. OT
  - c. Infertility ward
  - d. Others
6. **Experience in year**
  - a. 1 month 2.5 years
  - b. 2.5-5 years
  - c. Above 5 years.
7. **Worked as a family welfare counselor**
  - a. Yes
  - b. No
8. **Is it must on doing cord blood sampling collection.**
  - a. Beneficial
  - b. Non beneficial
9. **Previous knowledge about stem cell therapy**
  - a. Yes
  - b. No
10. **Sources of information about stem cell therapy.**
  - a. Mass media
  - b. Books
  - c. Others

**RESEARCH TOOL ON STEM CELLS THERAPY**

Structured knowledge questions:

1. Stem Cells are the building blocks of \_\_\_\_\_
  - a) Skeletal system
  - b) Immune system
  - c) Respiratory system
  
2. Cord blood refers to blood from the \_\_\_\_\_
  - a) Umbilical cord & placenta
  - b) Placenta & uterus
  - c) Umbilical cord & uterus
  
3. Stem cells are collected from \_\_\_\_\_
  - a) Umbilical artery
  - b) Umbilical vein
  - c) Umbilical artery & vein
  
4. Number of stem cells present in umbilical cord blood / ml are \_\_\_\_\_
  - a) 100000 cells

- b) 10000 cells
- c) 150000 cells

5. The two main types of cells found in the umbilical cord are \_\_\_\_\_&

- a) Haematopoietic & parenchymal cells
- b) Mesenchymal cells & haematopoietic cells
- c) Mesenchymal cells & parenchymal cells

6. The types of cells found in cord tissue are \_\_\_\_\_

- a) Mesenchymal cells
- b) Haematopoietic cells
- c) Parenchymal cells

7. Cord tissue specifically works in the \_\_\_\_\_

- a) Spinal cord, stomach & brain
- b) Spinal cord, brain & cartilage
- c) Brain, vertebrae & cartilage

8. The types of cells found in cord blood is \_\_\_\_\_

- a) Mesenchymal cells
- b) Haematopoietic cells
- c) Parenchymal cells

9. The important function of the umbilical cord stem cell is \_\_\_\_\_

- a) Flexibility
- b) Elasticity
- c) Plasticity

10. The first successful cord blood treatment performed in the year of \_\_\_\_\_

- a) 1988
- b) 1984
- c) 1990

11. Cord blood used to treat \_\_\_\_\_ diseases

- a) 20
- b) 80
- c) 60

12. Cord blood is mostly used for treating the defect of \_\_\_\_\_ child

- a) Premature
- b) Infant
- c) Toddler

13. The process of cord blood collection requires \_\_\_\_\_

- a) Less than 10 mins

b) Less than 5 mins

c) More than 10 mins

14. Cord blood collection requires \_\_\_\_\_ ml of blood

a) 7 ml

b) 30 ml

c) 56 ml

15. The maternal blood can be collected within \_\_\_\_\_

a) 24 hrs

b) 48 hrs

c) 32 hrs

16. \_\_\_\_\_ inches of cord are cut & stored in medical container

a) 5

b) 6

c) 8

17. Cord blood is saved within \_\_\_\_\_ minutes

a) 8

b) 3

c) 10

18. The stem cells are stored in the bank for \_\_\_\_\_years

- a) 10-11 years
- b) 30-31 years
- c) 20-21 years

19. Measurement of viability by \_\_\_\_\_

- a) Flow cytometry
- b) HLA
- c) Stem cell transplantation

20. To ensure viability, keep cord blood under \_\_\_\_\_temperature

- a) 20-25°C
- b) 30-35°C
- c) 40-45°C

21. The cord blood unit frozen at \_\_\_\_\_

- a) -196°C
- b) -96°C
- c) -156°C

22. The process which requires to keep the cells alive during the freezing process is \_\_\_\_\_

- a) Cytogenic
- b) Cryogenic

c) Incubation

23. Cryopreservation requires \_\_\_\_\_

a) Liquid oxygen vapour tank

b) Liquid nitrogen vapour tank

c) Liquid methane vapour tank

24. Public blood bank started in \_\_\_\_\_

a) England

b) Australia

c) New York

25. Delayed cord clamping will reduce the risk for \_\_\_\_\_

a) Iron deficiency

b) Vitamin deficiency

c) Protein deficiency

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**KEY ANSWER**  
**ASSESSMENT OF KNOWLEDGE**

<b>Q.NO</b>	<b>ANSWER</b>
1	B
2	A
3	B
4	B
5	B
6	A
7	B
8	B
9	C
10	A
11	B
12	A
13	A
14	B
15	A
16	B
17	C
18	B
19	A
20	A
21	A
22	B
23	B
24	A