

## A Study to Assess the Awareness Regarding Umbilical Cord Stem Cell Therapy among Health Team Members in Tertiary Care Hospital, Karad

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### ABSTRACT

#### Objectives:

(1)To determine the awareness of Health Team Members on umbilical cord stem cell therapy. (2)To determine the association between socio demographic variable and awareness regarding umbilical cord stem cell therapy

**Methods:** Survey research design was used to conduct the study among health team members and totally 300 health team members was selected by Convenience Sampling technique. The study was conducted in Krishna Institute of Medical Sciences, Karad. The data were collected by structured questionnaire. The collected data were studied and analysed in terms of objectives of the study using descriptive and inferential statistics.

**Results:** Awareness regarding umbilical cord stem cell therapy among health team members shows that 77% samples having average awareness, 17% are having poor awareness and 6% of them have good awareness.

**Conclusion:** The study results show that health team members are having average awareness regarding umbilical cord stem cell therapy.

**Key words:** Awareness, umbilical cord stem cell therapy and health team members.

### INTRODUCTION

Umbilical cord is the vital direct interlink between mother and fetus, which is always depicted as the relationship of an emotional bonding of motherhood, which is a beautiful experience for a women. The umbilical cord is referred as cord blood; this particular blood contains numerous hematopoietic stem cells that have the ability to differentiate into other cells and the ability to self-degenerate. [1]

Stem cells are defined simply as cells meeting three basic criteria. First, stem cells renew themselves throughout life, i.e., the cells divide to produce identical

daughter cells and thereby maintain the stem cell population. Second, stem cells have the capacity to undergo differentiation to become specialized progeny cells when stem cells differentiate, they may divide asymmetrically to yield an identical cell and a daughter cell that acquires properties of a particular cell type, for example, specific morphology, phenotype, and physiological properties that categorize it as a cell belonging to a particular tissue. [2]

Stem cells and stem cell research have opened new avenues for the treatment of disease. Stem cells are special cells because they are able to self-replicate and

differentiate into other body cells. This enables the body to replenish tissue and repair itself. Researchers are developing new methods for using stem cell therapies to treat individuals with a number of conditions including multiple sclerosis, spinal cord injuries, cardiovascular diseases, and Parkinson's disease.

Stem cells taken from the umbilical cord to be used in stem cell therapy are supposed to be preserved under appropriate conditions. Storing umbilical cord blood in liquid nitrogen tanks for long periods of time is called "Cord Blood Banking". It has been proven that cord blood can be preserved in the laboratories for up to 15 years in modern facilities. [3]

The placenta was discarded with umbilical cord blood as medical waste. Over the past few decades, cord blood has been shown to contain stem cells and early precursor cells that can be used for life-saving stem cell transplantation for children and adults in need of a stem cell transplant. Cord blood is more tolerant of a new host and can be used without full matching, providing increased access to transplantation for patients who cannot find a matched donor. [4]

Thus, the purpose of the study was health team members must be knowledgeable and should aware of umbilical cord stem cell therapy.

#### **Problem Statement**

"A Study to assess the awareness regarding umbilical cord stem cell therapy among health team members in KIMS Karad."

#### **Objectives of the study**

1. To determine the awareness of health team members on umbilical cord stem cell therapy.
2. To determine the association between socio demographic variable and awareness regarding umbilical cord stem cell therapy.

#### **METHODS**

Survey research design was used to conduct the study among health team members at tertiary care hospital, Karad

totally 300 health team members was selected by Convenience Sampling technique. The samples included in this study were who fulfilled the inclusion criteria with available at the time of data collection and who were willing to participate. Ethical permission was obtained before the data collection. After obtaining permission from the setting, the patients were asked their willingness to participate in the study and informed consent was obtained. After collecting the demographic data, the structured questionnaire regarding awareness of umbilical cord stem cell was administered. The collected data were studied and analysed in terms of objectives of the study using descriptive and inferential statistics.

#### **Description of the tool**

The structured questionnaire comprised two sections covering the following areas

##### **Section A:** socio demographic data

It consist of age, year of experience, gender, marital status, religion, place of residence, type of family and type of professional,

##### **Section B:** Awareness regarding umbilical cord stem cell:

It consists of 5 divisions.

- a. Umbilical cord blood collection.
- b. Umbilical cord blood banking.
- c. Storage of stem cell.
- d. Source of cord blood collection.
- e. Advantages of cord blood.

##### **Section C:** Awareness regarding umbilical cord stem cell therapy

## **RESULTS**

#### **Description of sample characteristics:**

The data presented in table no.1 reveals that among all samples majority of (85.67%) were from 20-30 years of age and minority of (4%) from 40-60 years of age. Majority of (87.67%) is of from 0-10 years of experience and minimum is of (0.67%) from 31-40 years of experiences. As regards to gender majority of (73.33%) were females and minority (26.67%) were males. The data concerning the marital status, majority (73%) were unmarried. Majority (81%) were Hindu. In relation to the residence

majority (74.67%) is residing in urban area and minority (25.33%) were residing in rural area. Majority (73.33%) was nuclear

family and minority (3.67%) was extended family. Majority (38.67%) were nursing professionals.

**SECTION-1: Frequency and percentage distribution of socio-demographic variables of subjects**  
**N=300**

| SR.NO | SOCIO-DEMOGRAPHIC VARIABLES |                    | RESPONDENTS |            |
|-------|-----------------------------|--------------------|-------------|------------|
|       |                             |                    | FREQUENCY   | PERCENTAGE |
| 1.    | Age                         | 20-30 years        | 257         | 85.67 %    |
|       |                             | 31-40 years        | 19          | 6.33%      |
|       |                             | 41-50 years        | 12          | 4%         |
|       |                             | 51-60 years        | 12          | 4%         |
| 2.    | Year of experiences         | Less than 1 Year   | 12          | 4.00 %     |
|       |                             | 1-10 years         | 263         | 87.67%     |
|       |                             | 11-20 years        | 7           | 2.33%      |
|       |                             | 21-30 years        | 16          | 5.33%      |
|       |                             | 31-40years         | 2           | 0.67%      |
| 3.    | Gender                      | Male               | 80          | 26.67%     |
|       |                             | Female             | 220         | 73.33%     |
| 4.    | Marital status              | Married            | 77          | 25.67%     |
|       |                             | Unmarried          | 219         | 73.00%     |
|       |                             | Divorcee/Separated | 2           | 0.67%      |
|       |                             | widower/widow      | 2           | 0.67%      |
| 5.    | Religion                    | Hindu              | 243         | 81.00%     |
|       |                             | Christian          | 32          | 10.67%     |
|       |                             | Muslim             | 13          | 4.33%      |
|       |                             | Others             | 12          | 4.00%      |
| 6.    | Place of residence          | Urban              | 224         | 74.67%     |
|       |                             | Rural              | 76          | 25.33%     |
| 7.    | Type of family              | Nuclear            | 214         | 71.33%     |
|       |                             | Joint              | 75          | 25.00%     |
|       |                             | Extended           | 11          | 3.67%      |
| 8.    | Type of profession          | MBBS               | 74          | 24.67%     |
|       |                             | BDS                | 91          | 30.33%     |
|       |                             | Physiotherapy      | 7           | 2.33%      |
|       |                             | Nursing            | 116         | 38.67%     |
|       |                             | Lab technician     | 6           | 2.00%      |
|       |                             | Others             | 6           | 2.00%      |

**SECTION-2: Assessment of awareness regarding umbilical cord stem cell among health team members.**

**Table 2. Assessment of awareness regarding umbilical cord stem cell therapy among health team members**

| Level of awareness | Frequency | Percentage |
|--------------------|-----------|------------|
| Poor               | 51        | 17.00%     |
| Average            | 230       | 76.67%     |
| Good               | 19        | 6.33%      |
| Total              | 300       | 100%       |

N=300

**Awareness regarding umbilical cord stem cell therapy among health team members:**

Table no.2 shows that the overall result of the study the level of awareness among health team members 77% of them has average awareness, 17% are having poor awareness and 6% of them have good awareness.

**Table.3: Association between awareness and socio-demographic variables**

| Socio-demographic variables |            | Level of awareness |         |      | Chi-square | P-value | Result                |
|-----------------------------|------------|--------------------|---------|------|------------|---------|-----------------------|
|                             |            | Poor               | Average | Good |            |         |                       |
| Age(yrs)                    | 20-30      | 29                 | 188     | 40   | 7.472      | 0.2794  | Not Significant <0.05 |
|                             | 31-40      | 4                  | 15      | 0    |            |         |                       |
|                             | 41-50      | 1                  | 8       | 3    |            |         |                       |
|                             | 51-60      | 3                  | 8       | 1    |            |         |                       |
| Year of experience          | 0-10years  | 16                 | 225     | 34   | 3.968      | 0.6811  | Not Significant <0.05 |
|                             | 11-20years | 1                  | 6       | 0    |            |         |                       |
|                             | 21-30years | 2                  | 11      | 3    |            |         |                       |
|                             | 31-40years | 0                  | 2       | 0    |            |         |                       |
| Type of profession          | MBBS       | 9                  | 50      | 15   | 18.427     | 0.0010  | Significant <0.05     |
|                             | BDS        | 5                  | 81      | 5    |            |         |                       |
|                             | Nursing    | 5                  | 83      | 28   |            |         |                       |

### Association between awareness and socio-demographic variables:

Table. 3 reveals that age (yrs) and year of experience were not significantly associated with knowledge score hence the type of profession was found significantly associated with knowledge score.

### DISCUSSION

The findings of the study were discussed with reference to the objectives stated in first section and with the findings of the other studies the present study was under taken to assess the awareness regarding umbilical cord stem cell therapy among health team members at tertiary care hospital, Karad.

A detail review of literature indicated that there were most of the studies found association between awareness regarding umbilical cord stem cell therapy and type of profession. The study was aimed to determine the association between socio demographic variable and awareness regarding umbilical cord stem cell therapy. The association of awareness score of subjects regarding umbilical cord stem cell therapy with type of profession the tabulated p value is 0.0305 and  $\chi^2$  is 18.427. Hence there is significant association between the level of awareness score and Type of Profession.

The study of Mohammed Hend and Sayed Hend revealed the result 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. [1]

In our research we had found out that there is significant association between level of awareness among type of profession. Also we had found out that the nursing professionals have average awareness regarding umbilical cord stem cell therapy and MBBS professional are having good awareness regarding umbilical cord stem cell therapy.

### CONCLUSION

The association of awareness score of subjects regarding umbilical cord stem cell therapy with type of profession the tabulated p value is 0.0305 and  $\chi^2$  is 18.427. Hence there is significant association between the level of awareness score and type of profession. The study results show that health team members are having average awareness (77%) regarding umbilical cord stem cell therapy.

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How to cite this article: Gholap MC, Mohite NC, Mohite VR et.al. A study to assess the awareness regarding umbilical cord stem cell therapy among health team members in tertiary care hospital, Karad. *Int J Health Sci Res*. 2018; 8(8):205-208.

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