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RESEARCH ARTICLE

A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME REGARDING STEM CELLS AMONG ELIGIBLE COUPLES IN SELECTED AREAS OF AHMEDABAD

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Abstract

Introduction: Stem cells have tremendous promise to helping us to understand and treat a range of various diseases, injuries and other health related conditions. Their potential is evident in the use of cord blood stem cells to treat diseases of the blood, A cord blood stem cell therapy has saved the lives of thousands of children with leukemia; and can be seen in the use of stem cells for tissue grafts to treat diseases or injury to the bone, skin and surface of the eye.

Materials and Methods: This pre-experimental study was conducted on eligible couples with sample size of age between 15-45 years, willingness to participate in study in selected areas of Ahmedabad. The investigator adopted purposive technique to select sample. Data was collected using 4 demographic variables & 20 questionnaires regarding stem cells, its uses, diseases treated by stem cells & stem cell banking were included. A pre-test was conducted on 40 samples after which the planned teaching programme was implemented followed by the post test.

Result: Data gathered was analyzed and interpreted using both experimental and inferential statistics. The mean and SD of pre-test was 5.725 and 1.3957, whereas the mean and SD of post-test was 16.25 and 1.1036, the calculated t' value was greater than tabulated t' value. Hence the null hypothesis was rejected and the research hypothesis was accepted. The result shows that when planned teaching program was given to eligible couples age group people, they achieve the best scores.

Conclusion: This Study intends to assess the effectiveness on plan teaching program regarding stem cells among eligible couple in selected areas of Ahmedabad. This Study reveals that the post-test knowledge score is higher than the pre-test knowledge score regarding stem cells storage, stem cells banking among the eligible couple.

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Introduction:-

Cell is the structural and the functional unit of all the organisms on the earth and Cell Science is a scientific discipline that studies the structure and the physiological characters of these cells. Human beings are multi-cellular organisms with an estimated one billion cells. Cord blood stem cells research has been extensively

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explored worldwide to enhance human health in medical setting. Stem cells have tremendous promise to helping us to understand and treat a range of various diseases, injuries and other health related conditions. Their potential is evident in the use of cord blood stem cells to treat diseases of the blood, A cord blood stem cells therapy has saved the lives of thousands of children with leukemia; and can be seen in the use of stem cells for tissue grafts to treat diseases or injury to the bone, skin and surface of the eye. Important clinical trials involving stem cells are underway for many other conditions and researchers continue to explore new avenues using stem cells in medicine¹

Cord blood stem cells research has the potential to teach us more about how birth defects occur and how these can be prevented or possibly reversed. An understanding of the regulation and chemical triggers of stem cells proliferation and differentiation are key to addressing birth defects. Cord blood stem cells are undifferentiated biological cells that can differentiate into specialized cells and can be divided and to produce more cord blood stem cells. Cord blood stem cells are the foundation for every organ and tissue in our body. There are many different types of stem cells that comes from different places in the body are formed at different times in our lives. These include 1. Embryonic stem cells, 2. Tissue-specific stem cells, 3. Mesenchymal stem cells– Bone Marrow, 4. Induced pluripotent stem cells – Skin Cells to embryonic, 5. Haematopoietic stem cells found in umbilical cord.^{2,3}

Material and Methods:-

This pre-experimental study was conducted on eligible couples with sample size of age between 15-45 years, willingness to participate in study in selected areas of Ahmedabad. The investigator adopted purposive technique to select sample. Data was collected using 4 demographic variables & 20 questionnaires regarding stem cells, its uses, diseases treated by stem cells & stem cell banking were included. A pre-test was conducted on 40 samples after which the planned teaching program was implemented followed by the post test.

Inclusion criteria:

Couples who are willing to participate in the study, Couples who can read or write Hindi, Gujarati, Couples those who are available during the period of data collection.

Exclusion criteria:

Couples who are not living in Ahmadabad, Couples who are having blood disorders, Couples who cannot read or write Hindi and Gujarati, Couples who are not available during the period of data collection.

Result:-

Table 1:- Distribution of respondents according to socio demographic variables N= 40

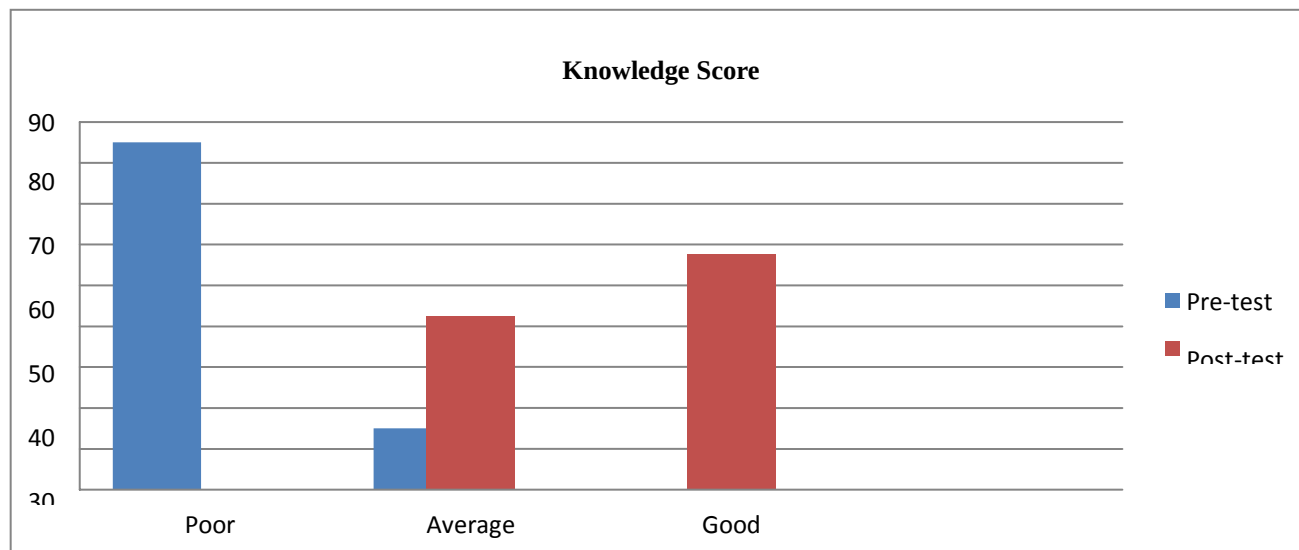
Sr. No.	Demographic Variable	Categories	Frequency	Percentage
1.	Age of people	21 - 25 years	15	37.5%
		26 – 30 years	10	25%
		31 – 35 years	11	27.5%
		36 – 40 years	04	10%
2.	Family income per month	<10,000 Rs	09	22.5%
		10,001 – 20,000 Rs	13	32.5%
		20,001 – 30,000 Rs	10	25%
		30,001 – 40,000 Rs	05	12.5%
		Above 40,000 Rs	03	7.5%
3.	Education of people	Illiterate	06	15%
		Primary education	05	12.5%
		Secondary education	09	22.5%
		Higher secondary education	10	25%
		Graduate and above	10	25%
4.	Previous knowledge Regarding stem cells	Yes	02	5%
		No	34	85%
		May be	04	10%

5.	If any family member suffering from any genetic disease	Yes	00	0%
		No	40	100%

Table 2:- Mean, Mean Difference, Standard Deviation (SD) and 't' test value of the pretest and post-test knowledge scores and samples. N=40

Knowledge test	Mean	Mean difference	SD	Calculated 't' value	Table 't' value	df	Level of significance	
Pre test	5.72	10.525	1.4	37.45	2.04	3	0.05	
	5		7					
Post test	16.2		1.1			9		
	5		6					

Figure 1:- Column graph shows description of the knowledge scores of the samples before and after planned teaching Programme. N=40



Discussion:-

The incidence of the importance of the stem cells has increased in last few years due to getting higher education and getting people literate. Many Studies have shown that the importance of the stem cells in some areas is not that much of significant. However, with the aim of improving the knowledge of the stem cells in the peoples, which is very necessary is only possible while providing good education to the peoples and to being a literate person.⁴

In our study 40 samples were included in study where 40 eligible couples among which 37.5% were 21-25 years of age and 36-40 years of age were 25%, 27.5% and 10% respectively. 22.5% of the samples family income were below 10,000 Rs and samples of 32.5%, 25%, 12.5% and 7.5% were 10,001-20,000 Rs, 20,001-30,000 Rs, 30,001-40,000 Rs and above 40,000 Irrespectively. An educational status shows 15% samples are illiterate, 12.5% samples have primary education, 22.5% samples have secondary education, 25% samples have higher secondary education and 25% samples are graduate or above. 5% samples have previous knowledge about stem cells, 85% of samples are having no knowledge and 5% of samples are unknown about it.

Conclusion:-

This Study intends to assess the effectiveness on plan teaching program regarding stem cells among eligible couple in selected areas of Ahmedabad. This Study reveals that the post-test knowledge score is higher than the pre-test knowledge score regarding stem cells storage, stem cells banking among the eligible couple.

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