

Effectiveness of Tailor-Made Edification on Knowledge and Attitude on Organ Donation among Adolescents at Selected Schools In Chennai

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Abstract:

Background: Despite the fact that the advances in medical science have made transplantation of vital human organs possible still in India millions of people lose their lives because adequate numbers of donors are not available. Creating awareness among adolescents can improve their knowledge and change their attitude towards organ donation.

Methodology: The research design adopted for this study was randomized controlled trial design. Adolescents who met the inclusion criteria were selected and consent was obtained initially from adolescent's parents. The total sample size was 60. The period of data collection was from 16/6/14 to 17/7/14. Then the investigator conducted the pretest by using knowledge and attitude questionnaire on organ donation for both the groups. For the study group lesson plan was specially prepared for adolescents about organ donation and laptop assisted teaching was given for 30 minutes to study group and post test was conducted for both the groups on the 7th day following which pamphlets were given to control group.

Results: Increase in the level of knowledge and attitude on organ donation among adolescents was observed which was statistically significant at $p < 0.05$ which evinced that the teaching had an influence on organ donation.

Conclusion: The study concluded that the tailor-made edification on organ donation was an effective way to enhance the knowledge and attitude towards organ donation which was statistically proved.

Keywords – Attitude, Knowledge, Organ donation, Tailor-made edification, Adolescents

I. Introduction

Organ donation refers to taking healthy organs and tissues from one person for transplantation into another. Worldwide, thousands of lives are saved through organ transplantation. The issue of organ donation is complex and multi-factorial. In India there is a distinct lack of awareness about organs donation among the general public. Hence creating awareness regarding donating vital organs to a person can save a whole family from being ruined According to WHO report kidney transplantation is carried out in 91 countries. In the year 2005, around 66,000 kidneys, 21,000 livers and 6,000 hearts were transplanted globally. According to MOHAN Foundation, the current organ donation rate for cadaver in India is 0.08 per million population. As per Donors and Transplanted Organs report, Tamil Nadu (October 2008 – February 2014), the total number of donors in Tamil Nadu was 470 out of which, the number of donated kidneys were 838, livers were 426, hearts were 73, lungs were 37 and pancreas was 1 and so the number of donations made was 1375. The recent report of Sri Ramachandra Medical Centre from January 2014 – June 2014, the total number of organ transplantation performed were 9, among which live donations were 6 and cadaveric donations were 3. Hence, urgent action is required in India for the acute shortage of human organs. Awareness must be improved about organ donations by means of mass communication. Christina, Carol, et al. (2006) conducted a cross-sectional survey at the University of Hong Kong among medical students on attitudes, knowledge, and actions with regard to organ donation. A cross-sectional questionnaire survey was used and response rate was 94% (655/694). Majority (85%) of them had a positive attitude but only a small proportion (23%) had signed the organ donation card.

II. Materials And Methods

Randomized controlled trial design was adopted for the study. Permission was obtained through proper channel. Formal permission was obtained from the institutional students ethical committee and schools. Adolescents who met the inclusion criteria were selected and consent was obtained initially from adolescent's parents. Then the investigator conducted the pretest by using knowledge and attitude questionnaire on organ

donation for both the groups. For the study group lesson plan was specially prepared for adolescents about organ donation and laptop assisted teaching was given for 30 minutes to study group and post test was conducted for both the groups on the 7th day following which pamphlets were given to control group.

The study was undertaken to evaluate the effectiveness of tailor-made edification on knowledge and attitude about organ donation among adolescents at selected schools in Chennai. The study was conducted with 60 adolescents. The knowledge on organ donation was explained in detail regarding general information related to organ donation, organ transplantation act, benefits of organ donation, types of organ donation, age limits and religious beliefs for organ donation, time limit within which organs can be donated and preserved, organ donation process and registration methods were taught to the study group in addition to the routine care and the posttest was carried on every 7th day, whereas the control group received routine care and pamphlets were distributed after the posttest. The data was analyzed by descriptive and inferential statistics.

Description of the tool:

The tool used for the study consists of three sections, they were;

Section A: Demographic variables

Age, sex, religion, domicile, family type, history of organ donation in family, history of death due to organ failure.

Section B: Knowledge questionnaire

The investigator developed, validated the knowledge questionnaire. It comprised of 30 questionnaires. The total score was 30. The reliability score of the tool was 0.86 checked by split half method.

Section C: Attitude questionnaire

The investigator developed, validated the attitude questionnaire. It includes 10 questions related to organ donation. The total score was 40. Attitude was scored based on 5 point rating scale.

Conceptual Framework

The conceptual framework used for this study was based on Imogene King’s Goal attainment theory (1981). King’s theory offers interaction with individuals and group within the environment.

The researcher has selected Imogene King’s Goal attainment theory because it is goal oriented and goal directed. The main goal for this research is to create awareness among adolescents regarding organ donation because they represent the future generation and can help to save lives of many individuals.

The investigator perceives the adolescents view or representation about concept of organ donation. Accordingly through proper communication mutual goal is set to improve the knowledge regarding organ donation. During interaction phase the adolescents past experiences and perceptions regarding organ donation is assessed. Action is the means by which the investigator explains about the organ donation by laptop assisted teaching and in reaction the investigator assesses the difference in the adolescents perception.

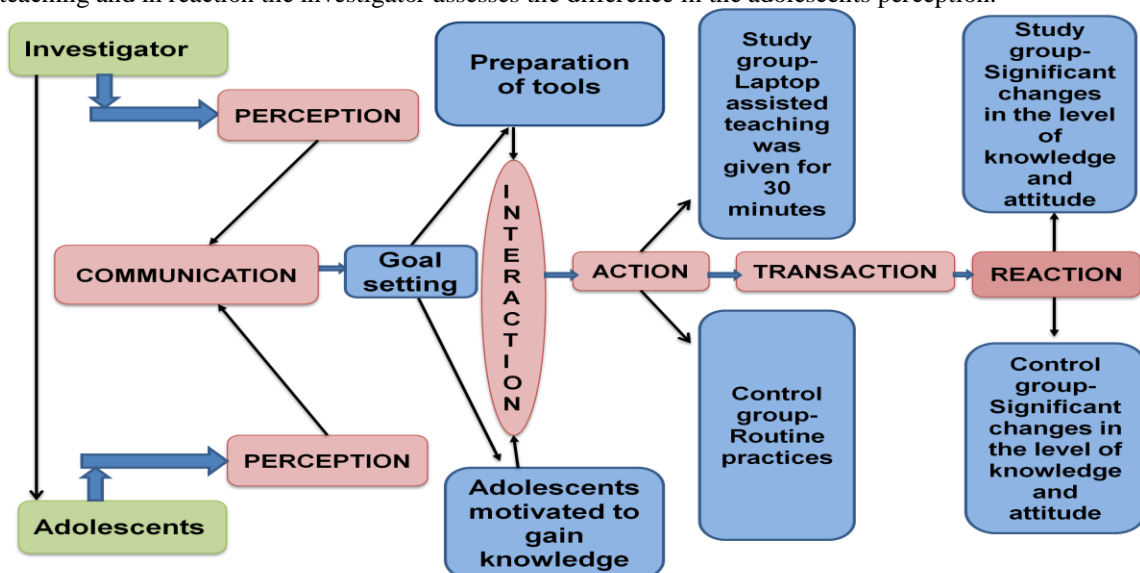


Fig.1 : Conceptual framework based on Imogene’s goal attainment theory (1981)

III. Results

With respect to demographic variables, in the study group 22 (73.3%) adolescents were in the age group of 13-14 years and eight (26.6%) belonged to 14-15 years. In the control group 11 (36.7%) adolescents belonged to the age group of 12-13 years and 19 (63.3%) were in 13-14 years. Regarding the sex of adolescents, in the study group 10 (33.3%) adolescents were male and 20 (66.6%) were female. In the control group 18 (60%) adolescents were male and 12 (40%) were female.

The knowledge of adolescents regarding organ donation, during pretest in the study group, 28 (93.3%) adolescents had inadequate knowledge, two (6.7%) had moderate knowledge. In control group, 30 (100%) had inadequate knowledge.

Figure 2 demonstrates the percentage distribution of level of knowledge among adolescents during posttest. In the study group four (13.3%) had inadequate knowledge, 21 (70%) had moderate knowledge and five (16.7%) had adequate knowledge. In the control group, 29 (96.7%) had inadequate knowledge and one (3.3%) had moderate knowledge.

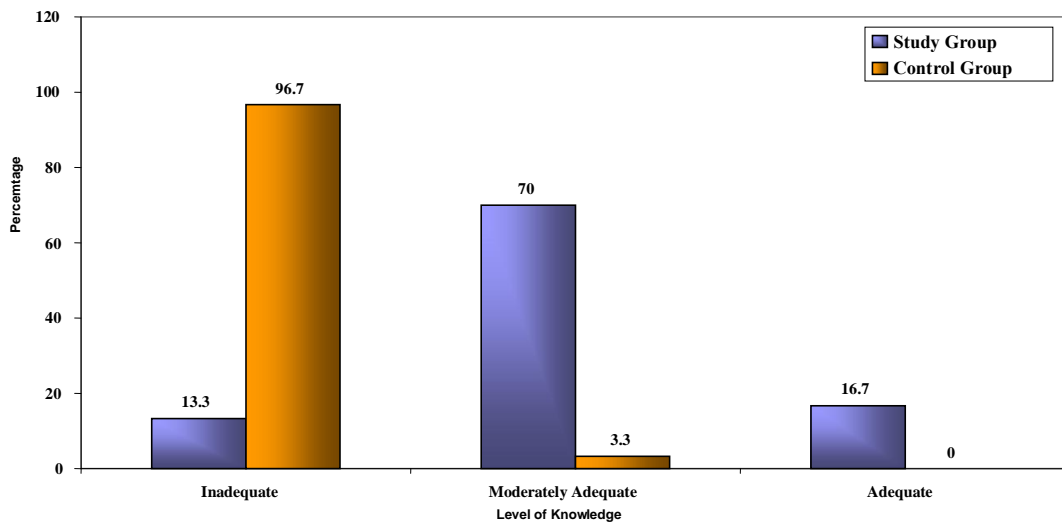


Fig.2 Percentage distribution of Level of Knowledge during posttest (N=60)

The attitude of adolescents regarding organ donation, during the pretest in the study group, five (16.7%) adolescents had negative attitude, 23 (76.7%) had neutral attitude and two (6.7%) had positive attitude. In the control group, eight (26.7%) adolescents had negative attitude, 19 (63.3%) had neutral attitude and three (10%) had positive attitude.

Figure 3 illustrates the percentage distribution of attitude during posttest. In the study group, one (3.3%) adolescent had negative attitude, 12 (40%) had neutral attitude and 17 (56.7%) had positive attitude. In the control group, 9 (30%) adolescents had negative attitude, 17 (56.6%) had neutral attitude and 4 (13.3%) had positive attitude.

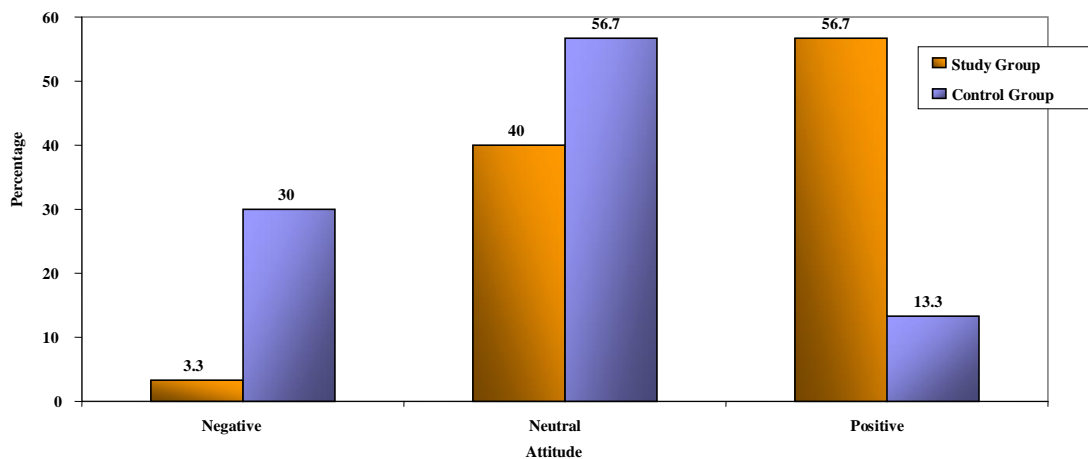


Fig. 3 Percentage distribution of Attitude during posttest (N=60)

Table 1 Comparison of mean knowledge scores between study and control group during pre and posttest. (N=60)

Knowledge Aspects	Duration	Study group (n=30)		Control group (n=30)		Independent 't' test & p value
		Mean	SD	Mean	SD	
General information related to organ donation	Pretest	1.13	0.81	1.16	0.91	0.000*
	Posttest	2.43	0.77	1.53	0.77	0.000*
Organ Transplantation Act	Pretest	1.96	1.35	1.43	1.07	0.095
	Posttest	3.5	0.82	1.83	1.01	0.000*
Benefits of organ donation	Pretest	0.13	0.34	0.03	0.18	0.166
	Posttest	0.06	0.25	0.23	0.43	0.072
Types of organ donation	Pretest	1.53	0.89	1.53	0.93	1.000
	Posttest	3.66	1.02	1.63	0.80	0.000*
Age limits and religious beliefs for organ donation	Pretest	0.93	0.58	0.93	0.58	1.000
	Posttest	0.9	0.66	1.43	0.85	0.009
Time limit within which organs can be donated and preserved	Pretest	0.56	0.62	0.7	0.65	0.422
	Posttest	1.96	0.92	0.86	0.62	0.000*
Organ donation process and registration methods	Pretest	3.16	1.87	2.23	1.19	0.025
	Posttest	6.5	1.50	3.13	1.54	0.000*

* $p < 0.05$

Table 1 presents the mean knowledge scores between the study and control groups during pretest and posttest regarding organ donation. In general information related to organ donation for study group the pretest mean score was 1.13 ± 0.81 and the control group it was 1.16 ± 0.91 . Similarly for posttest in study group the mean score was 2.43 ± 0.77 and the control group it was 1.53 ± 0.77 which was significant at $p < 0.05$ which means the teaching had an influence on aspects on organ donation.

Regarding the knowledge on organ transplantation act in the study group, the pretest mean score result was 1.96 ± 1.35 and posttest score showed 1.43 ± 1.07 , whereas in the control group the pretest mean score revealed 3.5 ± 0.82 and posttest mean score was 1.83 ± 1.01 which was significant at $p < 0.05$ which means the teaching had an influence on knowledge on organ transplantation act.

Regarding knowledge on time limit within which organs can be transferred and preserved in the study group, the pretest result was 0.56 ± 0.62 and posttest was 1.96 ± 0.92 , whereas in the control group the pretest score showed 0.7 ± 0.65 and posttest showed 0.86 ± 0.62 which was significant at $p < 0.05$ which means the teaching had an influence on knowledge on time limit within which organ can be transferred and preserved.

With respect to knowledge on organ donation process and registration methods for study group the pretest mean score was 3.16 ± 1.87 and in control group it was 2.23 ± 1.19 . Similarly for posttest in the study group, the score revealed 6.5 ± 1.50 and in the control group it was 3.13 ± 1.54 which was significant at $p < 0.05$ which means the teaching had an influence on knowledge on organ donation process.

Table 2 Comparison of mean attitude scores between study and control group during pre and posttest (N=60)

Attitude	Duration	Study group (n=30)		Control group (n=30)		Independent 't' test & p value
		Mean	SD	Mean	SD	
Negative	Pretest	16	1.4	17.2	1.1	0.110
	Posttest	18	-	16	2.5	0.000*
Neutral	Pretest	24.9	2.8	25.7	2.9	0.383
	Posttest	25.4	2.9	23.5	2.3	0.067
Positive	Pretest	31.5	0.7	34	1.7	0.159
	Posttest	33.7	1.8	35	3.7	0.031

*: $p < 0.05$

Table 2 represents the comparison of mean attitude scores between the groups. With regard to positive attitude in the study group the pretest score showed 31.5 ± 0.7 and in the control group it was 34 ± 1.7 . Similarly for posttest in the study group the result was 33.7 ± 1.8 whereas in the control group it revealed 35 ± 3.7 .

For neutral attitude in the study group the pretest score was 24.9 ± 2.8 and in the control group it was 25.7 ± 2.9 . Similarly during the posttest in the study group the result was 25.4 ± 2.9 and in the control group it showed 23.5 ± 2.3 .

With respect to negative attitude in the study group the pretest score showed 16 ± 1.4 and in the control group it revealed 17.2 ± 1.1 . Similarly during the posttest in the study group the score was 18 ± 0 and in the control group it showed 16 ± 2.5 which was significant at $p < 0.05$ which means the teaching had an influence in minimizing the negative attitude.

Table 3 Correlation of knowledge and attitude between the study and the control groups during pre and posttest. (N=60)

Group	Level of knowledge and attitude regarding organ donation			
	Pretest		Posttest	
	r-value	p-value	r-value	p-value
Study group	0.514	0.004	0.44	0.014
Control group	0.28	0.138	0.027	0.886

*: $p < 0.05$

Table 3 represents the correlation of knowledge and attitude between the groups. The correlation during pretest in the study group was 0.514 and p value was 0.004 and in the control group the correlation was 0.28 and p value was 0.138 which depicts a positive correlation. Whereas during posttest in the study group the correlation was 0.44 and p value was 0.014 and in the control group the correlation was 0.027 and its p value was 0.886 which is also a positive correlation. This indicates that the knowledge has an impact on the attitude.

IV. Discussion

Comparison of knowledge on organ donation from pretest to the posttest was done using independent 't' test for both the groups. In general information with regard to organ donation, in the study group, the pretest score interpreted 1.13 ± 0.81 and in the control group it was 1.16 ± 0.91 . Similarly for posttest in the study group, the mean score showed 2.43 ± 0.77 and in the control group it revealed 1.53 ± 0.77 which was significant at $p < 0.05$ which means the teaching had an influence on aspects of organ donation.

Comparison of attitude on organ donation from pretest to the posttest was done using independent 't' test for both the groups. With regard to positive attitude in the study group the result was 31.5 and the standard deviation was 0.7 and in the control group it mentioned the result as 34 and the standard deviation was 1.7. Similarly for posttest in the study group the result showed 33.7 ± 1.8 and in the control group it was 35 ± 3.7 which was significant at $p < 0.05$ which means the teaching had an influence on the attitude of the students.

There was no significant association of knowledge and attitude between the groups during the pre and posttests. Correlation between the groups during pre and posttest indicated that the knowledge had an impact on the attitude.

The hypothesis formulated for this study is, there is a significant difference in knowledge and attitude on organ donation among adolescents who receive tailor-made edification than those who do not was accepted since there was a significant level of improvement in the knowledge and attitude on organ donation for those who received the tailor-made edification. Therefore the knowledge and attitude on organ donation is an aid to measure, and a guide/tool to get a better knowledge and positive attitude.

V. Recommendations

Recommendation for future studies include:

1. The study could have been replicated with larger samples.
2. A similar study can be undertaken by utilizing other domains like practice.
3. Similar study can be conducted among college students to identify their knowledge, attitude and practices regarding organ donation.
4. Similar study can be performed as a comparative study.

VI. Conclusion

The study concluded that the tailor-made edification on organ donation was an effective means to improve the knowledge and attitude towards organ donation which was statistically proved.

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