IJNH

Review Article

Effectiveness of Video-assisted Teaching on Knowledge Regarding Organ Donation among Adolescents in Selected Junior College

Poonam Palde[1], Rupali Deshpande[1], Ekta Shinde[2], Arundhati Gurav[2], Florance D'souza[1]

[1]Department of Child Health Nursing, M.V.P's Institute of Nursing Education, Nashik, Maharashtra, India, [2]Department of Obstetrics and Gynaecological Nursing, M.V.P's Institute Of Nursing Education, Nashik, Maharashtra, India

Abstract

Aim: This study aims to assess the effectiveness of video-assisted teaching on knowledge regarding organ donation among adolescents in selected junior college and to differentiate in pre-test and post-test knowledge level of adolescents. **Methodology:** Quantitative research approach with quasi-experimental one-group pretest-posttest design was used for the study. A total of 100 adolescents were selected as sample for study using purposive sampling technique. That 100 samples equally divided into five groups each group containing 20 samples. Data were collected using structured knowledge questionnaires. Each group was covered on a separate day. Video-assisted teaching was also administered on the same day following the pre-test in each group on separate day according to distribution. After 7 days, post-test was conducted to assess the gain in knowledge using the same structured knowledge questionnaire. **Results:** Adolescent's post-test knowledge mean score 26.98 was higher than their pre-test knowledge mean score 16.87. The mean post-test knowledge score (26.98) was apparently higher than the pre-test knowledge score (16.87) interpret that the video-assisted teaching was effective in increasing the knowledge of adolescents regarding organ donation. The calculated t value for knowledge (17.00) is more than the table value (1.66) at 99° of freedom for 0.05 level of significance. Thus, null hypothesis H0 is rejected and research hypothesis H1 is accepted which conclude that video-assisted teaching was effective in improving the knowledge of the adolescents regarding organ donation. **Conclusion:** There was a significant difference in the pre-test and post-test knowledge score of adolescents, which indicated that video-assisted teaching on organ donation is effective in improving knowledge of adolescents.

Keywords: Adolescents, effectiveness, knowledge, organ donation, video-assisted teaching

Introduction

Life is a dynamic process. It starts from birth and ends into death. In between, we are passing different stages of life with different diseases and problems. The medical advancement and technology has begun to save lives and most miraculous achievement of modern medicine is organ transplantation which has the power to save lives of the humans. It refers to removal of specific tissues of the human body from a person who has recently died or from a living donor, for the purpose of transplanting them into other persons. This miracle can happened only after gifting of organ and tissue by means of donation. It is not possible without the gracious decision of the donor or the donor's family to give the gift of life by organ donation.[1]

"The background of life is not in its duration, but in its donation. You are not important because of how long you live, you are important because of how effective you live." Organ/tissue donation is not new to India. The Hindu mythology has a famous story to illustrate how donation of body parts was not unheard of in the pre-historic times. As per the story, an omnipotent sage called Dadhichi had donated his bones for making a powerful weapon to destroy demons. The story is in

Access this article online
Website: http://innovationalpublishers.com/Journal/ijnh
ISSN No: 2454-4906
DOI: 10.31690/ijnh.2021.v07i01.004

Address for Correspondence:
Ms. Rupali Despande, Child Health Nursing, MVP's Institute of Nursing Education, Nashik, Maharashtra, India. E-mail: merupali_283@yahoo.com

Rigveda, the world's oldest scripture. It seems that Dadhichi had offered his bones for making weapons to kill an obnoxious yet powerful demon called Vrutrasur in a war against Devas, the residents of the God's Kingdom – the devalok.[2]

Organ shortage is a huge public health concern worldwide. According to the International Transplantation registry in Organ donation and Transplantation 2014, the top five countries with the highest organ donation rates are Spain 36 per million population (pmp), Croatia 35 pmp, Malta 28.6 pmp, Belgium 26.8 pmp, and Portugal 27.7 pmp. The Australian donation rate was 16.1 donors per million people. India lags far behind with 0.26 pmp.[3]

Need for organ has gone up substantially all over the world. Organ supply for transplantation does not match the increasing demand in most of the countries. In India, almost 500,000 people die every year due to non-availability of organs. Annually, 175,000 kidney patients, 50,000 heart patients, 50,000 liver patients, and 1 lakh corneal blind patients await transplant but only 5000, 30, 700, and 25,000 donors are available respectively. It is estimated that 1.5 lakh brain death occurs due to road traffic accidents (RTAs) and if even 20% of them were to donate. About 90% of people in the waiting list die without getting any donor.[4]

As mentioned by the National Health Service, today's teens are "change makers" who can spark the family conversations needed to raise the number of organ donors. The organization has worked with teachers, clinicians, donor families, and transplant patients to create its first dedicated organ donation education pack for secondary schools. We believe that education has a key role to play in addressing people's concerns about organ donation. Research has highlighted the important role young people can play in stimulating discussion and debate in the family.[5]

Objectives of the study

The objectives of the study were as follows:

- To assess pre-test knowledge of adolescents regarding organ donation
- To evaluate effectiveness of video-assisted teaching on knowledge regarding organ donation among adolescent
- To find out the association between pre-test and post-test knowledge regarding organ donation with their selected demographic variable.

Hypothesis

H_0: There will not be significant difference between pre-test and post-test knowledge of adolescents regarding organ donation.

H_1: There will be a significant difference between pre-test and post-test knowledge of adolescents regarding organ donation.

H_2: There will be a significant association between pre-test and post-test knowledge of adolescents regarding organ donation with their selected demographic variables.

Methodology

Proposed study was conducted in selected junior college. The study samples were selected by purposive sampling technique and equally divided them into four groups. Each group containing 27 adolescents, that is, total 108 adolescents. Among them, 50 males and 50 females were selected for the study. Researcher selected eight samples extra due chance of absenteeism in between adolescents. The research was carried out according to Kings Goal Attainment Theory [Figure 1].

Data collection instrument

Section I

Demographic data of adolescents include age in years, gender, religion, sources of information related to organ donation, and previous knowledge related to organ donation.

Section II

It consisted of 35 items to assess the knowledge of adolescents regarding organ donation. Questions included regarding meaning, types of organ donor, organs, and tissues that can be donated, factors considered while donation, organ and tissue transplantation, transplantation process, ethical and legal aspects to organ donation, and human organ and tissue transplantation act.

Data gathering process

Written permission obtained from the ethical as well as authority person of selected junior college. Informed consent was taken from adolescents. Structured knowledge questionnaire was given to the selected adolescents in four groups on each single day only one group is covered: 1st on September 19, 2018, with 27 adolescents, 2nd on September 21 with 27 adolescents, 3rd on September 22 with 25 adolescents, and 4th on September 24 with 25 adolescents. Tool was collected from adolescents after 35 min. After pre-test, video-assisted teaching was provided to the same group on the same day for 35 min. And after that, 15 min were provided for discussion regarding organ donation. Post-test was conducted sequentially in the same group on each 7th day. Tool was verified for completion.

Results

Section I: Demographic data of adolescents in terms of frequency and percentage.

Table 1 reveals that maximum 58% of adolescents were in the age group of 16 years–16 years 5 months. There was equal selection of adolescents according to gender wise, that is, 50%. Maximum 93% of adolescents belong to Hindu religion. Most of the adolescents, that is, 37% were said that they got information from sources, that is, school. About 82% of adolescents were did not had knowledge related to organ donation.

Section II: Effectiveness of knowledge level of adolescents regarding organ donation in pre-test and post-test

Table 2 reveals in pre-test only 2% had poor knowledge (0–7), 18% had average knowledge (8–14), 73% of adolescents had good knowledge (15–21), 7% had very good knowledge

(22–28), and none of them were having excellent knowledge regarding organ donation. In post-test, none of them having poor (0–7) as well as average knowledge (8–14), 12% had good knowledge (15–21), 47% adolescents had very good knowledge (22–28), and 41% excellent knowledge (29–35) regarding organ donation. Adolescent's post-test knowledge mean score 26.98 was higher than their pre-test knowledge mean score 16.87.

Section III: Association of pre-test and post-test knowledge of adolescents regarding organ donation with their selected demographic variables

H_2: There was a significant association of pre-test knowledge score with demographic variables as religion and sources of information related to organ donation and in post-test knowledge score with demographic variable as religion is accepted.

Table 3 reveals that there was found to have significant association of demographic variables in pre-test, that is, religion (10.32) and sources of information related to organ donation (63.96) with adolescent's knowledge regarding organ donation. Remaining demographic variables, that is, age in years (6.84), gender (00), and do you have previous knowledge related to organ donation (2.43) were not having significant association with pre-test knowledge.

Table 4 reveals that in post-test, there was association of demographic variables that were religion (9.47) and other demographic variables, that is, age in years (7.19), gender (3.34), sources of information related to organ donation (1.73), and do you have previous knowledge related to organ donation (2.57) were not having significant association.

Table 1: Frequency and percentage wise classification of adolescents' demographic *n*=100

Age (in years)	Frequency	Percentage
16 years–16 years 5 months	58	58
16 years 6 months–17 years	27	27
17 years 1 month–17 years 5 months	11	11
17 years 6 months–18 years	4	4
Gender		
Male	50	50
Female	50	50
Religion		
Hindu	93	93
Muslim	0	0
Christian	1	1
Jain	4	4
Others	2	2
Source of information related to organ donation		
Parents	11	11
Friends	6	6
School	37	37
Mass media	33	33
Health professional	13	13
Do you have previous knowledge related to organ donation		
Yes	18	18%
No	82	82

Discussion

Jamunarani *et al*. (2014**)** conducted study to assess the effectiveness of video-assisted teaching on knowledge and attitude regarding eye donation among non-medical degree students at selected colleges, Kumarapalayam. The objectives of study were to assess the effectiveness of video-assisted teaching on knowledge and attitude regarding eye donation among 60 non-medical degree students by simple random sampling technique. Pre-experimental one-group pre-test and post-test design was used. Methods used for data collection in that pre-test was done using structured questionnaires and attitude scale took around 30 min, after that video teaching program was given using liquid crystal display projector on eye donation. Post-test was done using the same scale on the 8th day. Result shows that most 39 (65%) of the non-medical degree students were in the age group of 18–22 years, 41 (68.33%) were female. Forty-eight (80%) were Hindus, 25 (41.67%) knew the information regarding eye donation through television, and 20 (33.33%) knew the information regarding eye donation through the newspapers. The paired "*t*" value for knowledge regarding eye donation was 26.1 and the paired "*t*" value for attitude regarding eye donation was 43.26. The "r" value of post-test knowledge and attitude score is 0.234 which is less than the table value "*t*" (58) = 0.254, it shows that there is no correlation between the knowledge and attitude regarding eye donation. There is no significant association between post-test scores of knowledge and attitude with their demographic variables such as age, gender, religion, marital status, type of family, family income, educational status, place of living, and source of awareness. However, there is a significant association between post-test scores of knowledge with their educational status. The study concludes that based on the findings, mean post-test knowledge and attitude scores was higher than the mean pre-test knowledge and attitude scores regarding eye donation. This result indicates that video teaching program

Table 2: Effectiveness of pre-test knowledge of adolescents regarding organ donation *n*=100

Level of knowledge score	Pre-test		Post-test		Pre-test mean score	Post-test mean score	SD pre-test	SD post-test	S/SN
	Frequency	percentage	Frequency	percentage					
Poor	2	2	0	0	16.87	26.18	3.39 t - *17.00	5.05 t - *17.00	Highly significant
Average	18	18	0	0					
Good	73	73	12	12					
Very good	7	7	47	47					
Excellent	0	0	41	41					

*S – Significant at 0.05 level of significance, df – 99,**NS – Not significant

Table 3: Association of pre-test knowledge of adolescents regarding organ donation with their selected demographic variables *n*=100

Demographic variable	Pre-test knowledge score				Chi-square χ^2
	Poor+Average		Good+Very good		
	Frequency	Percentage	Frequency	Percentage	
Age					
16 years–16 years 5 months	10	10	48	48	χ^2=6.84*
16 years 5 months–17 years	8	8	19	19	Df=3
16 years 5 months–16 years 5 months	0	0	11	11	Table value=7.815
16 years–16 years 5 months	2	2	2	2	
Gender					
Male	10	10	40	40	χ^2=00*
Female	10	10	40	40	Df=1
					Table value=3.841
Religion					
Hindu	18	18	75	75	χ^2=10.32**
Muslim	0	0	0	0	Df=4
Christian	0	0	1	1	Table value=9.488
Jain	1	1	3	3	
Others	1	1	1	1	
Source of information related to organ donation					
Parents	1	1	10	10	χ^2=63.96**
Friends	2	2	4	4	Df=4
School	9	9	28	28	Table value=9.488
Mass media	6	6	27	27	
Health professional	2	2	11	11	
Do you have previous knowledge related to organ donation					
Yes	6	6	12	12	χ^2=2.43*
No	14	14	68	68	Df=1
					Table value=3.841

**S - Significant at 0.05 level of significance, *NS - Not significant

Table 4: Association of post-test knowledge of adolescents regarding organ donation with their selected demographic variables *n*=100

Demographic variable	Post-test knowledge score				Chi-square χ^2
	Good+Very good		Excellent		
	Frequency	Percentage	Frequency	Percentage	
Age					
16 years–16 years 5 months	40	40	18	18	χ^2=7.19*
16 years 5 months–17 years	14	14	13	13	Df=3
16 years 5 months–16 years 5 months	4	4	7	7	Table value=7.815
16 years–16 years 5 months	1	1	3	3	
Gender					
Male	25	25	25	25	χ^2=3.34*
Female	34	34	16	16	Df=1
					Table value=3.841
Religion					
Hindu	56	56	37	37	χ^2=9.47**
Muslim	0	0	0	0	Df=4
Christian	0	0	1	1	Table value=9.48
Jain	2	2	2	2	
Others	1	1	1	1	
Source of information related to organ donation					
Parents	8	8	3	3	χ^2=1.73*
Friends	5	5	1	1	Df=4
School	22	22	15	15	Table value=9.48
Mass media	16	16	13	13	
Health professional	8	8	5	5	
Do you have previous knowledge related to organ donation					
Yes	48	48	38	38	χ^2=2.57*
No	11	11	3	3	Df=1
					Table value=3.841

**S - Significant at 0.05 level of significance, *NS - Not significant

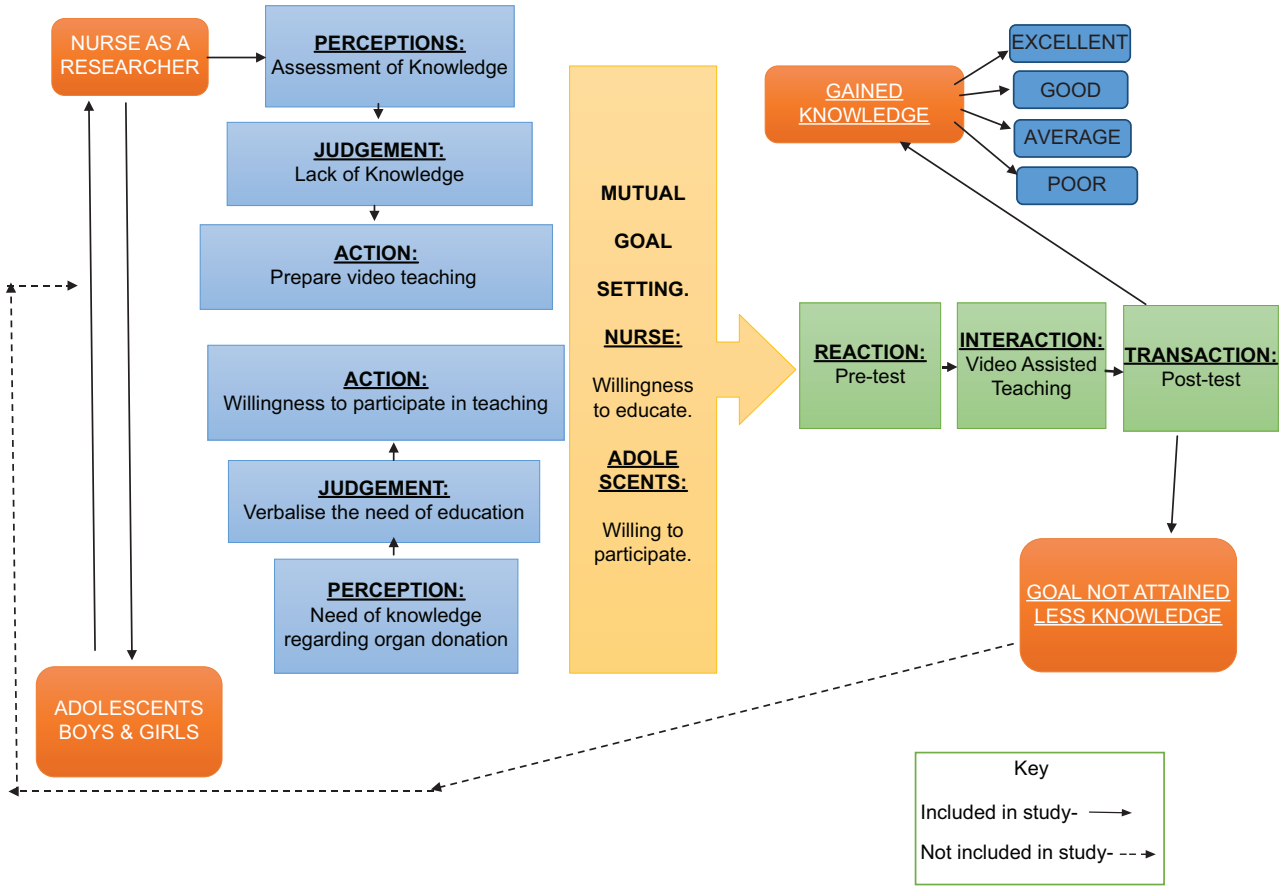

Figure 1: Schematic representation of conceptual frame work of Kings Goal Attainment Theory, 1960

on eye donation was found to be significantly effective in improving knowledge and attitude among non-medical degree students.[6]

Reubsaet *et al*. stated that the video with group discussion had a positive effect on the intention to register an organ donation preference as well as on the intention to register as an organ donor and participants evaluated the group discussion as good and interesting. Although the teaching program did not show more effects than reading an extensive brochure on organ donation, participants did appreciate the tailored information better than general information.[7]

Rodriguez, January 2018, observed that, public show more zeal to become donors after watching educational video. Researchers approached 200 members of the public. They carried out a survey regarding their willingness to be an organ or facial transplant donor to see how a brief educational intervention affected. About half of the participants were registered organ donors. A total of 100 respondents were then shown a 3 min video, on a tablet computer, providing an educational introduction to facial transplantation. The video provided basic information on patients eligible for face transplants, the donor-recipient matching process, and the challenges and recovery after the procedure. Before watching the educational video, 51% said that they would be willing to be face transplant donors. After the video, 69% of participants said that they would be willing to donate for facial transplantation, the same percentage who said that they would be willing to donate organs. The response to the educational video was greater in younger (aged 18–35) and older (over 56) participants, compared to middle-aged participants.[8]

With reference to this research article, researcher thought to used same video-assisted teaching method to reach out adolescent age group. The finding of the present study has been discussed with reference to the objectives. It shows that knowledge level of adolescents in post-test had improved till very good to excellent level. Assessment of knowledge of adolescents regarding organ donation shows that, in pre-test, only 73% of adolescents had good knowledge, 18% had average knowledge, 7% had very good knowledge, and 2% had poor knowledge, none of them were having excellent knowledge regarding organ donation among adolescents. Whereas in post-test, maximum 47% of adolescents had very good knowledge, 41% had excellent knowledge, and remaining 12% had average knowledge regarding organ donation. Mean post-test knowledge score (26.98) was apparently higher than the mean pre-test knowledge score (16.87). Highly significant difference ("t" = 17.00, $P > 0.05$) was found between pre-test and post-test knowledge scores of adolescents regarding organ donation. The study revealed that the video-assisted teaching on knowledge regarding organ donation among adolescents

was very highly effective in improving the knowledge of the adolescents regarding organ donation. Furthermore, a significant association was found between pre-test knowledge scores with selected demographic variables such as religion and sources of information related to organ donation. Finding of the present study showed that the knowledge level of adolescents was between good to excellent after attending video-assisted teaching.

Conclusion

There was a significant difference in the pre-test and post-test knowledge score of adolescents, which indicated that video-assisted teaching on organ donation is effective in improving knowledge of adolescents.

References

1. Biradar VS, Babu C. Organ donation: Knowledge and attitude of nursing students. Asian J Nurs Educ Res 2017;7:471-6.
2. Mymensingh M. Awareness of organ donation and attitudes towards organ donation among school girls. Med J 2011;20:287-91.
3. Mane V, Markam J, William RF, Vidya DC, Naik TB. Organ donation: An assessment of knowledge, attitude and practices among medical students. Indian J Forensic Community Med 2016;3:284-7.
4. Sindhu A, Ramakrishnan TS, Khera A, Singh G. Study to assess the knowledge of medical students regarding organ donation in a selected college of Western Maharashtra. Med J Dr. D. Y. Patil Univ 2017;10:349-53.
5. Johnson S, Teen Understanding and Awareness of Organ Donation Vital to Tackling NHS Blood and Transplant Director of Organ Donation and Transplantation, Organ Donor Shortage; 2016. Available from: https://www.organdonation.nhs.uk/about-donation/educational-resources.
6. Jamunarani R, Gowri B, Mary A. Study to Assess the Effectiveness of Video Assisted Teaching on Knowledge and Attitude Regarding Eye Donation among Non-medical Degree Students at Selected Colleges, Kumarapalayam; 2014. p. 271-6. Availaible from: http://www.repository-tnmgrmu.ac.in/3044/1/3001262301212651Valarmathi%20K.pdf.
7. Reubsaet A, Brug J, Kitslaar J, van Hooff JP, van den Borne HW. The impact and evaluation of two school-based interventions on intention to register an organ donation preference. Health Educ Res Theory Pract 2004;19:447-56.
8. Rodriguez. Public Show more Zeal to Become Donors after Watching Educational Video. Chennai: Mohan Foundation; 2018. p. 229-34.

How to cite this article: Palde P, Deshpande R, Shinde E, Gurav A, D'souza F. Effectiveness of Video-assisted Teaching on Knowledge Regarding Organ Donation among Adolescents in Selected Junior College. Innov J Nurs Healthc. 2021;7(1):16-21.