

Research Article

A Study to Evaluate the Effectiveness of Planned Educational Programme on Knowledge Regarding Organ Donation among 3rd Year GNM Nursing Students in Selected Schools of Nursing at Vijayapur, Karnataka

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Abstract: Background: Organ donation is the process when a person allows an organ of their own to be removed and transplanted to another person, legally, either by consent while the donor is alive or dead with the assent of the next of kin. Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). Transplantation is necessary because the recipient's organ has failed or has been damaged by disease or injury. Organs that can be donated include the liver, kidney, pancreas and heart. The first living organ donor in a successful transplant was Ronald Lee Herrick (1931–2010), who donated a kidney to his identical twin brother in 1954. The lead surgeon, Joseph Murray, won the Nobel Prize in Physiology or Medicine in 1990 for advances in organ transplantation. **Objectives:** 1) Assess the knowledge regarding organ donation among 3rd year GNM nursing students. 2) To evaluate the effectiveness of planned educational programme on knowledge regarding organ donation among 3rd year GNM nursing students. 3) To find the association between the level of knowledge with selected socio demographic variables. **Methodology:** The research design used for this study is pre experimental (one group pre-test) design. The independent variable is the planned educational programme and the dependent variable is knowledge of GNM students regarding organ donation. This chapter describes the methodology followed to assess the knowledge and perception of organ donation among GNM students in selected schools of Nursing at Vijayapur. The tool used for the study is self-administered knowledge Questionnaire to assess the knowledge of GNM students regarding organ donation. Content validity of the tool is given by experts and tool is found to be reliable and feasible. Planned Educational Programme is prepared to enhance the knowledge about organ donation among GNM students and is validated by the experts before administration. The main study was conducted for 4 weeks in the selected schools of Nursing at Bijapur. Pre-test was done to the GNM students and assessed their knowledge. **Results:** In the pre-test, level of knowledge of 3rd year GNM students studying in school of Nursing Vijayapur before using Planned Education Programme. In that 33(55.0%) XII of 3rd year GNM students were having Inadequate knowledge, 24(40.0%) having Moderate knowledge and 3(5.0%) of 3rd year GNM students were having Adequate knowledge about Organ Donation. In the post test, level of knowledge of 3rd year GNM students studying in school of Nursing, Vijayapur after using Planned Education Programme. In that 21(35.0%) of 3rd year GNM students were have Adequate knowledge, 39(65.0%) of them have Moderate knowledge and none of 3rd year GNM students have Inadequate knowledge. The finding

showed that the mean post-test knowledge score of the subjects was 26.5 is higher than the mean pre-test score of 16.3. The calculated 't' value obtained from paired 't' test was -31.6 (p-value<0.0001). The chi-square test was applied to check the association of socio-demographic variables with knowledge scores showed that Age (in years), Religion, Type of family, Place of residence were no significant. **Interpretation and Conclusion:** The result of the study showed that, there was a significant improvement obtained following PEP on Organ Donation. This study enlightens that there is an immense need for educational programme in school of nursing to improve the knowledge of 3rd year GNM students regarding Organ Donation.

Keywords: Evaluate, Effectiveness, Planned Educational Programme, Knowledge, Organ donation, GNM students.

Introduction

"Prevention is better than cure."

-Desiderius Erasmus

Health is defined by the World Health Organization (WHO), as "A state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity." Health may be defined as the ability to adapt and manage physical, mental and social challenges thought life. In keeping with the biomedical perspective, early definitions of health focused on the theme of the body's ability to function; health was seen as a state of normal function that could be disrupted from time to time by disease. An example of such a definition of health is: "A state characterized by anatomic, physiologic, and psychological integrity; ability to perform personally valued family, work, and community roles; ability to deal with physical, biological, psychological, and social stress."¹

A disease is a particular abnormal condition that negatively affects the structure or function of part or all of organisms, and that is not due to any external injury. Diseases are often constructed as medical conditions that are associated with specific symptoms and signs. A disease may be caused by external factors such as pathogens or by internal dysfunctions.

Diseases can affect people not only physically, but also mentally, as contracting and living with a disease can alter the affected person's perspective on life. Death due to disease is called death by natural causes. There are four main types of disease: infectious diseases, deficiency diseases, hereditary diseases (including both genetic diseases and non-genetic hereditary diseases), and physiological diseases. Diseases can also be classified in other ways, such as communicable versus non-communicable diseases².

India is ranked second to China in prevalence of Diabetes and Coronary heart disease. Experts say that it is soon going to be the liver disease capital of the world. These diseases have increased so much in their incidence over the last 20 years that there is a huge demand for organs like kidney, liver and heart. The only way to tackle this situation and reduce the rising toll of mortality due to organ failure is organ donation and transplantation. Organ transplantation is defined as the engraftment of human cells, tissues or organs from a donor to recipient with an aim of restoring function(s) in the body.³

Health promotion is "the process of enabling people to increase control over and to improve health." It is not directed against any particular disease, but is intended to strengthen the host though a variety of approaches (interventions).

The well-known interventions in this area are:

- ✓ Health education
- ✓ Environmental modifications
- ✓ Nutritional interventions

✓ Lifestyle and behavioural changes.⁴

The first living organ donor in a successful transplant was Ronald Lee Herrick (1931–2010), who donated a kidney to his identical twin brother in 1954. The lead surgeon, Joseph Murray, won the Nobel Prize in Physiology or Medicine in 1990 for advances in organ transplantation. The youngest organ donor was a baby with anencephaly, born in 2015, who lived for only 100 minutes and donated his kidneys to an adult with renal failure. The oldest known cornea donor was a 107-year-old Scottish woman, whose corneas were donated after her death in 2016. The oldest known organ donor for an internal organ was a 95-year-old West Virginia man, who donated his liver after he died. The oldest altruistic living organ donor was an 85-year-old woman in Britain, who donated a kidney to a stranger in 2014 after hearing how many people needed to receive a transplant. Researchers were able to develop a novel way to transplant human fetal kidneys into anephric rats to overcome a significant obstacle in impeding human fetal organ transplantations. The human fetal kidneys demonstrated both growth and function within the rats.

Donated brain tissue is a valuable resource for research into brain function, neurodiversity, neuropathology and possible treatments. Both divergent and healthy control brains are needed for comparison. Brain banks typically source tissue from donors that had directly registered with them before their passing, since organ donor registries focus on tissue meant for transplantation. In the United States the non-profit Brain Donor Project facilitates this process.⁵

Body Organs and their Importance

Heart: It is the important organ of the human body without which human survival is next to impossible. It acts like pump circulating blood in the body. Blood containing carbon dioxide is provided to lungs for the exchange of gases whereas blood containing oxygen is supplied to the human body through veins. It weighs about 250-300 grams and is about the size of a fist.

Lungs: It is the most important organ related to respiratory system, these lungs are located on the either sides of the heart. They are like air bags. Breathing expands them and breathing out contracts them. Their function is to exchange oxygen with the carbon dioxide present in blood.

Liver: It is a vital organ and existence of a human without liver is to next to impossible. Though technology has created some short term substitutes of liver, but for long term, research is still in process.

Liver has many functions:

- ✓ Detoxification of food
- ✓ Protein Synthesis
- ✓ Hormone Production
- ✓ Decomposition of red blood cells.

Kidney: These bean shaped organs, located in the abdominal cavity, are essential in the urinary system. They deal with essential liquids in the body. You can say they work as purifiers. They filter the water present in the blood and the unwanted part is passed out where as the desired part is regulated in the body. Not only water, they act as filter for cleaning blood also. Kidney also maintains blood pressure via maintaining water level and salts in the body and also maintains an acid-base balance required in the system.

Eyes: These round shaped organs work as a communication medium. They are converted into electro-chemical pulses that can be read by neurons (or the brain cells) produce the desired action.

Intestines: They are like pipes that connect stomach to anus. They release gastric juices and other liquids which separate the unwanted materials from the digestive food.

Intestines are divided into 2 types of categories:

Small intestine: The small intestine absorbs the desired nutrients and minerals.

Large intestine: Is concerned with the absorption of water only. Also produce bacteria which convert the unwanted parts of digestive food into bio-degradable material by producing gases like methane.⁶

Organ donation is the process when a person allows an organ of their own to be removed and transplanted to another person, legally, either by consent while the donor is alive or dead with the assent of the next of kin. Common transplantations include kidneys, heart, pancreas, intestines, lungs, bones, bone marrow, skin and corneas. Some organs and tissues can be donated by living donors, such as a kidney or part of the liver, part of the pancreas, part of the lungs or part of the intestines, but most donations occur after the donor has died.⁷

Criteria for organ donation:

- ✓ Good physical and mental health
- ✓ Must be at least 18 years old
- ✓ Must have a body mass index (BMI) that is less than 35

Must be free from the following:

- ✓ Uncontrolled high blood pressure
- ✓ Diabetes Mellitus
- ✓ Cancer
- ✓ Hepatitis
- ✓ Organ diseases
- ✓ Underlying infectious disease conditions.⁸

Material and Methods

Research approach	: Evaluative Research Approach.
Research design	: Pre-experimental; one group pre-test, post-test design.
Research setting	: Selected schools of nursing at Vijayapur

Population

Target Population : 3rd year GNM nursing students

Sample and sampling technique

Sample : 3rd year GNM nursing students studying in selected schools of Nursing at Vijayapur

Sampling technique : Purposive sampling technique.

Sample size : 3rd year GNM nursing students

Criteria for selection of the sample

The criteria for sample selection are mainly depicted under two headings, which includes the inclusion and the exclusion criteria.

Inclusive criteria:

The study includes: 3rd year GNM nursing students, who are;

- ✓ In the selected 3rd Year GNM Nursing school of nursing at Vijayapur.
- ✓ Co-operative and willing to participate in the study
- ✓ Available during the time of data collection

Exclusion criteria:

The study excludes: 3rd year GNM nursing students, who are;

- ✓ Not available at the time of data collection.
- ✓ Not co-operative and not willing to participate in the study

Development of the tool

The tool used for research study was Self-administered knowledge questionnaire which was prepared to assess the knowledge regarding organ donation. The tool was formulated on the basis of the experience of the investigator, review of literature, extensive library search and consultation with experts.

Description of the data collection tool

The tool selected for the study was Self-administered knowledge questionnaire which comprised of two sections. They were:

Section I: Socio Demographic Data containing 7 items.

Section II: Self-administered knowledge questionnaire which consists of 30 items for assessing the knowledge of 3rd year GNM nursing students regarding organ donation. Each correct answer carries 1 mark and incorrect answer carries 0 mark.

Further tool was divided into:

- ✓ General Information about organ donation
- ✓ History of organ donation
- ✓ Incidence and prevalence of organ donation
- ✓ Eligibility criteria for organ donation

Development and Description of the Planned Educational Programme

The script of planned educational programme was designed and developed by the investigator with the help of review of literature and suggestion of guide and experts. Planned educational programme was based on following aspects: General Information, History, Incidence and prevalence, Eligibility criteria for organ donation. For the present study, in order to organise the content of the lesson plan, the literature were reviewed from the books, journals, published and unpublished studies, electronic media and websites. Opinion and suggestions from various experts were also considered for designing Planned Education programme.

Results

Findings related to socio-demographic variables of subjects

According to age in years, 33(55%) of the 3rd Year GNM students were between the age group 20 to 25 years, 21(35%) of them were between the age group 26 to 30 years and 6 (10%) were between age group of 31 to 35 years. According to gender, 25(41.7%) were Male and 35(58.3%) were Female respondents.

On the basis of religion, that majority of the 3rd Year GNM students 48(80%) were Hindu, 12 (20%) were Muslim respondents. According to type of family 39(65%) of the respondents were belongs to Nuclear family, 14(23.3%) of the respondents were belong joint family and 7 (11.7%) were belongs to extended family.

On the basis of income of family, 6(10%) of respondents were belong to family income of less than 4000, 16(26.7%) of them were belongs to family income of 4001-5000, 26(43.3%) of respondents were between 5001-10000 and 12 (20%) of them were belong to more than 10000 income of family. On the basis of place of residency 29(48.3%) of respondents were belong to Rural, 18(30%) of them were belongs to Semi urban, and 13 (21.7%) of them were belong to Urban areas. Regarding Source of information 8(13.3%) of respondents were getting information from family and friends, 31(51.7%) of them were getting information from books and magazines, 6(10%) of respondents were

getting information from internet and 15 (25%) of them were getting information from Health care providers.

Analysis and interpretation of knowledge scores of subjects who have participated in the study regarding organ donation

Table 1. Frequency and percentage distribution of pre-existing level of knowledge of 3rd Year GNM students

S.No.	Level of knowledge	Scores	Frequency (f)	Percentage (%)
1	Inadequate	<50%	33	55.0
2	Moderately adequate	50-75%	24	40.0
3	Adequate	75%	03	5.0
Total			60	100.0

Table 1, represents the pre-test knowledge of 3rd Year GNM students regarding Organ Donation and also reveals that the level of knowledge of 3rd Year GNM students before using Planned Educational programme. In that 33(55%) of respondents were have inadequate knowledge, 24(40%) of them have moderate knowledge and 3(5%) of respondents have adequate knowledge.

Table 2. Frequency and percentage distribution of post-test level of knowledge of 3rd Year GNM students

S.No.	Level of knowledge	Scores	Frequency (f)	Percentage (%)
1	Inadequate	<50%	0	0.0
2	Moderately adequate	50-75%	39	65.0
3	Adequate	75%	21	35.0
Total			60	100.0

Table 2 represents the post-test knowledge of 3rd Year GNM students regarding Organ Donation after using Planned Educational programme. In that 0(0%) of respondents were have inadequate knowledge, 39(65%) of them have moderate knowledge and 21(35%) of respondents have adequate knowledge.

Table 3. Frequency and percentage distribution of knowledge scores of subjects of 3rd Year GNM students.

S.No.	Test	Score	Pretest	%	Posttest	%
1	Inadequate	<50%	33	55.0	0	0.0
2	Moderately adequate	50-75%	24	40.0	39	65.0
3	Adequate	75%	03	5.0	21	35.0
Total			60	100	60	100

From table 3, it was seen that level of knowledge of the 3rd Year GNM students were inadequate before PTP, whereas after PTP majority 0(0%) of respondents were have inadequate knowledge, 39(65%) of them have moderate knowledge and 21(35%) of respondents have adequate knowledge. Hence planned education program had increased level of knowledge.

Table 4. Comparing effectiveness of planned educational programme on knowledge among the of 3rd Year GNM students

Knowledge	Mean	SD	Mean%	T Value
Pre test	16.3	3.5	54.3	31.6**
Post test	26.5	2.7	88.3	
Enhancement	10.2	2.5	34	

Table 4 states that the effectiveness of Planned Educational Programme in terms of gaining knowledge scores in post-test. According to this 3rd year GNM student's pre-test knowledge regarding Organ Donation was 16.3 and post-test knowledge regarding Organ Donation was 26.5, which is significant, so there is enough evidence that Planned Educational programme is effective in enhancing the knowledge of the 3rd year GNM students regarding Organ Donation.

Testing of hypothesis

H₁: There will be significant difference found between the pre-test and post-test Knowledge scores of 3rd year GNM nursing students regarding Organ Donation.

H₂: There will be significant association between the knowledge of 3rd year GNM nursing students regarding Organ Donation with selected socio demographic variables at 0.05 level of significance.

Analysis and interpretation of data to find out an association between pre-test knowledge scores of subjects with their selected socio demographic variables

There was no association between socio-demographic variables and knowledge level. Hence H₁ Is accepted.

Recommendations

- a) The similar study can be repeated on larger scale for better generalizations of the findings.
- b) A similar study can be undertaken by utilizing other domains like attitude and practice.
- c) The study can be conducted in various settings.
- d) A comparative study may be conducted to find out the knowledge of other 3rd Year GNM Nursing Students.
- e) An experimental study can be conducted with control group.
- f) A study can be carried out to evaluate the efficacy of various teaching strategies like information booklet, video assisted teaching programme. The study emphasizes the significance of short term and in service education programmes for the 3rd Year GNM Nursing Students regarding Organ Donation.

Conflicts of interest

There is no conflict of interest of any kind.

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