



“EFFECTIVENES OF SELF INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING BLOOD DONATION AMONG ADOLESCENTS OF SELECTED HIGHER SECONDARY SCHOOL.”

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ABSTRACT

The present time is hasty, full of rush. This often brings about unexpected situations to which man is not prepared. Patient with bleeding disorders, accidents, surgeries, inherited/acquired hematological disease and malignancies are of an important concern for the society. Hence, blood is the vital component of human life and there are no alternatives developed till now. Accessibility of safe and wholesome blood and its products is a critical aspect of any health care activity. Developed countries with well established health care system and blood transfusion amenities are largely able to meet this demand. However people in developing countries like India are confronted with unawareness, fears and misperceptions about blood donation, which result in a restricted figure of voluntary blood donors.

However, researcher felt the need of awareness among adolescents of this period is crucial for the development of an individual’s attitude and pro-social skills. Many health habits are developed and consolidated during adolescence, and the health habits that are developed during adolescence continue to influence health throughout the life span.

MATERIALS & METHODS

A Quasi-experimental study was conducted on 100 adolescent. Samples for study were selected by using non probability convenient sampling technique. The data was collected by using structured knowledge questionnaires. Pre test was conducted and on the same day self instructional module was also administered. After 7 days post test was conducted to assess the gained knowledge using the same structured knowledge questionnaire.

FINDING OF THE STUDY

The comparisons of the pretest and posttest means of the knowledge were done by the paired t test. The pretest average score was 9.50 with standard deviation of 1.73. The posttest average score was 16.87 with standard deviation of 1.22.

The test statistics value of the paired t test was 34.52 with p value 0.00. The p value less than 0.05, hence the null hypothesis was rejected. That means there is significant difference in pre and posttest knowledge.

Thus it was noticed that self-instructional module on knowledge regarding blood donation, improved knowledge of adolescents from selected higher secondary school.

CONCLUSION

The study concluded that most of the participants had poor knowledge and practice regarding blood donation. Self instructional module act as a guiding key for adolescents to increase their knowledge regarding blood donation. More educational programs to increase the awareness should be recommended.

CHAPTER I

INTRODUCTION

All progress begins with a brave decision.

-MARIE FORLEO

The World Health Organization (WHO) reported the novel corona virus (COVID 19) outbreak as a public health emergency of international concern on January 30, 2020 and soon declared it a global pandemic on March 11, 2020. Following this, the control and state governments of India imposed a nationwide lockdown as a precautionary measure to contain the spread of COVID-19. This unforeseen situation has dramatically affected healthcare services globally. This often brings about unexpected situations to which man is not prepared. Patient with bleeding disorders, accidents, surgeries, inherited/acquired hematological disease and malignancies are of an important concern for the society. In particular this posed a formidable challenge to blood transfusion service as in terms of adequate blood inventory management to suffice blood donation.¹

According to times of India dated May 1 2021. Doctors fear that India is more likely to face scarcity of blood donors in the coming months due to the pandemic and vaccination. Blood banks in India have already been facing an acute shortage due to increased demand and low donors, and the entire shortfall comes to over a million units. So it is critical to educate people about the importance of donating blood.²

WHO initiated World Blood Donor Day and declared this day on 14 June each year. The aim is to raise global awareness of the need for safe blood and blood products for transfusion and of the critical contribution voluntary, unpaid blood donors make to national health systems. The day also provides an opportunity to call to action to governments and national health authorities to provide adequate resources and put into place systems and infrastructures to increase the collection of blood from voluntary, non-remunerated blood donors. The international federation of Red Cross and Red crescent societies was founded with the goal of spreading global knowledge regarding the importance of safe blood donation by healthy people.³

Safe blood and blood products and their transfusion are a critical aspect of care and public health. They save millions of lives and improve the health and quality of life of many patients every day. The need for blood is universal, but access to blood for all those who need it is not. Blood shortages are particularly acute in developing countries. The number of potential donors were often reduced due to the strict selection criteria which were imposed to ensure the safety of blood supplies.⁴

Adolescents are a potential source of great interest, not only for the blood they could supply, but also because information on the subject "giving blood" could promote the spread of healthy lifestyles, acquisition of greater awareness about one's own health, and contribute to the development of a mature, responsible civic attitude. To ensure that everyone who needs safe blood has access to it, all countries need voluntary, unpaid donors who give blood regularly. Throughout the COVID-19 pandemic, despite limited

mobility and other challenges, blood donors in many countries have continued to donate blood and plasma to patients who need transfusion. This extraordinary effort during a time of unprecedented crisis highlights the crucial role of well-organized, committed voluntary, non-remunerated blood donors in ensuring a safe and sufficient blood supply during normal and emergency times.⁵

For years research have been conducted on the factors that can influence choices of notable value such as giving blood, with the aim of converting the data collected into ever more effective methods for recruiting new donors, improving communication, and adapting the processes of collection/management/use of blood to meet the needs of the donors and, thereby, encourage repeat donations.⁶

The decreasing trend in donor numbers makes recruitment a challenge and a constant and unavoidable necessity in order to guarantee the maintenance of members' donations, although this differs from country to country and is subject to varying conditions; this reality requires that organizations continually develop strategies to recruit new donors with a significant expenditure of time and energy.⁷

BACKGROUND OF THE STUDY :-

Many health habits are developed and consolidated during adolescence, and the health habits that are developed during adolescence continue to influence health throughout the life span. In fact, recent research demonstrated that, although adolescents are ideal candidates for blood donation due to their health, sensitivity, and the possibility of a "long journey" as blood donors, they nevertheless reveal themselves to be uninformed and, therefore, constitute a smaller presence in the donor population. It often happens that young people who arrive at blood collection centers turn out to be inappropriate for donation because of lifestyle problems (due to drug use, unprotected sexual activity, high alcohol levels). These health conditions, however, are discovered only after the first screening of the blood sample, entailing obvious expenditures of time and resources as well as limiting the potential source of blood in the referenced population. It is important to thoroughly understand the developmental scenario of these risk behaviors. Scientific literatures on the motivations inducing adults to donate their blood are rich and diversified.⁸

Many demographic studies aim to delineate the typical features of the donor profile or to associate specific motivational aspects with donors. Research has explored the world of donation essentially through three strands: the first concerns the use and efficacy of motivational incentives; the second has to do with motivations and deterrents to donating blood for reasons that can be subdivided into those that are intrinsic (that is, personal responsibility and values) and extrinsic (linked, that is, to social pressure); the third and final strand focuses on the specific experience of the "first donation" and on the aspects that influenced its transformation into "habitual donation," with the principal goal of understanding how to recruit new donors and to facilitate the start of a career as a donor. However, these aspects were not investigated in adolescents. The only work on adolescents is by which investigated obstacles and motivations relative to adolescents' blood donation. One aspect that emerges from among many others in this work is that adolescents report that the choice to undertake the act of donation is, in the first place, a personal choice supported by other factors (such as experts and friends), which are, however, not the triggering motivation. This result provides further confirmation of the importance of appealing to adolescents' more "personal" dimensions in order to facilitate their entry into the world of donation.⁹

Although at any stage of an individuals' life cycle, there can be times when one encounters risk (in that it is an indicator of the critical moments of everyone's life), during adolescence this happens with more frequency and intensity. These actions express a self-regulated attempt to control difficulties and, therefore, risk behaviors may only occasionally be interpreted as symptoms of temporary emotional distress and are often associated with an evolution of the subject in question. Since adolescence is the stage of development during which a person may be engaged in some risky behaviors for the first time, and the lifestyles of individuals begin to take shape in more or less healthy ways, it is important to encourage the construction of a self-concept that includes well-being.¹⁰

Hence it is important for a researcher to make young people more aware of risk behaviors that they engage in and to promote and spread the value of a healthy lifestyle; this contributes not only to a substantial increase in the quality of life but also in increasing the possibility of blood donation in this age group. In fact, it is during adolescence that a strong drive toward a pro-social attitude develops, which could be materialized through the act of donating blood.¹¹

NEED FOR THE STUDY :-

Every year our nation requires about 5 Core units of blood, out of which only a meager 2.5 Core units of blood are available. India has the world's largest shortage of blood, with all states together battling a huge shortfall of 41 million units and demand outstripping supply by over 400% as per the study published in the journal .The Lancet blood donations are needed every day. A total 30 million blood components are transfused each year. The average red blood cell transfusion is approximately 3 points. Even as COVID-19 spreads across the country, the need for blood donation remains. This calls for a self instructional module on blood donation among adolescents. Adolescents can make India blood sufficient.¹²

Current stock of blood can meet the requirements in the civic limits for around five days. The decline in Covid-19 cases and increase in planned surgeries are leading to more requirement of blood. On an average, around 800 bags of blood are needed per day in the civic limits. "Around 4,500 to 5,000 bags are available at present. This stock can last for only around five days," a source said. Many blood donors are currently unable to donate blood as precautionary measures post-vaccination. Authorities have been appealing to residents to come forward and donate blood to tide over the shortage. According to donors, the blood donation camps were not being conducted regularly, which was adding to the problem. The pandemic had an adverse impact on the camps.¹³

TITLE OF THE STUDY

"EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING BLOOD DONATION AMONG ADOLESCENTS OF SELECTED HIGHER SECONDARY SCHOOL."

OBJECTIVES**Primary objectives:**

- a) To assess the existing knowledge regarding blood donation among adolescents of selected higher secondary school

Secondary objectives :

- a) To evaluate the effectiveness of self instructional module regarding blood donation among adolescents of selected higher secondary school.
- b) To find out the association between knowledge regarding blood donation among adolescents with their selected demographic variables.

HYPOTHESIS:-

- a) H_0 – There will be no significant difference between pretest & post test knowledge scores regarding blood donation with selected demographic variables.
- b) H_1 – There will be significant difference between pretest & post test knowledge scores regarding blood donation with selected demographic variables.

OPERATIONAL DEFINITIONS:**1. EFFECTIVENESS:**

According to oxford dictionary, "Effectiveness" is the capability of producing a desired result or the ability to produce desired output.

In this study, it refers to the knowledge outcome or the desired result after distribution of self instructional module.

2. SELF INSTRUCTIONAL MODULE:

According to Oxford dictionary, "A self-instructional module is a way for students to learn at their own pace about a new topic."

In this study, self-instructional module is a method used by the researcher to provide or design instructional activities that guide the learner independently achieving the objectives of learning."

3. ADOLESCENTS:

According to Oxford dictionary, "Adolescence is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood."

In this study, adolescents are those between 12 and 19 years of age.”

4. BLOOD DONATION :

According to oxford dictionary,” A blood donation occurs when a person voluntarily has blood drawn and used for transfusions and /or made into biopharmaceutical medications by a process called fractionation (separation of whole blood components).

In this study,” It is a voluntary procedure that can help save the lives of others.

5. KNOWLEDGE :

According to oxford dictionary,”Facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.”

In this study,”Knowledge” means understanding the fact or state of knowing; the perception of fact or truth ; clear and certain mental apprehension.”

6. HIGHER SECONDARY SCHOOL :

According to oxford dictionary,Higher secondary is also known as senior secondary in some places. It refers to the education imparted in eleventh and twelfth standard.

In this study,”Higher secondary education means the education to be imparted in classes eleven and twelve.

SCOPE OF THE STUDY:

1. The study would help to find out the ground reality in terms of blood donation among adolescents of selected higher secondary school.
2. The study would help the respondent to know the level of knowledge that they possess regarding blood donation among adolescents of selected higher secondary school.
3. The study would enhance the knowledge of the respondents regarding blood donation among adolescents of selected higher secondary school.
4. The study would help the child health nurses to impart knowledge regarding blood donation among adolescents of selected higher secondary school.

ASSUMPTION:

1. Students may have some knowledge regarding blood donation.
2. Self Instructional Module may enhance the knowledge of students about Blood Donation.
3. Responses of Students to the questionnaire will reveal their knowledge about Blood Donation.

LIMITATIONS :

1. The study is confined to specific geographical area, which imposes limits to any larger generalization.
2. The study is restricted to only adolescents of age group of 16-18 years.
3. The data was collected from 100 samples to find out the knowledge.. It could be done on more samples for the larger generalization.

ETHICAL ASPECT:

Ethical issue was addressed by taking Institutional Ethical Committee approval for ethical consideration. Permission from the competent authorities and informed consent from the participants was taken for their willingness to participate in the study. The confidentiality of the data was maintained. Fair non discriminating selection of participants was done. No harm or injustice was done while dealing with the samples and the data.

CONCEPTUAL FRAMEWORK

Conceptual framework is a complex whole of interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme.¹⁴

A Conceptual model provides logical thinking ; for systematic observation and interpretation of observed data. The model also gives direction for relevant questions on phenomena and points out solutions to practical problems as well as serves as springboard for the generation of hypothesis to be used.¹⁵

The conceptual framework of this study is based Health Belief Model approach. A system consists of a set of interacting components within a boundary that filters the type and rate of exchange within the environment. A model has been defined “Set of Components or unity interacting with each other within a boundary that filters both the kind and the rate of flow inputs and outputs only. “The Health Belief Model is concerned with changes due to interaction between the person and environment change continuously. The Health Belief Model provides a way to understand the many influences on the whole person and the possible input of change of any part of the whole.¹⁶

The main concepts of Health Belief Model are input, throughput and output. The input refers to any other form of information, energy or material that enters into the the system through its boundary. Throughput refers to the process whereby system transforms, creates and organizes. Output refers to energy information or matter that is transferred to the environment as a result of the throughput.¹⁷

In this study the input is referred to the knowledge of adolescents in relation to blood donation; their baseline variables such as age, gender, religion, residence, Types of family, knowledge regarding blood donation, source of knowledge of students. It was assumed that students would have some knowledge regarding blood donation and that these baseline variables would have some influence on preexisting knowledge of students. The plan was to assess the knowledge of students in, by administration of a pretest structured knowledge questionnaire to students.¹⁸

CONCEPTUAL FRAMEWORK- HEALTH BELIEF MODEL

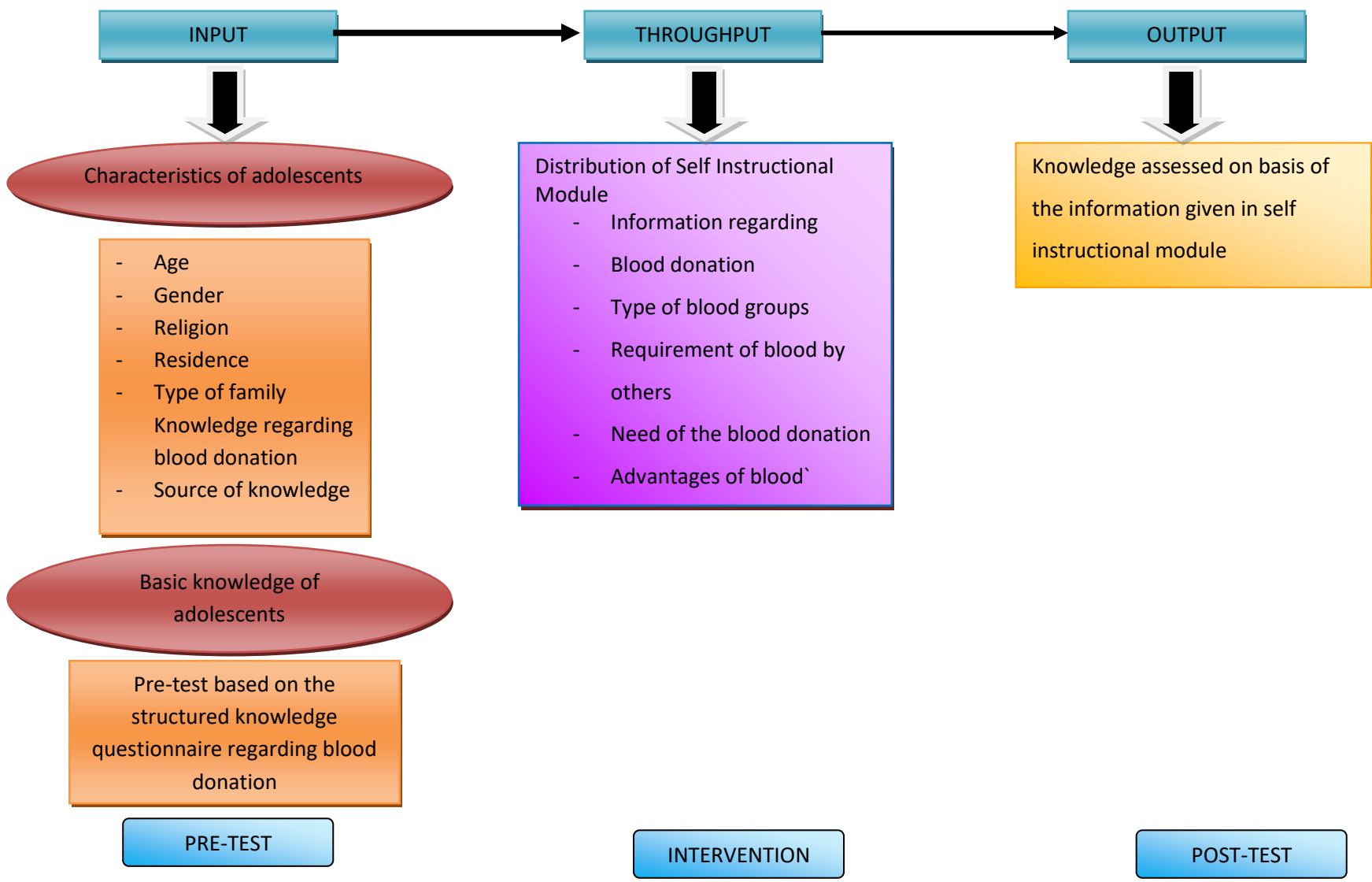


Figure 1 : Conceptual frame work based on Health Belief Model

SUMMARY

This chapter dealt with introduction, background of the study, need of the study, Title of the study, objectives, hypothesis, operational definitions, scope of the study, assumptions, limitations, ethical aspects and conceptual framework is described in detail here and it is further helpful to lead the study. The Self Instructional Module was used as the teaching strategy to educate

CHAPTER II REVIEW OF LITERATURE

In essence, to literature the review identifies, evaluates and synthesises the relevant literature within a particular field of research. It illuminates how knowledge has evolved within the field, highlighting what has already been done, what is generally accepted, what is emerging and what is the current state of thinking on the topic. A review of literature presents much more than a summary of relevant sources. The act of reviewing involves evaluating individual sources as well as synthesizing these sources in order to gain a broad view of the field. At this 'Field level', a literature review discusses common and emerging approaches, notable patterns and trends, areas of conflict and controversies, and gaps within the relevant literature. When you can clearly observe these things, you will be able to situate your own research and contribute to ongoing debates within the field.

Literature review is defined as a broad, comprehensive, in depth, systemic and critical review of scholarly publication, unpublished printed or audio-visual materials and proposal communication.

The purpose of literature review is to discover what has previously been done about the problems to be studied, what methods have been employed in order to research and how the results of others in the area can be combined to develop knowledge.

A literature review helps to lay the foundation for a study, and can also inspire new research ideas. In this study review of literature is arranged as per the following sub headings :

1. Review of literature related to awareness of blood donation among adolescents
2. Review of literature related to effectiveness of self instructional module regarding blood donation

Literature and studies related to awareness of blood donation among adolescents.

Chauhan R, et.al, (2018) conducted a cross-sectional study among medical students to determine the knowledge, attitude and practices (KAP) about voluntary blood donation. A pre-tested, structured questionnaire was used as a study tool. After the collection of the baseline information, a brief interactive awareness session, addressing voluntary blood donation was organized for the participants and their willingness to donate blood was again noted at the conclusion of the session. 235 students participated in the study, 102 (43.4%) males and 133 (56.5%) females. The mean age was 20.42 ± 1.38 years. The knowledge of blood donation was assessed by questions assessing general knowledge about blood donation, knowledge of criteria for donor selection, and knowledge regarding infections that can be transmitted through transfusion of contaminated blood.¹⁹

Kanani AN, et.al (2018) conducted a study with an aim to compare the reasons for blood donation and knowledge about blood donation among medical science undergraduate students. A random cross-sectional study was conducted among 500 government medical sciences' undergraduate students in Jamnagar during the period of 3 months (February 2017 to April 2017). It constitutes of MBBS, Dental, Ayurvedic, Physiotherapy, and Nursing College. A predesigned, pretested, self-administered questionnaire was devised to collect data. Data were collected after obtaining informed consent. Ethical clearance from the institute was obtained before the study. The results were analyzed using Microsoft Excel 2007 database sheet, and percentage and Chi-square test were applied to calculate association between different variables with P value set as significant when < 0.05 . The response was gathered from a total of 500 respondents who voluntarily participated in the study. Out of them, 31.52% (n = 165) males and 14.03% (n = 335) females donated blood in their lifetime. Among MBBS students, 90.19% (n = 1100) had shown a good level of knowledge (given a positive response), whereas dental, ayurvedic, physiotherapy, and nursing student respondents showed the same by 78.27%, 71.64%, 89.55%, and 76.27%, respectively. Among factors that hindered the study cases from donating blood, the most important was that they were never approached by anyone (52.2% - whenever required) for blood donation. The conclusion of the study indicated a greater awareness among the medical and physiotherapy students in comparison to nursing, dental, and ayurvedic students.²⁰

Dejene M, et.al (2021) conducted a study with an aim to assess practice of blood donation and associated factors among health science college students in Dessie town, northeast Ethiopia. An institution-based cross-sectional study was conducted among health science college students from May to June 2019. A pre-tested and self-administered structured questionnaire was used for data collection. Multivariable logistic regression analysis model was applied to identify independent predictors of blood donation practice at the level of significance below 0.05. Overall, 12.4% (95% CI: 9.5– 15.5) of participants had been donated blood at least once in their lifetime. However, 59.2% of participants have willingness to donate blood in the future. In this study, older age (≥ 25 years) (AOR=2.30, 95% CI: 1.18– 4.46), had family history of blood transfusion (AOR=3.55, 95% CI: 1.71– 7.36), had knowledge (AOR=2.09, 95% CI: 1.04– 4.17) and favorable attitude (AOR=2.41, 95% CI: 1.01– 5.75) about blood donation were significantly associated with practice of donating blood. In this study, blood donation practice of health sciences college students was found to be low. Age, family history of blood transfusion, knowledge and attitude towards blood donation were independent predictors of blood donation practice. Therefore, Red Cross societies, Dessie town health office, health science colleges and other stakeholders enhanced the awareness of college students regarding the importance of donating blood.²¹

Jain J, et.al (2016) conducted a study to assess the knowledge, attitude and behavior about blood donation among medical college students of Udaipur city. Sample of 150 respondents were studied, during the period of October 2016- December 2016. Majority of respondents were aware, and had good knowledge on blood donation. Blood group "O" is a universal donor is also known to majority of the subjects. The minimum age to donate blood was known to majority of the respondents and most of them were willing to donate blood with a view that the blood donation is useful and beneficial to society. Very few of the study subjects had ever donated blood

and the frequency of blood donation was observed more in male donors than female. Majority of the donor's preferred to donate blood to their relatives. Major steps were initiated to overcome the obstacles with provision of adequate literature, advertisements and communication material for enhancing positive attitude of medical college students so that they start to take part willingly in voluntary blood donation.²²

Anand N.et.al.: conducted a study with an aim to assess the knowledge, attitude, and practices regarding blood donation among individuals aged 18-60 years in an urban community of Chennai and to identify the factors associated with blood donation. A cross-sectional study was carried out in the months of May and June, 2017. Table of random numbers was used to recruit a total of 300 study participants. A pilot tested semi structured, questionnaire was employed as a data collection tool. Multiple logistic regression analysis was used to examine association between the independent variables and the dependent variables. Among study subjects, 45% of them had good knowledge on blood donation and 44% of our subjects had a correct attitude towards blood donation. Only 33.3% of them had good practices towards blood donation. The most common reason quoted for not donating blood was that they were more bothered about their own health which by donating blood would lead on to some health problems. The study showed an average prevalence of knowledge and attitude among the study subjects whereas when it comes to practice it was found to be less.²³

.Wang L,et.al(2019) conducted a study to explore the mediating effect of cognition in blood donation on the relationship between blood donation and blood donors' health status. A total of 837 participants who had prior experience in donating whole blood were recruited into a cross-sectional survey. the medical outcomes study 36-item short-form health survey (sf-36) and the questionnaire on cognition in non-remunerated blood donation were used to evaluate the health status and the level of cognition in blood donation, respectively. The mediating effect of cognition in blood donation was analyzed by applying a path model. The results revealed that blood donation was positively related to the physical component summary (PCS) and mental component summary (MCS) of SF-36, and cognition in blood donation was shown to have a partial mediating effect on the relationship between blood donation and both PCS and MCS. The effect size of cognition in blood donation was 24.63% in PCS and 26.72% in MCS. Blood donation was positively correlated with SF-36 outcomes (PCS and MCS) of blood donors, and cognition in blood donation plays a partial mediating effect in the relationship between blood donation and PCS and MCS.²⁴

Suen LK,et.al (2020) conducted a questionnaire-based cross-sectional survey with an aim to determine the knowledge level of young adults towards blood donation, and to understand their donor identity and the meanings of blood donation to them. Undergraduate students of a university in Hong Kong was recruited by convenience sampling, at public facilities in campus such as student canteens and the Campus Blood Donor Centre of the university. The questionnaire which consisted of three parts was used for data collection. Part 1 collected socio demographic information and items associated with blood donation; part 2 related to knowledge on blood donation and part 3 focused on blood donor identity. Univariate and multivariate logistic regression analyses were conducted to determine the OR and identify the predictors for blood donation. Among the 542 respondents, 274 were non-blood donors and 268 were blood donors. Blood donors generally had better knowledge towards blood donation than non-blood donors. The results of univariate analyses indicated that being a female (OR=1.99, $p<0.001$), aged 22 years or above (OR=234, $p<0.001$), studying at year 4 or 5 (OR=2.12, $p=0.003$), studying health-related programmes (OR=1.96, $p<0.001$), being registered as an organ donor (OR=6.59, $p<0.001$), had prior experience of receiving blood (OR=7.60, $p<0.001$) or prior experience of being refused for blood donation (OR=5.14, $p<0.001$) were significantly associated with being a blood donor. Having prior experience of receiving blood was the strongest predictor for being a blood donor, followed by being registered as an organ donor, after controlling for all other factors in the logistic regression model. The findings were consistent with self-determination theory, which hypothesizes that people were more likely to abide with blood donation behaviors that are internally rather than externally motivated.²⁵

Hosain GM,et.al (1997) conducted a study with quantitative approach with exploratory descriptive research design which was undertaken on 198 adults by convenient sampling technique to assess the attitude and practice of adult population regarding voluntary blood donation. Attitude scale and practice checklist were used as data collection tool. Result of the study shows that half of adult participants were between the age group of 18 to 29 years. More than half of the samples were females (55.1%) and majority (72.7%) of them were Hindus. Students (15.7%) and homemakers (32.3%) constituted half of the study participants. There was a statistically significant association ($p=0.021$) of age and attitude at the significant level of $p=0.05$. Voluntary blood donation was lacking among adult population. There was a gross difference between attitude and practice regarding blood donation. Factors associated not donation of blood were fear, pain related to needle prick, hesitation, anemia, beliefs, custom and weakness after donating. The study concluded that there was need of community awareness programs to motivate the general public for voluntary blood donation.²⁶

Mathew N, et,al (2021) conducted cross sectional descriptive study among the students of the University of Dhaka, Bangladesh, to assess their knowledge and attitudinal variables towards voluntary, non-remunerated blood donation. Two hundred students were selected to participate in study and were interviewed face to face on various aspects of blood donation using a structured questionnaire. Eighty two percent of the participants showed a positive attitude towards blood donation, however, only 16 percent of the respondents in this study had actually ever donated blood voluntarily. Among the non-donor respondents, physical harm and fear were found to be the common reasons for not donating blood. The results also showed that a high number of respondents (93%) had a negative attitude towards paid blood donation. Study suggested that appropriate motivational campaign was launched immediately among this young section of the population to convert this favorable "attitude" towards blood donation into a regular "practice" in order to increase the voluntary blood donation in Bangladesh.²⁷

Anusuya D.: conducted a study on 100 Non Medical Students who were selected using Probability Simple random sampling technique from selected colleges of Mount Abu, Rajasthan. Self Structured Questionnaire was used to assess the level of knowledge of Non Medical Students regarding blood donation. In this study overall the highest percentage in the demographic data including the age group 50% (20- 22), Gender 54% (Female), Religion 90% (Hindu), Residence 46% (Rural), Monthly Income 64% (less than 10000), father education 36% (primary education), mother's education 64% (no formal education), father occupation 50% (others), mothers occupation 88% (house wife). Majority of students (46%) of non-medical students were having poor knowledge regarding blood donation, (32%) having average knowledge, (18%) were having good knowledge and only 4% were having excellent knowledge.

Findings revealed that there was significant association between age and level of knowledge at 0.05. The result of study clearly showed that there was poor knowledge regarding blood donation among Non-Medical Students.²⁸

Melku M et.al. (2016) conducted a study to assess the knowledge and attitude regarding blood and organ donation among adolescents in Nanchiyampalayam at Dharapuram with a view to prepare a self instructional module. The research design used for this study was Non experimental descriptive design. Non probability purposive Sampling was used to select 100 samples for the study. The tool used for the study was structured interview schedule to assess knowledge and attitude regarding blood and organ donation. The data gathered were analyzed employing descriptive and inferential statistics. The findings of the study included 33% of adolescents who had inadequate knowledge and 77% of adolescents had favorable attitude 13 regarding blood and organ donation. The study revealed that there was positive correlation ($r=0.268$) between the knowledge and attitude scores of blood and organ donation. Distributing SIM regarding blood and organ donation helped the adolescents to have adequate knowledge, awareness and positive attitude regarding blood and organ donation.²⁹

Buciuniene I,et.al.(2006) conducted a study to assess knowledge, attitude, and practice of adult population towards blood donation in Gondar town, Northwest Ethiopia. A community based cross-sectional study was conducted among 768 adults. Multistage sampling technique together with simple random and systematic random sampling technique was employed. Vicariate and multivariate logistic regression analysis and vicariate correlation analysis were done. About 436 (56.8%), 630 (82%), and 141 (18.4%) study participants had adequate knowledge, good attitude, and experience of blood donation, respectively. Secondary and higher educational statuses were significantly associated with adequate knowledge towards blood donation. Participants who were protestant by religion were more likely to have good attitude towards blood donation. Age, self-perceived health status, and religion were significantly associated with blood donation practice. Knowledge and attitude towards blood donation were high. However, the level of practice was low. District and national blood banks and transfusion agency should design strategies that promote and motivate the communities to donate blood.³⁰

Sampath S, et, al. (2007) conducted a study with an aim to determine blood donation motives among the present donors and investigate their attitude towards non-remunerated donation. A questionnaire survey of 400 blood donors were given. Survey data was processed using SPSS statistical analysis package. Statistical data reliability was checked using Fisher's exact test ($p < 0.05$). Paid donors comprised 89.9%, while non-paid ones made 10.1% of the respondents. Research findings showed that 93 percent of the paid donors give blood on a regular basis; while among the non-remunerated donors the same figure amounted merely to 20.6 percent. The idea of the remuneration necessity was supported by 78.3 per cent of the paid donors, while 64.7 percent of the non-remunerated respondents believe that remuneration is not necessary. The absolute majority of the paid donors (92%) thought they should be offered a monetary compensation for blood donation, while more than half of the non-remunerated donors (55.9) claimed they would be content with a mere appreciation of the act. Provided no remuneration were offered, 28.44 percent of the respondents would carry on doing it, 29.6 percent would do it only in emergency, 29.6 percent would donate blood merely for their family or friends, and 12.3 percent would quit it completely.³¹

Lownik E et, al (2012) conducted a study to determine the factors that influence blood donation in different demographic groups in a multi-ethnic, multicultural community, and to devise a strategy for a national campaign to increase voluntary non-remunerated blood donations. The majority (87%) of blood donations in Trinidad and Tobago were replacement donations. An observer-administered questionnaire was completed by 1423 respondents in a multi-ethnic borough in central Trinidad. Respondents were classified as donors or non-donors and grouped by age, race, religion, employment status and highest level of education. The prevalence of a history of blood donation and the factors that encouraged donation or conversely discouraged donation in each demographic group were recorded. A total of 1146 (81.2%) respondents had never donated blood. Of the 277 (18.8%) who had previously donated, replacement for a family member or friend was the most common reason (86.9%). The prevalence of donation was low in all racial, religious, gender, educational and age groups. However, there were significant demographic variations. The majority (71.3%) of non-donors cited a lack of information as a major reason for non-donation and expressed a willingness to donate if access to information and donation facilities were improved.³²

Shidam UG et.al.(2017) conducted a search of publically available databases, and studied the following characteristics of knowledge, attitude and practice or KAP plus behavior survey; the subject of the survey was blood donation; the survey was performed between 1995 and 2011; and the survey was performed in countries classified as emerging and developing by the International Monetary Fund. Eighteen KAP studies conducted in seventeen developing countries were identified. There was considerable difference in the structure, population surveyed and conduct of the KAP studies. The common following themes were emerged: misinformation about blood donation, fear of blood donation, willingness to donate for family and friends, concern about selling blood and a failure to transfer positive attitudes into actual blood donation.³³

Yosef T et.al. (2018) conducted a study to assess the knowledge, attitude, and practices regarding blood donation among individuals aged 18-60 years in an urban community of Chennai and to identify the factors associated with blood donation. A cross-sectional study was carried out in Pudupet in the months of May and June, 2017. Table of random numbers was used to recruit a total of 300 study participants. A pilot tested semi structured questionnaire was employed as a data collection tool. Multiple logistic regression analysis was used to examine association between the independent variables and the dependent variables. Among study subjects, 45% of them had good knowledge on blood donation and 44% of our subjects had a correct attitude towards blood donation. Only 33.3% of them had good practices towards blood donation. The most common reason quoted for not donating blood was that they were more bothered about their own health which by donating blood would lead on to some health problems. The study showed an average prevalence of knowledge and attitude among the study subjects whereas when it comes to practice it was found to be less.³⁴

Ibrahim AA,et.al.(2021) conducted a cross-sectional study in Ethiopia among 394 health science students from June 1st to 15th 2019. The data were collected using a structured self-administered questionnaire. The data were entered using EPI-data version 4.2.0.0 and analyzed using SPSS version 20. The correlation analysis was done to determine the association between the knowledge sum score and the attitude sum score. A binary logistic regression analysis was done to determine the association between the dependent and independent variables. Results: the proportions of good knowledge and positive attitude towards BD were 69.3%, 95% CI (64.8% -

73.4%) and 58.1%, 95% CI (52.3%-63.0%) respectively. The study also found that age ≥ 23 years (adjusted odds ratio (AOR)=1.67, 95% CI (1.04-2.67)), having a father with primary and secondary school and above (AOR=2.24, 95% CI (1.20-4.17) and AOR=2.26, 95% CI (1.26-4.06) respectively) and ever donated blood (AOR=3.64, 95% CI (2.26-5.85)) were factors associated with good knowledge of blood donation. Being a rural resident (AOR=1.59, 95% CI (1.01-2.40)) and graduating class student (AOR=0.56, 95% CI (0.34-0.96)) were factors associated with a positive attitude towards blood donation. The knowledge-related questions' sum score value was positively correlated with the attitude-related questions' sum score value ($r=0.30$, $P<0.001$). Thus it was concluded that the knowledge and attitude towards BD among the study population are a substantial deficiency. Therefore, more effort is needed to increase the level of knowledge and attitude towards BD by inculcating short training courses for these groups of population in the existing curriculum.³⁵

Mohammed S,et.al,(2021) conducted a cross-sectional survey using a constructed questionnaire among students at Qatar University. The aims of this study were as follows: (1) to assess the level of awareness and knowledge about blood donation and (2) to identify the factors that contribute to the willingness to donate blood among young adults. A total of 590 responses were collected, out of which 423 were suitable for analysis. Only 72 out of 472 (15%) participants were blood donors. The chi-square test and *t*-test were then used to study the association of blood donation status with different factors. Significant values were considered to be $p \leq 0.5$. Gender and age were found to be significantly associated with blood donation status, with a higher frequency of donation among males and adults above the age of 24 years old. On the other hand, the total knowledge score was found to not be significantly associated with blood donation status with a mean score of 60.5% for both groups (blood donors, non-blood donors). The most common motivators that encouraged blood donors were donating to help people, followed by having a blood mobile unit come to your place, whereas the most common barriers reported by non-blood donors were failing to meet the requirements, followed by "never having been asked to give blood."³⁶

Gilani I,et.al (2019) conducted a cross-sectional study at the donor clinic of Tamale Teaching Hospital in the Northern Region of Ghana from 06 January to 02 February 2018. Purposive sampling technique was used to sample 355 eligible first-time and repeat whole blood donors. Data were collected face-to-face with a 27-item self-administered questionnaire. Chi-square test was used to determine the association between donor status and the motivators of blood donation, barriers to blood donation and the socio-demographic characteristics of donors. Out of the 350 donors, 192(54.9%) were first-time blood donors while 158 (45.1%) were repeat donors. Nearly all the donors, 316(90.3%), indicated they were motivated to donate when someone they know is in need of blood. Over four-fifths of the donors endorsed good attitude of staff ($n = 291$, 83.4%) and the desire to help other people in need of blood ($n = 298$, 85.1%) as motivators. Approximately two-thirds, 223(63.7%), of the donors endorsed poor attitude of staff as a deterrent to blood donation. More than half of the donors considered the level of privacy provided during pre-donation screening ($n = 191$, 54.6%) and the concern that donated blood may be sold 178(50.9%) as deterrents. Only a little over one-third of the donors knew the minimum age for blood donation ($n = 126$, 36.0%) and the maximum number of donations per year ($n = 132$, 37.7%). Study findings suggested that public education on blood donation, regular prompts of donors to donate when there is a shortage, and friendly attitude of staff have the potential to motivate donors and eliminate barriers to blood donation.³⁷

Agrawal A,et.al.(2017) conducted a Cross-sectional study to assess Knowledge, Attitude and Practices (KAP) regarding voluntary blood donation prevalent in medical and paramedical personnel having basic level of awareness on the subject. The study was conducted in AK CMH, Muzaffarabad, from 15th March 2003 to 15th September 2003. For the assessment of knowledge, attitude and practices regarding voluntary blood donation in medical and paramedical personnel, 83 doctors and 83 paramedics were interviewed. A pre-tested close-ended questionnaire was designed according to the basic level of awareness of paramedics regarding voluntary blood donation. Variables used in the study were analyzed and compared between the two groups. Thereafter, Chi-square test was applied to see association between level of awareness and the actual gesture of voluntarily donating blood. Maximum number of doctors was in the age group ranging from 30 to 50 years while maximum paramedics were in the range of 30-40 years of age. Sixty three out of 83 doctors were blood donors that makes a percentage of 76, whereas 34 out of 83 paramedics were blood donors that makes a percentage of 41. Chi-square test was applied on two groups to compare the association between increased level of awareness and act of donating blood. Our statistical results supported this association ($\chi^2 = 20.85$) and value fell in the rejection region accepting alternate hypothesis and rejecting null hypothesis ($\chi^2 Z. 3.84$). A 49.2% of blood donations by doctors (whether random or regular donors) were voluntary and this percentage for paramedics was 35.3. Among doctors, only 3.40% were regular Voluntary Non-remunerated blood Donors (VNDs), whereas no one was found amongst the paramedics. Forty percent of non-donor doctors and 63.3% of non-donor paramedics stated the reason for their non-donation as "no one had ever asked them to do so". It is concluded from our study that there is an urgent need to create and strengthen programs for motivation, recruitment and retention of Voluntary Non-remunerated blood Donors (VNDs) in our country on the basis of following observations of the study:- More blood donations from medical doctors are observed in our study as compared to the paramedics. This implies that even the increased level of awareness on the subject does not result in actual act of donating blood.³⁸

Ugwu N,et.al. (2013) conducted a study to find out knowledge, attitude and practices of people towards voluntary blood donation to comprehend the situation and find ways to enhance voluntary blood donation in the state of Uttarakhand. Multi stage methodology was designed to target population including general population, influencers (doctors) and supporting organizations (camp organizers, State AIDS Control Society Officials) who were subjected to in-depth interview using pre-structured questionnaires to assess knowledge/awareness about voluntary blood donation, factors preventing and source of knowledge about voluntary blood donation. Result: The sample population consisted of mostly men (67%) in the age-group of 26-35 years. With increase in educational level, the awareness level was also found to increase. While among illiterate 81 percent of the respondents knew about blood donation, among the post graduates the same ratio was found to be almost cent-percent. Among various reasons cited for not donating blood, lack of awareness being the most common reason. People gathered information about blood donation from several different sources with electronic media being the most prominent. This study illustrates how increasing awareness and marketing 'Voluntary blood donation' can enhance adequacy of blood needs of a state or for that matter the entire country. This study also underlines how different media, especially electronic media, can be used to propagate altruistic blood donation.³⁹

Ugwu NI,et.al.(2019) conducted the aim of this study is to determine the perception and attitude toward voluntary non-remunerated blood donation among medical students in Abakaliki. This was a cross-sectional study carried out at Federal Teaching Hospital, Abakaliki, between October 2017 and March 2018. Stratified and simple random sampling technique was used to recruit participants from among medical students using pretested, semi-structured, self-administered questionnaire. Data were analyzed using SPSS software version 20. A total of 158 medical students who participated in the study were made up of 90 (57%) males and 68 (43%) females. The most prevalent age group was 20-25 years. Most of the participants, 151 (95.6%), were single. The proportion of the participants who had good knowledge about voluntary blood donation was 72.8%, while the attitudes of the respondents were positive to most aspects of blood donation considered. However, participants were found to have poor practice of voluntary blood donation as only 56 of 158 (35.4%) had ever donated blood. The majority of the participants have good knowledge and positive attitude toward voluntary non-remunerated blood donation. However, their practice of voluntary blood donation was poor. Sustained awareness creation and enlightenment is relevant to influence the masses to have better knowledge and positive attitudes toward voluntary non-remunerated blood donation with improved blood donation practices.⁴⁰

Melku M,et.al.(2020) conducted this study was aimed to determine the effect of educational intervention on the knowledge and attitude of medical students of a Nigerian University to voluntary blood donation. This was a cross-sectional study involving 158 undergraduate medical students of Ebonyi State University in South-East Nigeria. Participants were recruited by stratified sampling technique. A pretested semi-structured participant administered questionnaire was used to baseline knowledge and attitude to voluntary blood donation. This was followed by educational intervention in the form of a workshop by experts in blood transfusion medicine. Then, post intervention assessment was done using the initial questionnaire 30 days later. The study was approved by the Research and Ethics Committee of Ebonyi State University, Abakaliki. Data obtained were analyzed using SPSS 20 software, and P value was set at ≤ 0.05 . Of the 158 medical students who participated in the study, there were 90 (57%) males and 68 (43%) females. Baseline proportion of the participants who had good knowledge was high (72.8%), while baseline attitude of the participants was positive to most aspects of voluntary blood donation. Post intervention, the level of knowledge about voluntary blood donation increased to 99.4%, and similarly attitude to voluntary blood donation improved. Educational intervention was effective in improving the knowledge and attitude towards voluntary blood donation among medical students. Continuous enlightenment will influence potential blood donors to have better knowledge and positive attitude toward voluntary blood donation.⁴¹

Uma S, Arun,et.al(2013) conducted this study to assess the knowledge, attitude and practice regarding blood donation among graduating undergraduate Health Science students. A descriptive cross-sectional study was conducted among graduating undergraduate Health Science students at University of Gondar using structured pre-tested self-administered questionnaire. Stratified sampling technique was employed to select study participants. A total of 225 students participated in the study. Data was entered into and analyzed using SPSS software version 20. Mean score was used to categorize the knowledge and attitude. Binary logistic regression model was fitted to identify factors associated with knowledge, attitude and practice regarding blood donation. Result: Among 255 undergraduate Health Science graduate students, 123(48.2%) and 202(79.2%) had adequate knowledge about and positive attitude regarding blood donation, respectively. About 12.5% of them had ever donated blood before. Age ≥ 25 years was significantly associated with practice of blood donation (AOR=4.33; 95%CI: 1.60, 11.76). Conclusion: Although the majority of the students had positive attitude regarding blood donation, blood donation practice was low. Age was found to be significantly associated with blood donation practice. Targeted strategies should be designed to increase awareness of health science students about blood donation. Strategies which encourage the students to donate blood voluntarily should also be designed.⁴²

Beyene GA.et.al (2020) conducted study to assess knowledge, attitude and the practice of donors in the successful implementation of the blood donation programme. Study aim was to find the level of the knowledge, attitude and practice of blood donation among voluntary blood donors. A structured questionnaire was given to 530 voluntary blood donors to assess their knowledge, attitude and practice with respect to blood donations. The statistical analyses were done by using the SPSS software. The associations between the demographic factors were analysed by using the Chi square test. Among the 530 donors, 436 (93%) were males and 36 (7%) were female donors. 273 (51.2%) donors knew about the interval of the donation and 421 (79.4%) donors knew about the age limit for the donation. 305 (57%) donors felt that creating an opportunity for the donation was an important factor for motivating the blood donation and 292 (55%) donors felt that the fear of pain was the main reason for the hesitation of the donors in coming forward to donate blood. A majority of the donors were willing to be regular donors. The donors showed positive effects like a sense of satisfaction after the donation. Creating an opportunity for blood donation by conducting many blood donation camps may increase the voluntary blood donations.⁴³

Jemberu YA,et.al.(2016) conducted study increasing the availability of safe blood is a major challenge in developing countries. Given the scant amount of community-based data in Africa, this study examines the knowledge, attitudes, and practices of blood donation of Ethiopian adults. A cross-sectional study was conducted on 421 adult residents of Adama town using face-to-face interviews with translated questionnaires. Knowledge and attitude levels were assessed using a set of questions and those who answered above mean for knowledge and attitude questions were categorized as above-average knowledge level and favorable attitude, respectively. The data were coded and entered into EPI Info™ version 7, transferred to SPSS version 25 for cleaning and analysis. All variables with $p < 0.25$ in the invariable analysis were examined as candidate variables in the multivariable logistic regression models. Less than half, 47% (95% CI: 42-52%) of the study participants have above-average knowledge level about blood donation and 48% (95% CI: 43-53%) have favorable attitudes towards blood donation. Only 17% (95% CI: 13-21%) of study participants ever donated blood of which 14.6% of them donated for replacement and less than 2% (1.95%) are voluntary donors. Younger age of 18-25 AOR: 95% CI: 3.40 (1.30, 12.43), having good knowledge AOR: 95% CI: 2.21 (1.26, 3.89) and favorable attitude AOR: 95% CI: 10.25 (4.90, 21.44) were factors independently associated with blood donation practice. The level of blood donation practiced in the study area is low. Low knowledge and poor attitudes are independent predictors of low inclination to donate, so awareness creation and improving attitudes in blood donation campaigns, particularly among older people is necessary to increase voluntary blood donation.⁴⁴

Urgesa K,et.al.(2017) conducted a study with an aim to assess knowledge, attitude, and practice towards blood donation and its associated factors. A community based cross-sectional study was conducted in Debre Markos town from February to April, 2015. Multi-stage sampling technique was employed to recruit a total of 845 study participants. Interviewer administered questionnaire was employed as a data collection tool. Binary logistic regression was applied to assess the relationship between explanatory variables and outcome variables. In this study, 436 (56.5 %) and 403 (52.2 %) were found to be knowledgeable and having favorable attitude, respectively, while the other 124 (16.1 %) reported to have the practice of blood donation. Younger age group, male sex, those who attended formal education and radio listener were significantly associated with the knowledge of blood donation. Attending secondary and above education, having higher income, listening to radio broadcasts, and knowledge of blood donation were found to be the independent predictors of attitude. The practice of blood donation was higher among respondents who were older, attended certificate and above education, knowledgeable, and favorable attitude groups. The prevalence of knowledge and practice of blood donation is found to be higher compared to similar study conducted in Mekelle, whereas the level of attitude is found to be lower. The finding of this study also justified any possible interventions on the independent predictors. There should be a regularly scheduled awareness creation and voluntary blood donation campaigns organized at the community level to utilize potential blood donors.⁴⁵

Seyoum A,et.al(2019). Conducted a community-based cross-sectional study from July 1 to July 31, 2015. A total of 845 adults were randomly selected and interviewed using a pretested, structured questionnaire. Six trained data collectors conducted a face-to-face interview. Data were entered into EpiData Version 3 and analyzed using STATA Version 11. Comprehensive knowledge of the study participants toward voluntary blood donation was 43.5%. Multivariable logistic regression demonstrated that male sex (adjusted odds ratio [AOR] = 1.69, 95% confidence interval [CI]: 1.19-2.39), age (31-45 years; AOR = 0.50, 95% CI: 0.34-0.74) and >45 years (AOR = 0.60, 95% CI: 0.38-0.95), and higher education (AOR = 15.34, 95% CI: 5.01-46.91) were significantly associated with comprehensive knowledge about voluntary blood donation. A total of 278 (32.9%) study participants had positive attitude toward voluntary blood donation. College graduates (AOR = 13.05, 95% CI: 4.12-41.29) were significantly associated with positive attitude toward voluntary blood donation. Only 191 (22.6%) subjects had ever donated blood. However, the proportion of study participants who donated blood voluntarily with good knowledge about voluntary blood donation was significantly lower than the study participants who donated blood voluntarily with low knowledge ($X^2 = 6.1746, P = 0.013$). This study showed an inauspicious attitude toward blood donation and poor blood donation practices. Subjects with good comprehensive knowledge about voluntary blood donation were less likely to donate blood voluntarily compared to those with lower comprehensive knowledge about voluntary blood donation.⁴⁶

SUMMARY

The chapter has dealt with the review of research and non research related to present study. After reviewing the literature, it shows that the Prevalence rate of awareness of Blood donation is much lesser in students in worldwide as well as in India. Therefore, the review of literature which is described in this chapter will help the researcher to support the research study.

CHAPTER III

RESEARCH METHODOLOGY

“Imagination is the highest form of research.”

-Albert Einstein

Research methodology are the techniques researchers use to structure a study to gather and analyze information relevant to gather and analyze information relevant to research question. The two alternatives paradigm corresponds to different methods for developing evidence. A key methodology distinction is between quantitative research, which is closely allied with positivism, and qualitative research, which is associated with constructive inquiry.

This chapter deals with the description of methodology and different steps which were undertaken for gathering and organizing data for assessing knowledge regarding blood donation among adolescents .It includes research design population, study setting, variable, sample size , development and description of tool, pilot study, data collection method and statistical method to analyze the data.

RESEARCH APPROACH

Research approach involves the mental processes of logical reasoning concerning the existence and properties of phenomena about which more information and new knowledge are sought through a systematically planned investigation. The approach refers to the way in which the researcher plans and constructs in research process.

In view of the nature of problem selected for the study and the objectives to be accomplished, an explanatory quantitative approach was used for the present study. The approach was considered to be the most suitable one to the study because it would help in investigator to use one group and observe the difference in the knowledge before and after imparting of Self instructional module

and evaluate the effect of Self instructional module on knowledge regarding blood donation among adolescents of selected higher secondary school.

Here the researcher has identified, described and evaluated the effectiveness of Self instructional module and evaluate the effect of Self instructional module on knowledge regarding blood donation among adolescents of selected higher secondary school by using structured knowledge questionnaires.

RESEARCH DESIGN

Research design is the plan, structure, and strategy of investigations of answering the research question is the overall plan or blue print the researchers select to carry-out their study.

According to Kerlinger, “the design has two basic purposes, to provide answers to research question, and to control variance.” Variance is controlled by planning in such a way as to rule out other hypothesis or other intervening variables as causes of the study outcome. The research design consists of all strategy used to find answers to research questions. The design must be both scientifically acceptable and practical enough to be manageable in the process of supplying useful information. The research design provides an explicit blueprint of research activities will be carried out. Its objectives are to answer the research question.

In view of the nature of the problem and so accomplish the objectives of the study, pre experimental one group pre-test post-test research design was used to evaluate the effectiveness of self instructional module on knowledge regarding blood donation. The design did not include any control group.

The study design shows that on first day (day1), pretest was given to assess the existing knowledge regarding blood donation. The Self Instructional Module was also administered on the same day following pre-test. On the seventh day (day7) post-test was conducted to assess the gain the knowledge using the structured knowledge questionnaire. The study design systematically represented as follows

TABLE NO:1 Pre-experimental one group pre-test post-test research design .

SAMPLE	PRE-TEST	INTERVENTION	POST-TEST
	Administration of structured knowledge questionnaire on day 1	Administration of structured teaching programme on day 1	Administration of structured knowledge questionnaire on the day 7
Adolescents	O_1	x	O_2

KEY:

O_1 – Administration of structured knowledge questionnaire to assess Pre-test knowledge regarding blood donation among adolescents

X – Intervention includes providing self instructional module on day 1 regarding blood donation.

O_2 – Administration of structured knowledge questionnaire to assess the post test knowledge regarding blood donation among adolescents

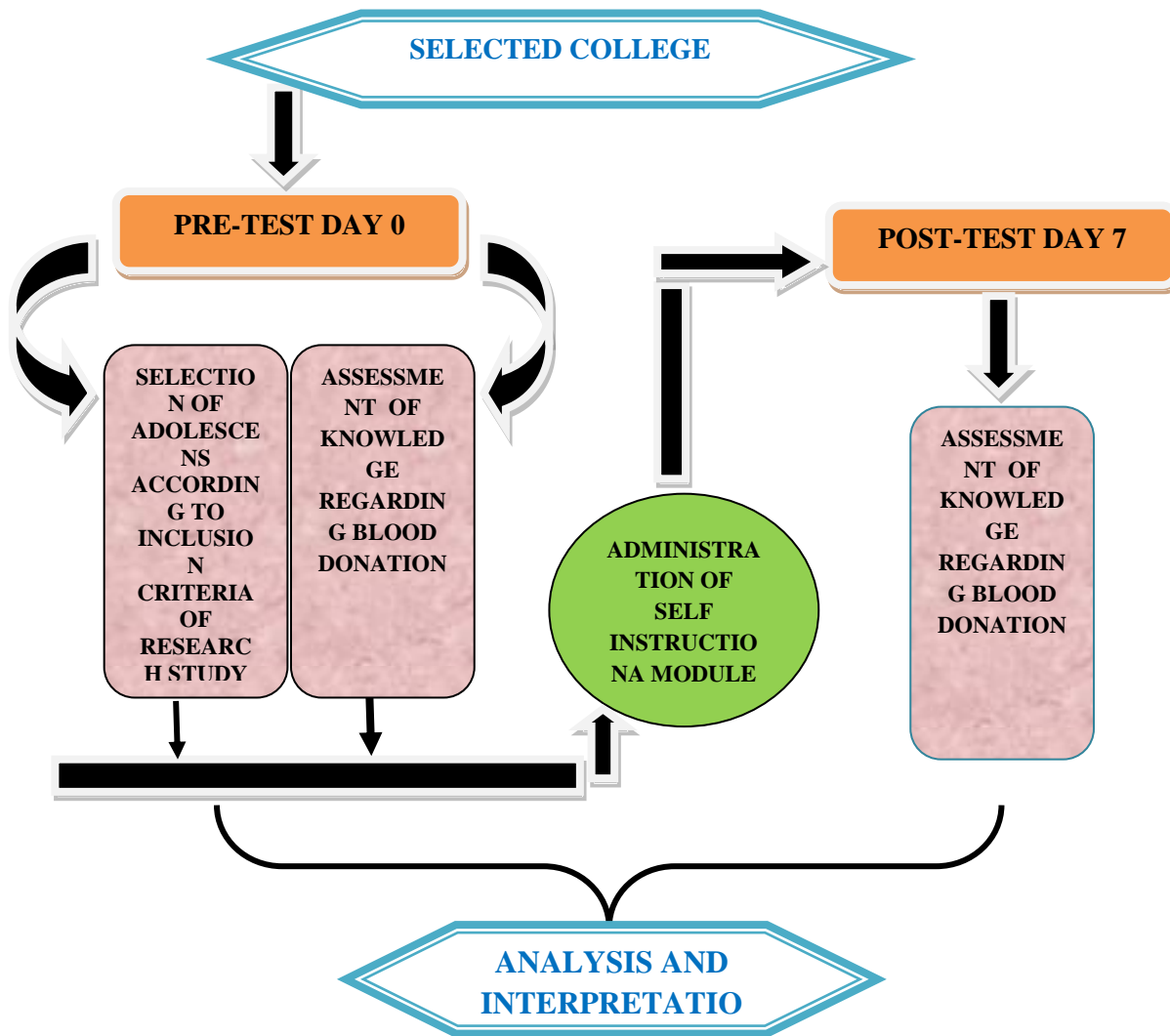


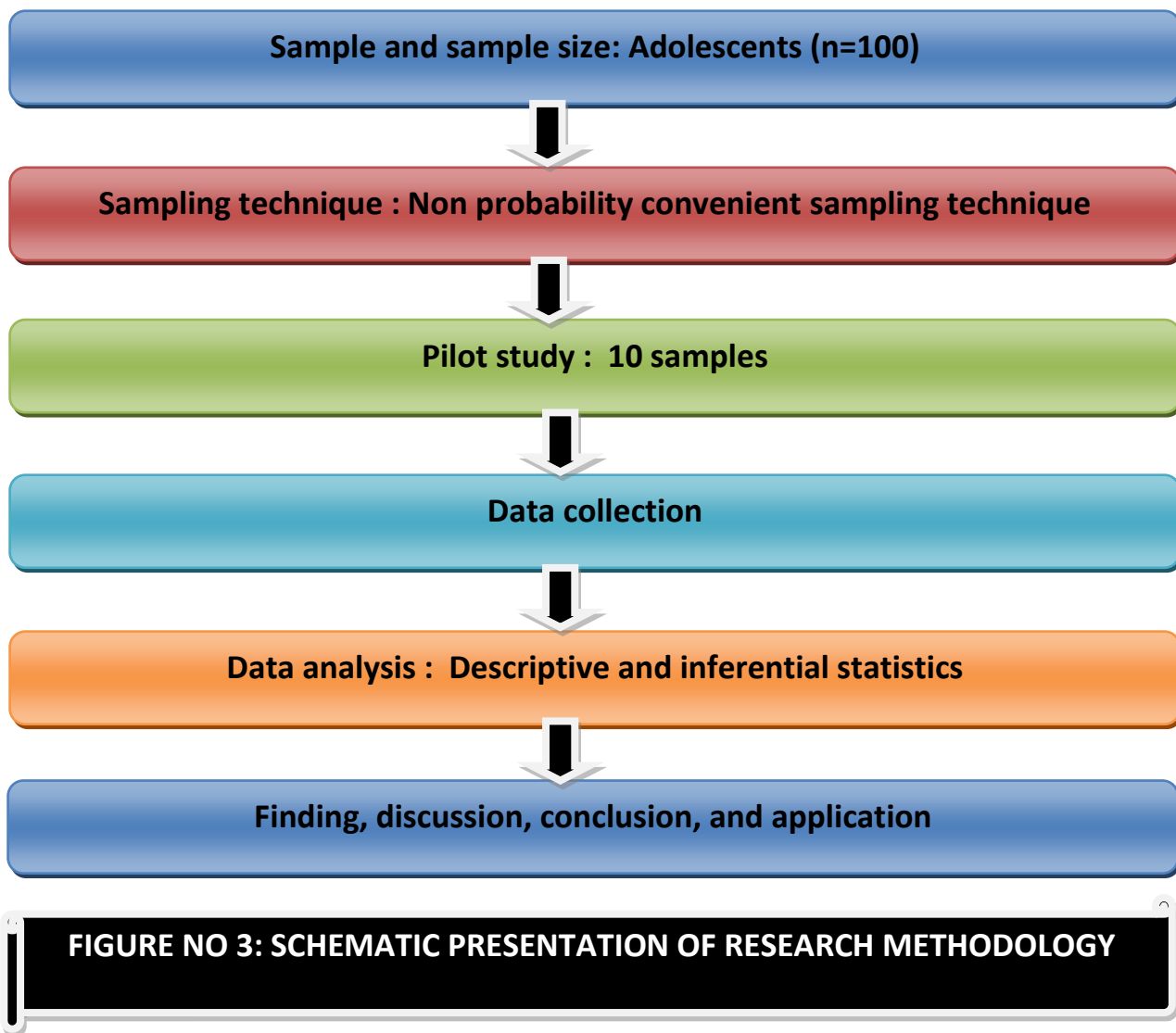
FIGURE NO 2: SCHEMATIC DIAGRAM OF STUDY DESIGN

Research Approach : Explanatory Quantitative

Research design : Pre-experimental one group pre-test post-test research

Setting : Higher secondary school.

Population : All students of 11th and 12th standard



SETTING OF THE STUDY

Setting of the study refers to “Physical location and condition in which data collection takes place in study”.

The proposed study was conducted in selected higher secondary school.

VARIABLE OF THE STUDY

Variable is the characteristics or attribute of a person or object that varies within the population under study.

Two types of variables are used in this study. They are :

Independent Variable

Independent variables are believed to cause or influence the dependent variable, in experimental research, the manipulated variable.

In this study independent variable is Self Instructional Module regarding blood donation.

Dependent Variables

Dependent variables is the outcome variable of interest; the variable which is hypothesized to depend on or be caused by another variable (independent variables)

In this study, knowledge regarding blood donation is the dependent variable.

POPULATION OF THE STUDY

Population is the aggregation of all the units in which a researcher is interested. In other words population is the set of people or entities to which the result of a research are to be generalized.

In the present context of study, the population consisted of the adolescents of selected higher secondary school.

Target population

A target population consist of the total number of people or objects which are meeting the designated set of criteria. In other words, it is aggregate of all the cases with certain phenomenon about which the researcher would like to make generalization.

In the present context of study, the target population were adolescents of selected higher secondary school.

Accessible population

The accessible population refers to the aggregate of cases that confirm to designated criteria and also accessible as subjects to study. i. e. that aggregate must meet the criteria for inclusion in the study and that is available to the researcher.

In the present context of study, the accessible population were adolescents of selected higher secondary school available at the time at data collection who were meeting inclusion and exclusion criteria listed by investigator.

SAMPLING

Sample

“ A sample is a subset of population selected to participate in a research study.”

Sample selected for present study comprised of both male and female middle adolescents of selected higher secondary school who fulfilled the sampling criteria.

Sampling Technique

Sampling techniques is defined as the process of selecting a portion of a population to represent the entire population for study in a research.

In the present study, sampling technique used was Non probability convenient sampling technique.

SAMPLE SELECTION CRITERIA

Inclusion criteria: The criteria that specify characteristics that a sample population does have.

In this study inclusion criteria included adolescents who were

- Willing to participate in the study.
- From 11th & 12th standard.
- Able to read, write and understand English, Marathi and Hindi

Exclusion criteria: It is a criteria that involve people, who do not possess the population characteristics.

In this study exclusion criteria included adolescents who

- were not present during the study.
- Do not given written consent/ assent

TOOL AND TECHNIQUE

Description of the tool

The tools were prepared after reviewing the related literature, books, journals, articles, reports, published and unpublished research and in consultation with experts and the research guide.

Based on the objectives the tool selected for the study included:

Tool I : Questionnaires

The tool consisted of two sections.

Section A :

It consisted of 7 items regarding demographic variables of the Adolescents that were developed to collect the background information of them.

The items included in the demographic variable were Age, gender, religion, residence, type of family, and source of knowledge.

Sectin B:

It consisted of 20 items to assess the knowledge of adolescents regarding blood donation. The distribution of questions were as per the below given aspects

- Meaning
- Total number of blood groups.
- Requirement of blood by others
- Need of the blood donation.
- Advantages of blood donation.
- Requirements of blood donation.
- Mandatory tests of donated blood.
- Blood cannot be donated by.
- Instructions to blood donors before blood donation.

Scoring

The structure of the questionnaire was developed into only one section to assess the knowledge regarding blood donation in selected higher secondary school.

Section B of the questionnaire deal with objective type (multiple type questions) items. The knowledge in the Section B were based on worth of correct answers. The correct responses were given '1' and the incorrect response '0'. Knowledge was graded from poor knowledge to excellent knowledge. In the self-structured knowledge questionnaire for each question.4 options were given out of which 3 were distracts and with only one correct response. For each correct answer, the score was 1 and for the wrong answer the score was given 0. The highest score was 20.

Score	Knowledge Assessment
16-20	Excellent
11-15	Good
6-10	Average
1-5	Poor

Table No.2 : Grading for knowledge

TESTING OF THE TOOL :

The tool prepared for the data collection was tested for its feasibility, content validity and reliability.

FEASIBILITY

Feasibility is an essential consideration of any research project. The study was feasible in terms of time, facilities, tools and ethical consideration. The sample size was limited considering the availability of the subject.

VALIDITY

Validity of the tool refers to degree to which an instrument measures what it is indeed to measure.

The content validity of the tool was established by in consultation with 10 experts. Experts were requested to give their opinions and suggestions regarding relevant, not relevant, and need to modify in each item of the tool. After receiving the opinion from the experts and consultation with guide some modifications were done in demographic variable, options of some questions and wording were reconstructed.

RELIABILITY:

Reliability means the extent to which an instrument consistently measures a concept. Three types of reliability are stability, equivalency, and homogeneity.²

Test-retest method was used to find the reliability. The tool was found to be reliable after the calculations since the r value was 0.82 so the researcher found that the tool was reliable.

The formula applied for the test-retest method was split half method of reliability.

$$\text{Reliability} = \frac{2r}{1+r}$$

Where, $r = 0.86$

PILOT STUDY

A pilot study is the first step of the entire research protocol and is often a smaller-sized study assisting in planning and modification of the main study. To obtain high-quality outcomes, a good research study with relevant experimental design and accurate performance is required. Analyzing feasibility prior to performing the main study can be very beneficial for the purpose.

A pilot study was conducted on 10 adolescents after taking permission from the concerned authorities of the selected higher secondary school. This was undertaken to ensure the feasibility and predictability of the research methodology and the tool. Respondents were selected as per the selection criteria. The investigator gave them questionnaire for pre-test and administered self instructional module and then conducted the post test on the 7th day.

The collected data was analysed using descriptive and inferential statistics. The significant difference between pre-test and post-test was found by using paired 't' test. The difference found was highly significant ($t = 34.52$).

DATA COLLECTION PROCESS

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study including physical and social sciences, humanities, business, etc. While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same. The goal for all data collection is to capture quality evidence that then translates to rich data analysis and allows the building of a convincing and credible answer to questions that have been posed. Regardless of the field of study or preference for defining data (quantitative, qualitative), accurate data collection is essential to maintaining the integrity of research. Both the selection of appropriate data collection instruments (existing, modified, or newly developed) and clearly delineated instructions for their correct use reduce the likelihood of errors occurring.

DATA GATHERING PROCESS

Ethical consideration:

The investigator planned to do data collection in the following way:

- Prior to the collection of the data, written permission was obtained from the college principal.
- Informed consent and ascent were taken from all the subjects prior to data collection.
- The period of data collection commenced on 05/01/2022

Gathering process of subjects

One day prior to the study, investigator visited the Principal of selected Higher Secondary school in order to get introduced to the concerned class teacher to get an idea about schedule of students in order to find a particular period to conduct the study.

On the next day the selected adolescents were asked to gather in the hall to start with data collection.

Administration of tool (Pre-test)

The demographic data and modified Questionarre was given to the adolescents, after giving instructions on how to answer the tool.

Administration of self instructional module

After completing the pre test, Self Instructional Module was administered regarding blood donation. The teaching was interactive session wherein the adolescents were encouraged to read and come with their own thoughts, opinion and feedback.

Conducting post test

A post test was conducted on day 7 after administering Self Instructional Module regarding blood donation. The same modified questionnarrie was used by the researcher to evaluate the “effectiveness of self instructional module on knowledge regarding blood donation among adolescents of selected higher secondary school.”

PLAN FOR DATA ANALYSIS

Descriptive statistics are useful for summarizing empirical information ; inferential statistics are based on laws of probability that provide a means of drawing conclusion about the population form which data was obtained for the sample.

The data obtained as planned were analyzed on the basis of the objectives of the study using descriptive and inferential statistics.

- The data was arranged in master sheet.
- Description of the adolescents with respect to demographic variables was presented using frequency and percentage.
 - Mean and Standard deviation and Paired t test was used to evaluate the effectiveness of Self instructional module.
- Data was presented in tables, graphs and diagrams.

SUMMARY

This chapter of methodology dealt with research approach, research design, identification of target population, accessible population, sampling technique, sampling size, inclusion and exclusion criteria of subject, tool preparation, feasibility of study, validity and reliability of research tool, pilot study, which helps the researcher in a better way to collect data from subjects so as to makes the study effective.

CHAPTER-IV ANALYSIS AND INTERPRETATION OF DATA

The analysis is the method of putting facts and figure to solve the research problem. It is vital to find to answers to research questions. Another significant part of the research is the interpretation of the data, which is taken from the analysis of the data and make inferences and draws conclusions.

OBJECTIVES

PRIMARY OBJECTIVE

- a) To assess the existing knowledge regarding blood donation among adolescents of selected higher secondary school

SECONDARY OBJECTIVE

- a) To evaluate the effectiveness of self-instructional module regarding blood donation among adolescents of selected higher secondary school.
- b) To find out the association between knowledge regarding blood donation among adolescents with their selected demographic variables.

HYPOTHESIS

- a) H_0 – There will be no significant difference between pretest & post test knowledge scores regarding blood donation with selected demographic variables.
- b) H_1 – There will be significant difference between pretest & post test knowledge scores regarding blood donation with selected demographic variables.

The data collected by the researcher during the data collection from 100 adolescents was analyzed as per the objectives of the study and was presented in the following manner :

- **SECTION I :** Deals with analysis of demographic data of the adolescents from selected higher secondary school in terms of frequency and percentage.
- **SECTION II :** Deals with analysis of data related to assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school in terms of frequency and percentage.
- **SECTION III :** Deals with analysis of data related to the effectiveness of self-instructional module on knowledge regarding blood donation among adolescents from selected higher secondary school.
- **SECTION IV :** Deals with analysis of data related to the association between pre-test knowledge scores regarding blood donation among adolescents from selected higher secondary school with their selected demographic variables.

SECTION I : Deals with analysis of demographic data of the adolescents from selected higher secondary school in terms of frequency and percentage.**Table No. 3: Frequency & percentage distribution of the adolescents from selected higher secondary school**

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age (in years)	14-15.	0	0.00
		16-17	0	0.00
		18-19	73	73.00
		20-21	27	27.00
2	Gender	Male	61	61.00
		Female	39	39.00
3	Religion	Hindu	100	100.00
		Muslim	0	0.00
		Christian	0	0.00
		Other	0	0.00
4	Residence	Urban area	0	0.00
		Rural area	100	100.00
5	Type of family	Nuclear	76	76.00
		Joint	24	24.00
		Extended	0	0.00
6	Knowledge regarding blood donation	Yes	71	71.00
		No	29	29.00
7	Source of knowledge	Radio	0	0.00
		Newspaper	0	0.00
		Television	71	71.00
		Health care Professional	0	0.00

Table No.4: Frequency & percentage distribution of the adolescents from selected higher secondary school according to Age

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age (in years)	15-16	73	73.00
		16-17	27	27.00
		17-18	0	0.00

The above table and following figure shows that, in the study, according to age of the adolescents from selected higher secondary school, 73% adolescents were from the age group 15-16 years of age, 27% adolescents were from the 16-17 years of age, no one from the 17-18 years.

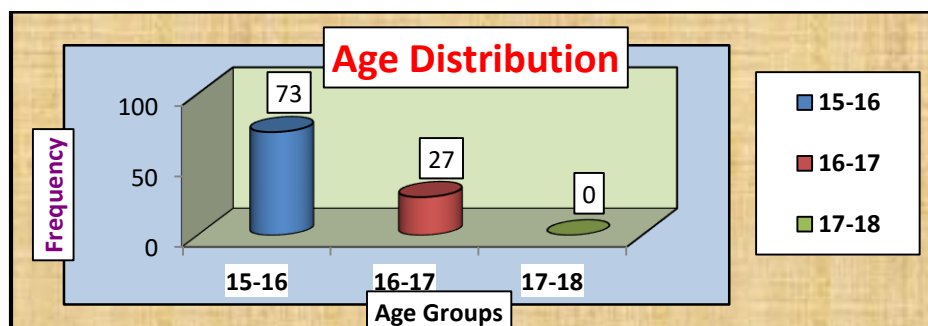
**Figure No-1: Distribution of the adolescents from selected higher secondary school according to Age**

Table No.5: Frequency & percentage distribution of the adolescents from selected higher secondary school according to gender

Sr. No.	Variable	Groups	Frequency	Percentage
2	Gender	Male	61	61.00
		Female	39	39.00

The above table and following figure shows that, in the study, according to gender of the adolescents from selected higher secondary school, 61% of adolescents were males and 39% of them were females.

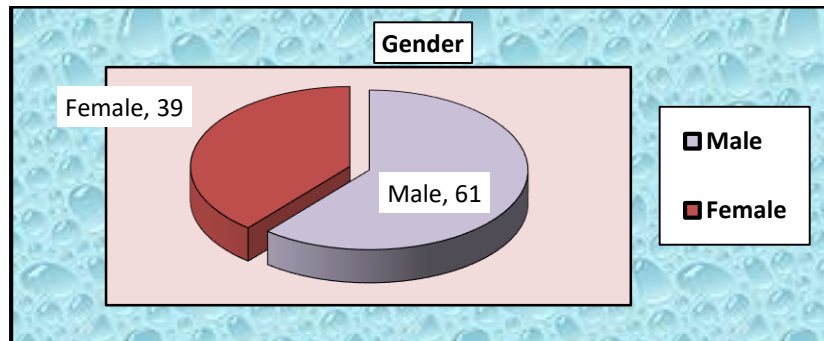


Figure No-2: Distribution of the adolescents from selected higher secondary school according to gender

Table No. 6 : Frequency & percentage distribution of the adolescents from selected higher secondary school according to Religion

Sr. No.	Variable	Groups	Frequency	Percentage
3	Religion	Hindu	100	100.00
		Muslim	0	0.00
		Christian	0	0.00
		Other	0	0.00

The above table and following figure shows that, in the study, according to religion of the adolescents from selected higher secondary school, all 100% adolescents were from the Hindu religion, no one of them were from Muslim, Christian or other religions.

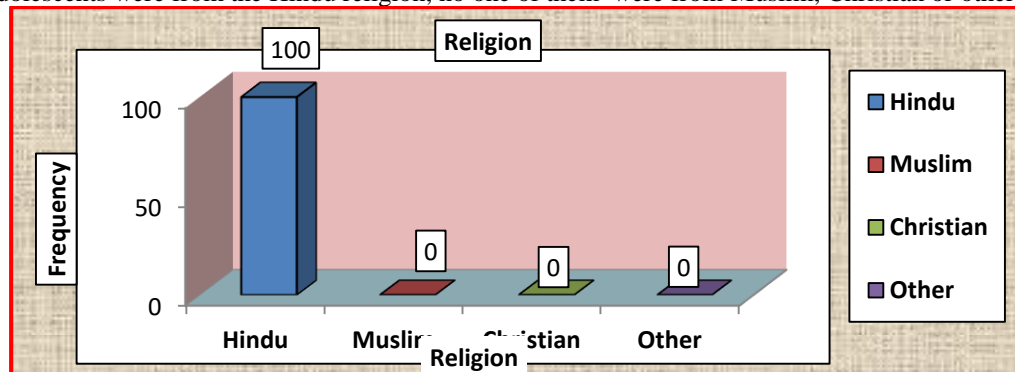


Figure No-3: Distribution of the adolescents from selected higher secondary school according to Religion

Table No. 6 : Frequency & percentage distribution of the adolescents from selected higher secondary school according to Residence

Sr. No.	Variable	Groups	Frequency	Percentage
4	Residence	Urban area	0	0.00
		Rural area	100	100.00

The above table and following figure shows that, in the study, according to residence of the adolescents from selected higher secondary school, all 100% adolescents were from the rural area, no one of them were from urban residential area.

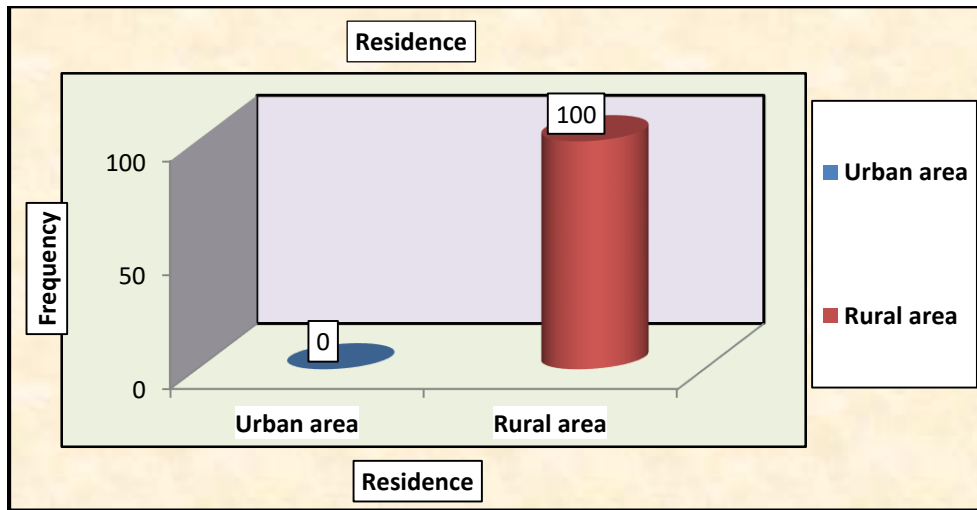


Figure No-4: Distribution of the adolescents from selected higher secondary school according to Residence

Table No.7 : Frequency & percentage distribution of the adolescents from selected higher secondary school according to Type of family

Sr. No.	Variable	Groups	Frequency	Percentage
5	Type of family	Nuclear	76	76.00
		Joint	24	24.00
		Extended	0	0.00

The above table and following figure shows that, in the study, according to type of family of the adolescents from selected higher secondary school, 76% adolescents were from the nuclear families, 24% of them were from joint families and no one of them were from extended families.

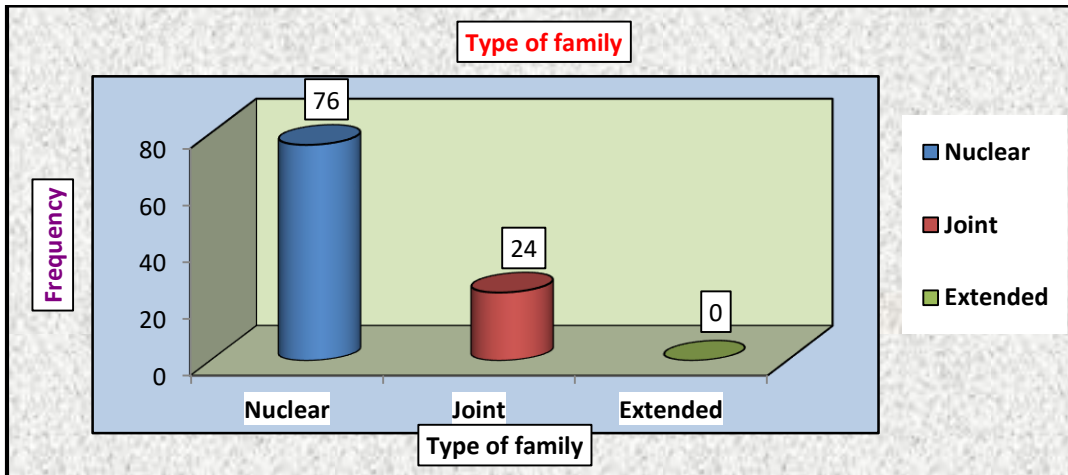


Figure No-5: Distribution of the adolescents from selected higher secondary school according to Type of family

Table No.8: Frequency & percentage distribution of the adolescents from selected higher secondary school according to Knowledge regarding blood donation

Sr. No.	Variable	Groups	Frequency	Percentage
6	Knowledge regarding blood donation	Yes	71	71.00
		No	29	29.00

The above table and following figure shows that, in the study, to the question any previous knowledge regarding blood donation, 71% of the adolescents from selected higher secondary school answered yes and 29% of them answered no.

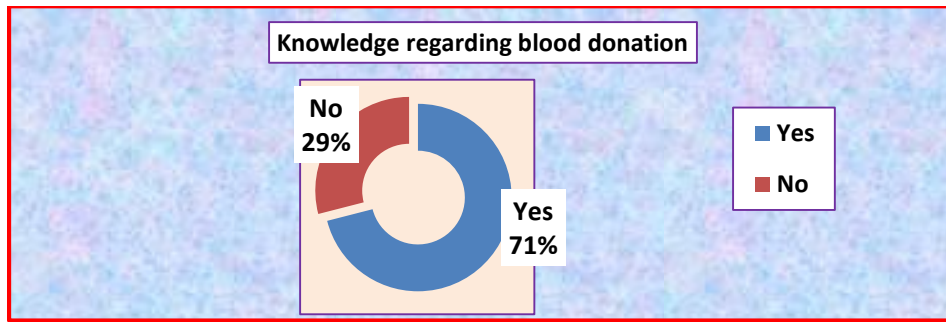
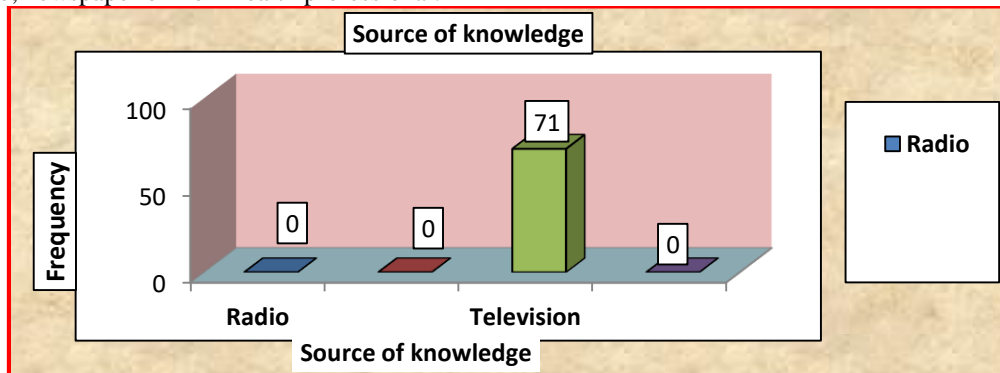


Figure No-6: Distribution of the adolescents from selected higher secondary school according to Knowledge regarding blood donation

Table No.9: Frequency & percentage distribution of the adolescents from selected higher secondary school according to Source of knowledge

Sr. No.	Variable	Groups	Frequency	Percentage
7	Source of knowledge	Radio	0	0.00
		Newspaper	0	0.00
		Television	71	71.00
		Health care Professional	0	0.00

The above table and following figure shows that, in the study, to the question any previous Knowledge regarding blood donation, those adolescents who answered yes, out of these all 100% answered they got the knowledge from television, no one of them answered from radio, newspaper or from health professional.



SECTION II

Deals with analysis of data related to assessment of the knowledge regarding blood donation among adolescents of selected higher secondary schooling terms of frequency and percentage.

Table No.10: General assessments of Knowledge(PRE Test)

Variable	Knowledge Assessment Grading	Score	Pre Test	
			Frequency	Percentage
KNOWLEDGE	POOR	0-7.	13	13.00
	AVERAGE	8-14.	87	87.00
	GOOD	15-20	0	0.00
KNOWLEDGE	Minimum		5	
	Maximum		14	
	Average (SD)		9.50 (1.73)	

At the time of pretest, assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school, 13% of them had poor knowledge, 87% had average knowledge and no one of them had good knowledge.

Average knowledge score at the time of pretest was 9.50 with standard deviation of 1.73. The minimum score of knowledge was 5 with maximum score of 14.

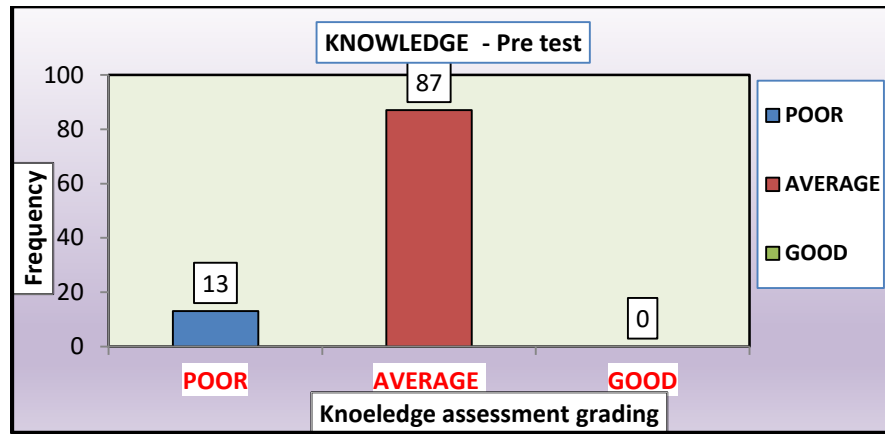


Figure No-8: General assessments of Pretest Knowledge

Table No. 11: General assessments of Knowledge POST Test

Variable	Knowledge assessment grading	Score	Post Test	
			Frequency	Percentage
KNOWLEDGE	POOR	0-7.	0	0.00
	AVERAGE	8-14.	2	2.00
	GOOD	15-20	98	98.00
KNOWLEDGE	Minimum		14	
	Maximum		19	
	Average (SD)		19.87 (1.22)	

At the time of posttest, assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school, no one of them had poor knowledge, 2% had average knowledge and 98% of them had good knowledge.

Average knowledge score at the time of posttest was 19.87 with standard deviation of 1.22. The minimum score of knowledge was 14 with maximum score of 19.

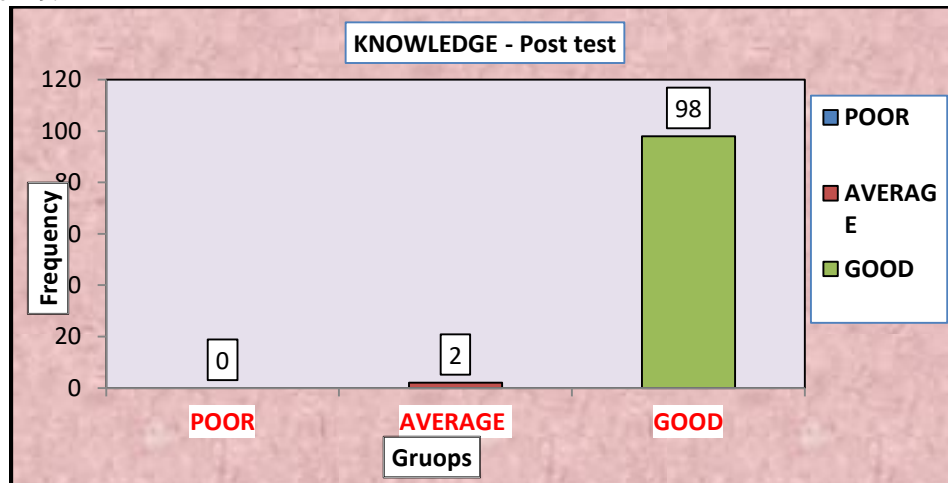


Figure No- 9: General assessments of Knowledge POST Test

Deals with analysis of data related to assessment of the pre & posttest knowledge in terms of frequency and percentage.

Table No.12: General assessments of Knowledge- PRE & POST test

Variable	Groups	Score	Pre Test		Post Test	
			Frequency	Percentage	Frequency	Percentage
KNOWLEDGE	POOR	0-7.	13	13.00	0	0.00
	AVERAGE	8-14.	87	87.00	2	2.00
	GOOD	15-20	0	0.00	98	98.00
KNOWLEDGE	Minimum		5		14	
	Maximum		14		19	
	Average (SD)		9.50 (1.73)		19.87 (1.22)	

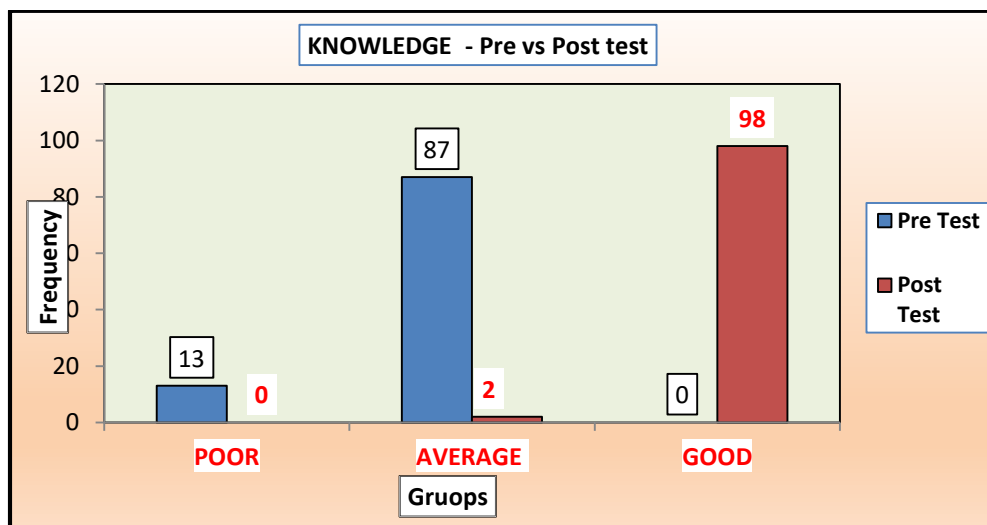


Figure No-10: General assessments of Knowledge - PRE & POST test

For the assessment purpose the total score of knowledge was divided in to three grading like poor (0-7 score), average (8-14 score) and good (15-20 score).

Pre Test:

At the time of pretest, assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school, 13% of them had poor knowledge, 87% had average knowledge and no one of them had good knowledge.

Average knowledge score at the time of pretest was 9.50 with standard deviation of 1.73. The minimum score of knowledge was 5 with maximum score of 14.

Post Test:

At the time of posttest, assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school, no one of them had poor knowledge, 2% had average knowledge and 98% of them had good knowledge.

Average knowledge score at the time of posttest was 19.87 with standard deviation of 1.22. The minimum score of knowledge was 14 with maximum score of 19.

SECTION III : Deals with analysis of data related to the effectiveness of self-instructional module on knowledge regarding blood donation among adolescents from selected higher secondary school.

Table No.13: Comparison of the pre and posttest Knowledge (paired t test)

Group	Frequency	Mean	S.D.	t value	P value
Pre Test	100	9.50	1.73	34.52	0.000
Post Test	100	16.87	1.22		

The comparisons of the pretest and posttest means of the knowledge were done by the paired t test. The pretest average score was 9.50 with standard deviation of 1.73. The posttest average score was 16.87 with standard deviation of 1.22.

The test statistics value of the paired t test was 34.52 with p value 0.00. The p value less than 0.05, hence reject the null hypothesis was rejected. That means there is significant difference in pre and posttest knowledge.

It also shows that, self-instructional module on knowledge regarding blood donation, used to improve knowledge of adolescents from selected higher secondary school was effective.

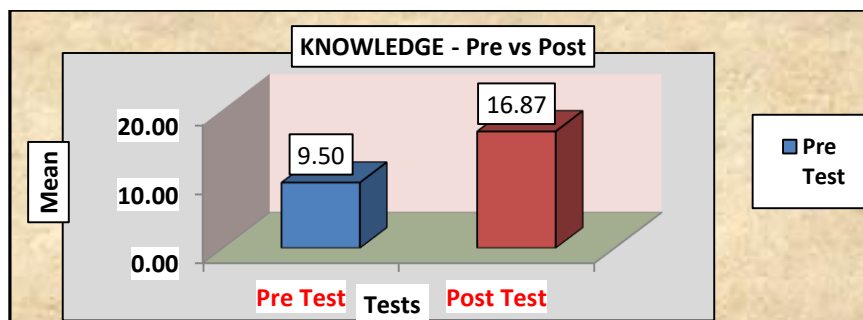


Figure 11: Comparison of the average pre and posttest Knowledge score

SECTION IV : Deals with analysis of data related to the association between pre-test knowledge scores regarding blood donation among adolescents from selected higher secondary school with their selected demographic variables.

ASSOCIATION OF KNOWLEDGE SCORE IN RELATION TO DEMOGRAPHIC VARIABLES

Table No.14: Association of Knowledge with demographic variables

Variable	Groups	Knowledge		Chi Square	d.f.	P Value	Significance
		Below Md	Above Md				
Age (in years)	14-15.	0	0	6.54	1	0.011	Significant
	16-17	0	0				
	18-19	59	14				
	20-21	15	12				
Gender	Male	46	15	0.16	1	0.68	Not Significant
	Female	28	11				
Religion	Hindu	74	26	* Cannot compute Chi-Square			
	Muslim	0	0				
	Christian	0	0				
	Other	0	0				
Residence	Urban area	0	0	* Cannot compute Chi-Square			
	Rural area	74	26				
Type of family	Nuclear	56	20	0.016	1	0.89	Not Significant
	Joint	18	6				
	Extended	0	0				
Knowledge regarding blood donation	Yes	57	14	5.02	1	0.025	Significant
	No	17	12				
Source of knowledge	Radio	0	0	* Cannot compute Chi-Square			
	Newspaper	0	0				
	Television	57	14				
	Health care Professional	0	0				

SUMMARY :

This chapter deal with analysis and interpretation of the data collected for the study. The analysis presented that the data collected in Pre test was lower and was appropriately assessed by the researcher before providing Self Instructional Module, after providing self instructional module, the knowledge of students was significantly increased. By using the chi square test, researcher indentified a significant association in children, with age and knowledge regarding blood donation. Thus, Self instructional module was significantly effective in improving Knowledge regarding Blood donation.

FINDINGS, DISCUSSION, SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

This chapter presents brief summary of the study and its significant findings. It also includes the implications and recommendations for further study. The aim of the study was, effectiveness of self-instructional module on knowledge regarding blood donation among adolescents of selected higher secondary school. The design used for the study was quasi experimental, one group pre-test and post-test research design. The study was conducted at selected higher secondary school. The sample size of study was 100 adolescents from selected higher secondary school.

The reliability of the knowledge tool was determined by split half method. The tool was administered to 10 samples. Reliability of the knowledge tool was found to be 0.86.

The pilot study was conducted, to assess the feasibility of the study and to decide the statistical analysis and practicability of research. It was found feasible.

TITLE OF THE STUDY

“Effectiveness of self-instructional module on knowledge regarding blood donation among adolescents of selected higher secondary school.”

OBJECTIVES

PRIMARY OBJECTIVES:

1. To assess the existing knowledge regarding blood donation among adolescents of selected higher secondary school

SECONDARY OBJECTIVES:

1. To evaluate the effectiveness of self-instructional module regarding blood donation among adolescents of selected higher secondary school.
2. To find out the association between knowledge regarding blood donation among adolescents with their selected demographic variables.

MAJOR FINDINGS OF THE STUDY

The analysis of the demographic data of the study samples gave an idea about the general characteristics of the adolescents from selected higher secondary school.

The following are the major findings of the study.

SECTION –I Demographic data of the subjects in frequency and percentage

- According to age of the adolescents from selected higher secondary school, 73% adolescents were from the age group 15-16 years of age, 27% adolescents from the 16-17 years of age, no one from the 17-18 years.
- In the study, according to gender of the adolescents from selected higher secondary school, 61% of adolescents were males and 39% of them were females.
- According to religion of the adolescents from selected higher secondary school, all 100% adolescents were from the Hindu religion, no one of them from Muslim, Christian or other religions.
- According to residence of the adolescents from selected higher secondary school, all 100% adolescents were from the rural area, no one of them from urban residential area.
- In the study, according to type of family of the adolescents from selected higher secondary school, 76% adolescents were from the nuclear families, 24% of them from joint families and no one of them from extended families.
- In the study, to the question any previous Knowledge regarding blood donation, 71% of the adolescents from selected higher secondary school answered yes and 29% of them answered no.
- In the study, to the question any previous Knowledge regarding blood donation, those adolescents who answered yes, out of these all 100% answered they got the knowledge from television, no one of them answered from radio, newspaper or from health professional.

SECTION-II: General assessments of Knowledge – Pre and Post Test

For the assessment purpose the total score of knowledge was divided in to three groups like poor (0-7 score), average (8-14 score) and good (15-20 score).

Pre Test:

- At the time of pretest, assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school, 13% of them had poor knowledge, 87% had average knowledge and no one of them had good knowledge.
- Average knowledge score at the time of pretest was 9.50 with standard deviation of 1.73. The minimum score of knowledge was 5 with maximum score of 14.

Post Test:

- At the time of posttest, assessment of the knowledge regarding blood donation among adolescents of selected higher secondary school, no one of them had poor knowledge, 2% had average knowledge and 98% of them had good knowledge.
- Average knowledge score at the time of posttest was 19.87 with standard deviation of 1.22. The minimum score of knowledge was 14 with maximum score of 19.

SECTION-III : Comparison of the pre and posttest Knowledge

- The comparisons of the pretest and posttest means of the knowledge regarding blood donation among adolescents from selected higher secondary school were done by the paired t test.
- The test was conducted at 5% level of significance. The pretest average score was 9.50 with standard deviation of 1.73. The posttest average score was 16.87 with standard deviation of 1.22.
- The test statistics value of the paired t test was 34.52 with p value 0.00.
- The p value less than 0.05, hence null hypothesis was rejected. That means there is significant difference in pre and posttest knowledge.
- It also shows that, self-instructional module on knowledge regarding blood donation, used to improve knowledge of adolescents from selected higher secondary school was effective.

SECTION IV : Association of knowledge score in relation to demographic variables

- The chi square test was used to see the association between pre-test knowledge scores regarding blood donation among adolescents from selected higher secondary school with their selected demographic variables. The test was conducted at 5% level of significance.

Significant Association:

For the demographic variables age and previous knowledge regarding blood donation, the p value of the association test with pretest knowledge was less than 0.05. That means, the knowledge of adolescents regarding blood donation was associated with selected demographic variables. i.e. age and knowledge regarding blood donation. Concludes that, there was significant association of these demographic variables with the pretest knowledge.

No Significant Association:

For the demographic variables gender and type of family, the p value of the association test with pretest knowledge was more than 0.05. That means, the knowledge of adolescents regarding blood donation was not associated with these demographic variables. It concludes that, there was no significant association of these demographic variables with the pretest knowledge.

DISCUSSION

The purpose of the present study was to assess study was to assess the “effectiveness of self instructional module on knowledge regarding blood donation among adolescents of selected higher secondary school.”

The Pre-experimental one group pre-test post-test research design was used for the study, which consisted of 100 samples that were selected on the basis of the Non probability convenient sampling technique. The content validity and reliability of the tool was done, which suggested that tool was reliable. The pilot study was conducted on 10 samples and feasibility of the study was established. It was found that the tool had no major flaws and was used for the final study with the changes as per the experts based on the objectives and the assumptions. The collected data was analyzed using descriptive and inferential statistics. Analysis of data was done in accordance with the objectives.

This chapter has brought out the various implication of this study and also has provided suggestions for the future studies.

CONCLUSION

From the study findings it is concluded that the Self instructional module was effective in improving the knowledge of adolescents regarding blood donation.

LIMITATIONS

The study was confined to specific geographical area, which imposes limits to any larger generalization.

The finding of the study was restricted to the respondents under study, only from selected community area.

The data was collected from 100 samples to find out the knowledge. It could be done on more samples for the larger generalization.

NURSING IMPLICATIONS

Nursing is a service oriented profession and it must advance and keep pace with the advancing technology, newer problems, and growing demands of consumers. The findings of the study has implications for nursing practice, nursing education, nursing administration, and nursing research, and its implication is not only in the field of nursing but also in other areas like community health, preventive medicine, home environment and school health. The present study findings will be helpful for such future studies. In this framework the findings of the study has valuable implications to nursing practice, education, administration and research.

NURSING EDUCATION

Nurse Educators can arrange education programmers regarding blood donation with help of junior college management for students. Evaluate the teaching programme done regarding blood donation. Nursing education programme should also give importance to equip adequate skill and health education to the adolescents.

NURSING ADMINISTRATION

Nurse Administrators should constitute nursing team to develop nursing practice standards, protocols and manuals for nursing implications on blood donation. Nurse Administrator should also plan for continuing education programmers regarding blood donation which will help the nurses to take care blood donated people. Periodical update of nurses knowledge through the in-service education programme and the study findings could be incorporated so that the nurse's knowledge is improved.

NURSING RESEARCH

Research studies can be conducted on effect of Self instructional module regarding blood donation among adolescents or any specific age groups. There is a need to conduct more research studies on specific areas to inculcate the knowledge regarding blood donation in adolescents which adds to the nursing body of knowledge.

RECOMMENDATIONS

The present study findings revealed that the Self instructional module were effective in improving the knowledge of adolescents regarding blood donation in selected higher secondary school. So, the following recommendations were framed for future study:

- A similar study can be conducted on large number of samples to improve the knowledge of adolescents
- A similar study can be done using pamphlets

- A study can be conducted compare the knowledge level among rural and urban adolescents of higher secondary school.

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SELF INSTRUCTIONAL MODULE ON BLOOD DONATION**GENERAL OBJECTIVES:**

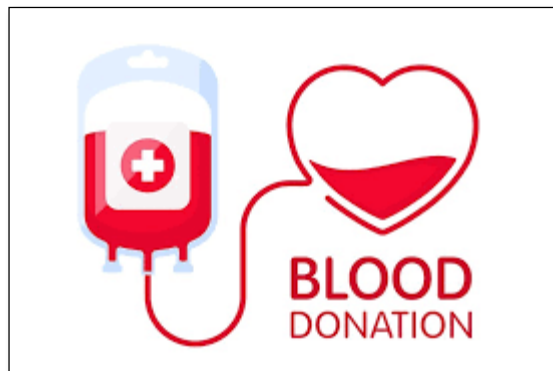
On completion of the class the children will acquire knowledge, skill and attitude on Blood Donation and apply it in practice with desirable attitude.

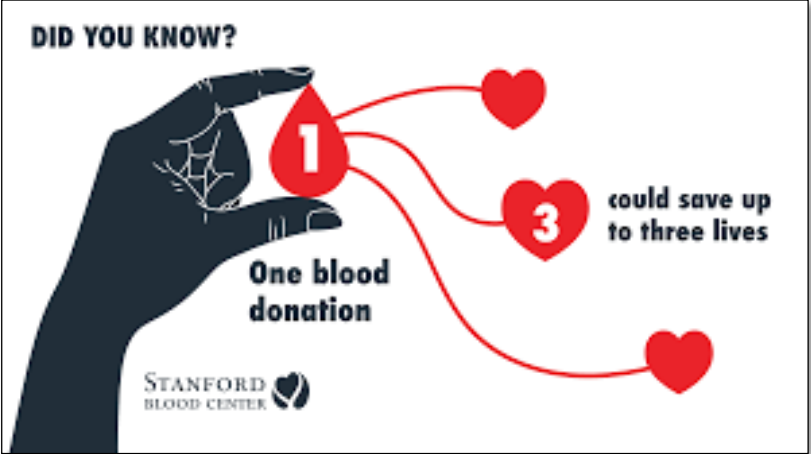
SPECIFIC OBJECTIVES :

At the end of the class the childrens will be able to

1. Define the blood donation.
2. Enlist the total number of blood groups.
3. Explain the requirement of blood by others
4. Discuss the need of the blood donation.
5. Enumerate the advantages of blood donation.
6. Enlist the requirements of blood donation.
7. Explain the mandatory tests of donated blood.
8. Who can not donate the blood.
9. Discuss instructions to blood donors before blood donation.

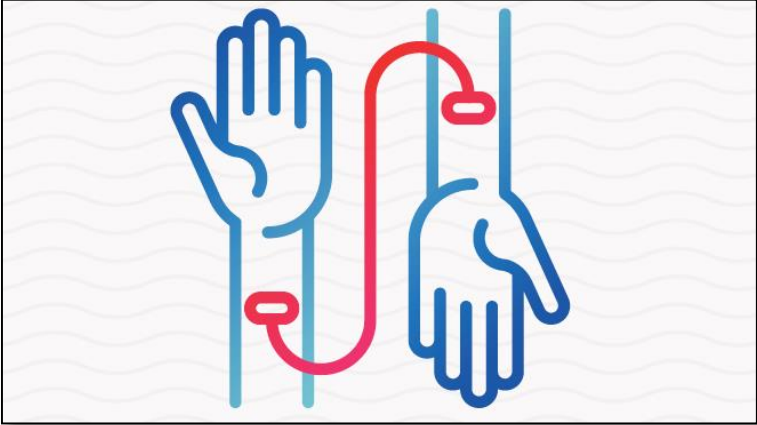
Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
1)	2 min	Introduction of blood donation	<p>INTRODUCTION OF BLOOD DONATION :-</p> <p>A blood donation occurs when a person voluntarily has blood drawn and used for transfusions and made into biopharmaceutical medications by a process called fractionation (separation of whole blood components). Donation may be of whole blood or of specific components directly (apheresis). Blood bank often participate in the collection process as well as the procedures that follow it.</p>	Reading and Discusing		




Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
2)	2 min	Define the Blood Donation	<p>MEANING OF BLOOD DONATION : Blood donation is a voluntary procedure that can help save the lives of others.</p>  <p>The infographic features a hand holding a red blood drop with the number '1' inside. Three red lines extend from the drop to three red hearts, with the number '3' inside the middle heart. Text reads 'One blood donation could save up to three lives'. The Stanford Blood Center logo is at the bottom left.</p>	Explaining and Discussing		

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
3)	2 min	Enlist the total number of blood groups.	<p>TOTAL NUMBERS OF BLOOD GROUPS:-</p> <ul style="list-style-type: none"> • There are 4 main blood groups (types of blood) – A, B, AB and O. Blood group is determined by the genes you inherit from your parents. • Each group can be either RhD positive or RhD negative, which means in total there are 8 blood groups. • This means can be 1 of 8 blood groups: <ul style="list-style-type: none"> ➤ A RhD positive (A+) ➤ A RhD negative (A-) ➤ B RhD positive (B+) ➤ B RhD negative (B-) ➤ RhD positive (O+) ➤ RhD negative (O-) ➤ AB RhD positive (AB+) ➤ AB RhD negative (AB-) 			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
4)	4 min	Explain the requirement of blood by others.	<p>REQUIREMENT OF BLOOD BY OTHERS :-</p> <ul style="list-style-type: none"> • Blood is usually transfused to replace red blood cells that carry oxygen. • Various situations necessitate transfusion : Blood loss due to bleeding, surgery or a medical procedure. • Medical conditions that prevent the body from producing new blood cells. Red blood cells normally have a life of three months, but medical condition as such as anemia, kidney disease, cancer, leukemia, chemotherapy and chronic disease may prevent the prevention of new blood cells. • Transfusion may be necessary until the body is able to produce its own blood cells. • Disease or blood loss that hinder the clotting process in a patient's blood. • Plasma and fresh frozen plasma transfused separately may be necessary to promote proper clotting. 			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
5)	5 min	Discuss the need of the blood donation.	<p>NEED OF THE BLOOD DONATION :</p> <ul style="list-style-type: none"> • All injured in accidents. • Cases of bleeding before and after birth. • Large operations. • Premature infants. • Thalassemia sickle cell anemia or leukemia patients. • Tumor patients, nuclear medicine and bloody vomiting, patients with liver and kidney dialysis, burns and endemic disease. 			


Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
6)	5 min	Enumerate the advantages of blood donation.	<p>ADVANTAGES OF BLOOD DONATION :-</p> <ul style="list-style-type: none"> • Beneficial for the human heart. • Reduces cancer risk. • Boosts the production of red blood cells. • Lower cholesterol level. • Helps in weight loss. • Aids in fighting hemochromatosis. • Facilitates the production of red blood cells. • Make the donor psychological rejuvenated <div data-bbox="667 722 1222 1166" style="text-align: center;">  <p>SHARE A LITTLE CARE A LITTLE DONATE BLOOD</p> </div>			


Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
7)	5min	Enlist the requirements of blood donation.	<p>BLOOD DONATION REQUIREMENTS :-</p> <ul style="list-style-type: none"> • The criteria for donor selection varies from country to country, but blood can be donated by most people who are healthy and do not have an infection that can be transmitted through their blood. • The age at which people are eligible to give blood varies, but is commonly between the ages of 17 and 65. • Some countries accept donations from people from the age of 16 and extend the upper age limit beyond 65ears. • Healthy adults can give blood regularly – at least twice a year. 			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
8)	5 min	Explain the mandatory tests of donated blood.	<p>MANDATORY TESTS OF DONATED BLOOD :</p> <ul style="list-style-type: none"> • At the operational level, the effectiveness of blood screening is often constrained by the fragmentation and lack of co-ordination of blood transfusion services, inadequate infrastructures, shortages of trained staff and poor quality systems. • This may result in inefficient screening systems and wastage of resources owing to differing levels of operation at multiple sites lack of quality management and quality assurance systems use of poor quality test kits and reagents unreliable, inconsistent supplies of test kits and reagents due to poor logistics equipment failure variations in laboratory procedures and practices incorrect storage or inappropriate use of test kits and reagents inadequate procedures for identification, leading to the misidentification of patient or donor blood samples, donations or processed units of blood and blood components . 			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
			<ul style="list-style-type: none"> • Technical failure in testing . Misinterpretation of test results inaccuracies in the recording or transcription of test results. Leading to : Heigher error rates in test results increased risk of failure to detect . • Unnecessary discard of non-reactive blood shortages and use of unscreened blood in urgent situations incorrect donor notification and stigmatization. • Blood donors and blood screening of donated blood of TTIs represents one element of strategies for blood safety and availability. • The first line of defense in providing a safe blood supply and minimizing the risk of transfusion-transmitted infection is to collect blood from well-selected, voluntary non-remunerated blood donors from low-risk populations, particularly those who donate regularly. 			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
			<ul style="list-style-type: none"> • The prevalence of TTIs in voluntary non-remunerated blood donors is generally much lower than among family/replacement (9-11) and paid donors (12-14). • Each country should establish voluntary blood donor programmers which provide donor information and education and develop stringent national criteria for blood donor selection and deferral to exclude prospective donors at the risk of TTIs. • A lower prevalence of TTIs in the donor population also reduces the discard of donated blood and hence results in improved efficiency and use of resources. 			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
8)	5 min	Who can not donate the blood.	<p>BLOOD CANNOT BE DONATED BY :</p> <ul style="list-style-type: none"> • Received chemotherapy / radiation for cancer treatment. • Had a heart attack in the last six to twelve months. • Had cardiac surgery in the last year. • Tasted positive for HIV or hepatitis. • Blood clotting disorder. • Had an abortion recently. • Tattoo done recently. <div data-bbox="596 719 1346 1036" style="text-align: center;">  <p>Rotary Action Group for Blood Donation</p> <p>Give Blood = Save 3 Lives</p> </div>			

Sr.No.	TIME	SPECIFIC OBJECTIVES	CONTENT	STUDENT TEACHER ACTIVITY	A.V.AIDS	EVALUATION
9)	5 min	Discuss instructions to blood donors before blood donation.	<p>INSTRUCTION TO BLOOD DONORS BEFORE BLOOD DONATION:</p> <ul style="list-style-type: none"> • Take light refreshment/ food before blood donation(2 hours before) • Person who has consumed alcohol should avoid giving blood for next 24 hours. • Person who had recent attack of infection like jaundice, Typhoid , Malaria, Rubella, etc.should not give blood. • Person who had undergone major surgery should avoid blood donation for 6 months. 			

Structured Knowledge Questionnaire**SECTION –A**

- Instructions: kindly tick (√) in the space provided for the answer you think is appropriate from the options given.
- All questions are compulsory.
- Information provided will be kept confidential and will be used for study purpose only .

1. Age in years.	
a. 15-16	<input type="checkbox"/>
b. 16-17	<input type="checkbox"/>
c. 17-18	<input type="checkbox"/>
2. Gender	<input type="checkbox"/>
a. Male	<input type="checkbox"/>
b. Female	<input type="checkbox"/>
3. Religion	
a. Hindu	<input type="checkbox"/>
b. Muslim	<input type="checkbox"/>
c. Christian	<input type="checkbox"/>
d. Other	<input type="checkbox"/>
4. Residence	
a. Urban area	<input type="checkbox"/>
b. Rural area	<input type="checkbox"/>
5. Types of family	
a. Nuclear	<input type="checkbox"/>
b. Joint	<input type="checkbox"/>
c. Extended	<input type="checkbox"/>
6. Do you have knowledge regarding blood donation?	
a. Yes	<input type="checkbox"/>
b. No	<input type="checkbox"/>
7. If yes, then source of knowledge	
a. Social media	<input type="checkbox"/>
b. Multi media	<input type="checkbox"/>
c. Advertisemet	<input type="checkbox"/>
d. Health care professional	<input type="checkbox"/>

SECTION -B

STRUCTURED KNOWLEDGE QUESTIONARIE

Section-a

1. Blood donation means.....

- a. Donate the blood
- b. Donate the plasma
- c. Donate the organ
- d. None of the above

2. Blood groups are classified into.....

- a. 3
- b. 5
- c. 7
- d. 8

3. Blood group ---- is universal donor

- a. O⁺
- b. B⁻
- c. A⁺
- d. AB⁻

4. Blood donation can be given from the age of.....

- a. 15 years
- b. 16 years
- c. 17 years
- d. 18 years

Section-b

5. Need of the blood donation.....

- a. Large operations
- b. Premature infants
- c. Thalassemia/ sickle cell anemia
- d. All of the above

6. Blood donation is done for

- a. saving someone's life
- b. money
- c. Seeking attention
- d. business

7. Blood can be donated in.....

- a. school
- b. hospital
- c. health camp
- d. Both b and c

Section-c

- 8. Transfusion may be necessary until.....
 - a. The patient is all cure
 - b. Patient's hemoglobin level will maintain
 - c. The body is able to produce its own blood cells.
 - d. Patient feels good.

- 9. The advantages of blood donation for the donor is.....
 - a. Reduces cancer risk
 - b. Boosts the production of red blood cells.
 - c. Helps in weight loss
 - d. All of the above

Section-d

- 10. Blood is usually transfused to replace.....
 - a. Red blood cells
 - b. White blood cells
 - c. Platelets
 - d. Electrolyte

- 11. The amount /volume of blood collected at one time is.....
 - a. 300 milliliters
 - b. 450 milliliters
 - c. 1 liters
 - d. 5 liters

- 12. Duration required for blood donation.....
 - a. 30 minutes
 - b. 40 minutes
 - c. 20 minutes
 - d. 50 minutes

Section-e

- 13. Red blood cells normally live a life of.....
 - a. 3 months
 - b. 5 months
 - c. 6 months
 - d. 8 months

- 14. Following tests are mandatory for donated blood.....
 - a. HIV infection
 - b. Hepatitis B.
 - c. Syphilis
 - d. All of the above

Section -f

- 15. Once blood donated, donor can donate blood after.....
 - a. 40 days
 - b. 56 days
 - c. 30 days

- d. 38 days
- 16. Blood cannot be donated by the person who
 - a. Had done tattoo recently
 - b. Had an abortion recently
 - c. Is under cancer treatment
 - d. All of the above
- 17. After surgery individual cannot donate blood for.....
 - a. 3 months
 - b. 4 months
 - c. 5 months
 - d. 6 months
- 18. Food should be takenbefore blood donation.
 - a. 1 hours
 - b. 2 hours
 - c. 3 hours
 - d. 4 hours
- 19. Adolescent who have consumed alcohol should avoid giving blood for next.....
 - a. 24 hours
 - b. 12 hours
 - c. 6 hours
 - d. 2hours
- 20. Healthy adults can give blood regularly at least.....
 - a. Twice a year
 - b. Thrice a year
 - c. Quadruple (4 times)
 - d. Quintuple (5 times)

ANNEXURES: I(C)
ANSWER KEY

ANSWER KEY	
QUESTION NO.	ANSWER
1	a
2	d
3	a
4	d
5	d
6	a
7	d
8	c
9	d
10	a
11	a
12	a
13	a
14	d
15	b
16	d
17	d
18	b
19	c
20	a

ANNEXURES:III

BLUEPRINT

Sr.NO.	TOPIC/SUBTOPIC	LEVEL OF KNOWLEDGE						TOTAL NO OF QUESTION (1 MARK FOR EACH QUESTION)	TYPE OF QUESTION	TOTAL%
		Knowledge	Comprehension	Application	Analysis	Synthesis	Education			
1	Introduction of blood donation& Meaning of blood donation.	**	**	-	-	-	-	4	MCQ	20%
2	Total number of blood groups and Need of the blood donation	**	*	-	-	-	-	3	MCQ	15%
3	Advantages of blood donation for donor	*	*	-	-	-	-	2	MCQ	10%
4	Requirements for blood donation	**	*	-	-	-	-	3	MCQ	15%
5	Mandatory tests of donated blood	*	*	-	-	-	-	2	MCQ	10%
6	Who can not donate the blood & Instruction to blood donors before blood donation	***	***	-	-	-	-	6	MCQ	30%
	Total no. of question	11	9	-	-	-	-	20	MCQ	-
	Percentage	60%	40%	-	-	-	-	-	-	100%