"KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EYE DONATION AMONG DEGREE COLLEGE STUDENTS OF BELAGAVI CITY"

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Dr. Girija J Mahantshetti MD
Professor and Head,
Department of Community Medicine,
J. N. Medical College,
KAHER, Belagavi - 590010,
Karnataka, India.

Place: Belagavi
Date: 21/06/2024

KAHER BELAGAVI J.N. MEDICAL COLLEGE

Dr. (Mrs.) N. S. Mahantashetti MD
Principal
J. N. Medical College,
KAHER, Belagavi - 590010,
Karnataka, India.

PRINCIPAL
J.N. Medical College,
BELAGAVI- 590 010

Place: Belagavi
Date: 21/06/2024

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Nehru Nagar, Belagavi- 590 010, Karnataka, INDIA

0831 - 2471350 0831 - 2470759 www.jnmc.edu rincipal@jnmc.edu

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Dr. (Mrs.) N.S. Mahantashetti.
Chairperson-Antiplagiarism Committee &
Principal,
J. N. Medical College, Belagavi.

To,
Reg. No. BD0121010
Postgraduate Student,
2021-22 Batch,
Department of Community Medicine,
J. N. Medical College, Belagavi.

LIST OF ABBREVIATION USED

S. No	ABBREVIATION	EXPANSION OF THE ABBREVIATION
1	AHS	Allied Health Sciences
2	AIDS	Acquired Immunodeficiency Syndrome
3	ARMD	Age Related Macular Degeneration
4	BA	Bachelor of Arts
5	BBA	Bachelor of Business Administration
6	BCA	Bachelor of Computer Applications
7	BCDB	Better Corneal Donation Behaviour
8	BCom	Bachelor of Commerce
9	BOPT	Bachelor of Optometry
10	BOT	Bachelor of Occupational Therapy
11	BPH	Bachelor of Public Health
12	BSc AT	Bachelor of Science in Audiology and Speech Therapy
13	COVID	Corona Virus Disease
14	CPI	Consumer Price Index
15	DE	Design Effect
16	DMLT	Diploma in Medical Laboratory Technology
17	DOT	Diploma in Occupational Therapy
18	DR	Diabetic Retinopathy
19	EB	Eye Bank

20	EDC	Eye Donation Centres
21	GIA	Grant in Aids
22	HIV	Human Immunodeficiency Virus
23	IAPB	International Agency for Prevention of Blindness
24	IEC	Information Education Communication
25	KAHER	KLE Academy of Higher Education and Research
26	KAP	Knowledge Attitude Practice
27	MBA	Master of Business Administration
28	MHA	Master of Health Administration
29	MLTC	Medical Laboratory Technology
30	MPH	Master of Public Health
31	NFHS	National Family Health Survey
32	NGO	Non-Governmental Organization
33	NPCBVI	National Program for Control of Blindness and Visual Impairment
34	PCDB	Poor Corneal Donation Behavior
35	PG	Post Graduate
36	PUC	Pre-University Course
37	SES	Socio Economic Status
38	SPSS	Statistical Package for Social Science
39	WHO	World Health Organization

ABSTRACT

INTRODUCTION

Sight reigns supreme among our senses, shaping every aspect of our existence. As per the National Blindness and Impairment Survey Report 2015 – 2019, the prevalence of blindness in India in all age groups is 0.36% and 1.99% in age group 50 and above. In the age group 0 – 49 years corneal opacity is the leading cause of blindness accounting to 37.5% of total blindness and in age group 50 and above it is the second leading cause accounting to 8.2% of total blindness. In India 68 lakh people are corneal blind in at least one eye and 10 lakh people are corneal blind in both eyes. In order to combat blindness and visual impairment, India launched the first National Programme for Control of Blindness in the world in 1976 with the aim of bringing the prevalence of blindness down to 0.3% by the year 2020. The National Programme for Control of Blindness and Visual Impairment (NPCBVI) currently in place includes a number of measures. There are around 435 Eye banks (EB) and Eye Donation Centre's (EDC) in India. Since corneal transplant is the only known treatment to corneal blindness and with a huge proportion of people with corneal blindness waiting for restoration of vision through donor corneas it is essential to increase awareness and more importantly dispel the myths and false beliefs regarding eye donation prevailing in community to bridge the supply demand gap of corneal tissue.The importance of this study lies in the fact that it targets the degree college students who when assessed for knowledge and motivated towards eye donation shall amplify the objective and contribute to increase in corneal yield rates in the society thereby leading our country efforts to successfully meet the increasing demand towards corneal transplantation and restore vision in the deprived lots awaiting for restoration of vision.

OBJECTIVE

1. To assess the Knowledge, Attitude and Practice regarding eye donation among degree college students.

2. To study the factors influencing Knowledge, Attitude and Practice regarding eye donation.

MATERIAL AND METHOD

A cross sectional study was conducted among degree college students in Belagavi city for a duration of one year. Total number of degree colleges in Belagavi city were 14 and they were divided into 4 groups (North, South, East and West). Randomly one college was selected from each group and from the selected colleges, population proportionate sampling was done and a total of 1018 students were interviewed using a pre-designed and a pre-tested questionnaire.

RESULTS

The mean ± SD age of the participant was 20.15 ± 1.04 years. In our study 402 (39.49%) were pursuing B Com, 307 (30.16%) were pursuing BA and 309 (30.35%) were pursuing BSc degree. Among the participants, 337 (33.10%) were studying in first year, 364 (35.76%) and 317 (31.14%) were studying in second and third year respectively.

Majority of our study subject, 855 (83.99%) were Hindus by religion and 658 (64.64%) of the study participant were staying in nuclear family. Most of the parents of the students: father 969 (95.19%) and mother 945 (92.82%) were literates. With regards to occupation of parents of study participants: father 1013 (99.51%) were employed in one or other occupation and 872 (85.66%) mothers were home makers. Our study showed that 813 (79.87%) of the study participant belonged to socioeconomic class II, III & IV according to modified BG Prasad classification.

Majority 1000 (98.23%) of the study participant had heard about eye donation and among them the major source of information was Television in 443 (28.78%). More than 1/2 of our study participant had correct knowledge regarding: eyes can be preserved in eye banks 590 (58.02%) and there is no age limit for eye

donation 509 (50.00%). Nearly 1/2 of our study participant had correct knowledge regarding: ideal time to collect donated eyes 451(44.25%), number of people who can be benefitted from one donor 470 (46.17%) and consent of family member is required for eye donation if not pledged 408 (40.57%).

More than 1/4th of our study participant had correct knowledge regarding: living person cannot donate his/her eyes 306 (30.06%), eye donation cannot cure all types of blindness 326 (32.01%), persons suffering from Hepatitis B cannot donate his/her eyes 276 (27.08%), persons suffering from Hepatitis C cannot donate his/her eyes 265 (26.01%), persons suffering from Tuberculosis cannot donate his/her eyes 267 (26.20%), persons suffering from dengue cannot donate his/her eyes 296 (29.06%), Government of India has a centralized toll-free number for eye donation 403 (39.57%) and the recipients of the eyes cannot be informed about the donor 295 (28.96%). Less than 1/4th of our participant had correct knowledge regarding: eye donation involves transplantation of cornea 224 (22.15%), person suffering from diabetes mellitus can donate his /her eyes 136 (13.38%), person suffering from hypertension can donate his /her eyes 241 (23.71%), person with history of previous cataract surgery can donate his /her eyes 175 (17.21%), person with spectacles can donate his /her eyes 208 (20.41%), person with injury /trauma to eyes can donate his/her eyes 131 (12.87%), presence of eye bank in his/her surrounding 139 (13.67%), removal of eye for transplantation takes place at Home/Hospital 215 (21.09%), person suffering from HIV/AIDS cannot donate his/her eyes 124 (12.18%) and person suffering from Rabies infection cannot donate his/her eyes 233 (22.89%). The mean knowledge score was 7.59 with standard deviation of 3.45, the median was 7 and the Interquartile range was from 5 to 10. Out of the 1018 students, 131 (12.88%) students had a good knowledge score, 671 (65.91%) students had an average knowledge score and 216 (21.21%) students had a poor knowledge score regarding eye donation. Higher knowledge score was significantly associated with course of the study participant (χ^2 = 11.22, p = 0.02), sex of the study participant (χ^2 = 8.23, p = 0.02**)**, literacy status of father of participants (χ^2 = 18.18, p = 0.006) and literacy status of mother of participants (χ^2 = 17.13, p = 0.009).

Nearly 3/4th of our study participant 752 (73.87%) had positive attitude regarding: Pledging and donating one's eyes can be a noble act of bringing in vision for a fellow human deprived of vision. More than 1/4th

of our study participant had positive attitude regarding: Religious beliefs do not limit his/her decision to pledge eyes 371 (36.47%), facial disfigurement was not a deterrent to decide 370 (36.37%) and do not believe the myth that donating eyes would affect his/her sight in rebirth 453 (44.53%). Less than 1/4th of our study participant had positive attitude regarding: family hindrance does not limit their decision to pledge eyes 237 (23.31%) and fear of eye donation is not a deterrent to their decision to pledge eyes 244 (23.99%). The mean attitude score was 13.61 with standard deviation of 2.17, median was 13 and the Interquartile range was from 13 to 15. Out of 1018 students, 434 (42.63%) study participant had a positive attitude while 584 (57.37%) had a negative attitude towards eye donation. The positive attitude score towards eye donation was significantly associated with age of the study participant (χ^2 = 5.57, p = 0.018), course of the study participant (χ^2 = 31.92, p = 0.001), sex of the study participant (χ^2 = 15.66, p < 0.001), type of family of the study participant (χ^2 = 9.69, p = 0.002) and literacy status of mother of participant (χ^2 = 13.27, p = 0.004)

Nearly 1/4th of our study participant had favourable practice regarding: motivating others to pledge their eyes 250 (24.56%). While nearly 1/10th of the students had a favourable practice regarding: involvement in eye donation awareness activities or programs 112 (11.00%) and guiding or assisting people to an eye bank 105 (10.33%). Less than 1/10th of the students had a favourable practice regarding: having family members who had pledged their eyes 48 (4.71%) or donated their eyes 11 (1.08%). In our study only a very few had actually pledged their eyes 20 (1.97%) and among them only 1 (5.00%) participant had an eye donor card. The mean score for practice was 0.58 with a standard deviation of 1.02. Out of 1018 participants 331 (32.50%) of them had a favourable practice score while 687 (67.50%) had unfavourable practice score regarding eye donation. The favourable practice score towards eye donation was significantly associated with age of the study participant (χ^2 = 8.77, p = 0.003), course of the study participant (χ^2 = 14.65, p = 0.002), type of family of the study participant (χ^2 = 7.03, p = 0.008) and socioeconomic status of the study participant (χ^2 = 13.22, p = 0.01).

CONCLUSION

The present study revealed various insights into the knowledge, attitude, and practice regarding eye donation among college students. More than 10% of the participants had good knowledge score about eye donation, while less than a half showed a positive attitude towards it and nearly one-third had favourable practice score.

KEY WORDS

Knowledge, Attitude, Practice, Eye donation, College students.

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INTRODUCTION

Sight reigns supreme among our senses, shaping every aspect of our existence**.** It fuels our ability to connect with others. In face-to-face interactions, nonverbal cues like gestures and expressions from eyes speak volumes and have a powerful impact in effective communication. Vision is a constant companion throughout life's journey. It allows a new born to recognize and bond with its mother, a toddler to find balance and take those first steps, a schoolboy to navigate the world on his way to school, and a young woman to thrive in her career. Even for the older woman, vision is essential for maintaining her independence.[1] Vision loss significantly affects not only individual health, productivity and financial stability but also has broader implications for the economy and the pursuit of Sustainable Development Goals at the national level.[2]

As per the National Blindness and Impairment Survey Report 2015 – 2019, the prevalence of blindness in India in all age groups is 0.36% and 1.99% in age group 50 and above. Cataract is the principal cause contributing to 66.2% of total blindness, 80.7% of severe visual impairment and 70.2% of moderate visual impairment. The other important causes of blindness are corneal opacity (7.4%), cataract surgical complications (7.2%), posterior segment disorders excluding Diabetic Retinopathy (DR) and Age Related Macular Degeneration (ARMD) (5.9%) and glaucoma (5.5%). Principal causes of severe visual impairment other than cataract are cataract surgical complications (8.3%) and other posterior segment diseases excluding DR and ARMD (3.4%). For early visual impairment, the most important cause was refractive error (70.6%). In the age group 0 – 49 years corneal opacity is the leading cause of blindness accounting to 37.5% of total blindness and in age group

50 and above it is the second leading cause accounting to 8.2% of total blindness.[3] In India 68 lakh people are affected with corneal blindness in at least one eye and 10 lakh people are corneal blind in both eyes. In most of these cases loss of sight can be corrected through a surgical procedure named corneal transplantation following eye donation. By donating eyes after death a person can gift back sight to a corneal blind individual when the cornea of the healthy donor is transplanted into the corneal blind recipient.[4] Corneal blindness has a very profound socioeconomic impact in terms of total blind years, as it targets the younger population who constitute the productive workforce and are the forerunners of economic progress in a nation in contrast to cataract which causes visual loss or impairment in the aged dependant people.[5]

In an effort to end preventable blindness by 2020, the World Health Organisation (WHO) and the International Agency for Prevention of Blindness (IAPB) jointly launched Vision 2020: The Right to Sight in 1999. With the goal of lowering the prevalence of preventable visual impairment by 25% by 2019 compared to the baseline prevalence in 2010, the World Health Assembly approved Universal Eye Health: Global Action Plan 2014–2019 in 2013. In order to combat blindness and visual impairment, India launched the first National Programme for Control of Blindness in the world in 1976 with the aim of bringing the prevalence of blindness down to 0.3% by the year 2020. The National Programme for Control of Blindness and Visual Impairment (NPCBVI) currently in place includes a number of measures.[3] There are around 435 Eye banks (EB) and Eye Donation Centre's (EDC) in India.[6] The achievements on eye donation by way of retrieval of donated eyes for corneal transplantation for the years 2017 – 2018 was 67709, 2018 – 2019 was 71665, 2019 – 2020 was 69349 and 2019 – March 2020 was 55972.[7]Since then there was shortfall of

donations due to the COVID pandemic. This led to negligible cornea retrieval in April – May 2020 with more than 90% decline in corneal transplant surgeries.[8]

An act where a person driven by social responsibility toward people with corneal blindness and willingly comes forward to pledge the eyes in an intent to donate it after death is voluntary eye donation. Awareness levels play an important role in voluntary eye donation. As the scenario in our country depicts low levels of 'presumed consent' and a mandatory requirement for the next of kin to consent to eye donation, the meaning of voluntary donation has to extend beyond self-pledging when alive to the timely decision of next of kin, grieving over loss of beloved one to voluntarily donate their eyes. Common barriers in voluntary donations are constraint over timely decision in midst of grief, lack of eye donation awareness and a scarcity of a motivator to coordinate donation with an Eye Bank.[9] The efforts taken by Government of India to increase eye donation include giving non-recurring grants-in-aid (GIA) to public sector EBs up to Rs. 40 lakh per unit and public sector EDCs up to Rs. 1lakh per unit for development and strengthening. Under NPCBVI, EBs receive recurrent GIA payments of Rs. 2000 for a pair of eyes (EBs compensate the EDCs associated with it for eyeballs collected by them at Rs. 1000 for a pair of eyes) to cover consumable costs such as media and preservative material, transportation and contingencies. Activities related to Information, Education and Communication (IEC) are organised and these include commemorating Eye Donation Fortnight. States and Union Territories receive financial assistance for carrying out IEC initiatives.[10]

In India, in recent times Eye donation has garnered huge support from community with increasing involvement of non-governmental organisations, philanthropists and social workers, the prime focus being generation of many enthusiastic volunteers and greater levels of involvements in community engagement

and awareness generation. Despite these playing a key role in strengthening government initiatives and programmes and driving our nation forward close to target of achieving the objective of speedy transplantations for the needy, they are not recognized at the community level. Nevertheless, the way has been laid for a swift route towards a strong network and acceptance from community for eye donation in India.[9] Despite all these initiatives there exists a huge challenge in successful implementation as the willingness, commitment and involvement towards the noble cause is lacking among people due to grounded false perception and beliefs driven by lack of clarity and paucity of knowledge on eye donation. Since corneal transplant is the only known treatment to corneal blindness and with a huge proportion of people with corneal blindness waiting for restoration of vision through donor corneas it is essential to increase awareness and more importantly dispel the myths and false beliefs regarding eye donation prevailing in community to bridge the supply demand gap of corneal tissue.[11]

With continuous development of corneal transplantation services, concerted efforts and sensitization towards eye donation the contribution towards corneal donation should thereby increase by way of increase in willingness towards eye donation by way of awareness and education. The college students are most valuable resource of dissemination of knowledge as they are more vibrant and infused with enthusiasm and extend voluntary participation in lot of community welfare activities like health program, camps, etc. They have the skills of motivating the public in large in extending involvement into welfare and service activities towards a noble cause. According to review of literature majority of studies in this area have been carried out in medical and health related college students.[14, 18, 21,26,30&32] There is scarcity of studies being conducted in other degree colleges. The importance of this

study lies in the fact that it targets the degree college students who when assessed for knowledge and motivated towards eye donation shall amplify the objective and contribute to increase in corneal yield rates in the society thereby leading our country efforts to successfully meet the increasing demand towards corneal transplantation and restore vision in the deprived lots waiting for restoration of vision.

OBJECTIVES OF THE STUDY

1. To assess the Knowledge, Attitude and Practice regarding eye donation among degree college students.

2. To study the factors influencing Knowledge, Attitude and Practice regarding eye donation.

REVIEW OF LITERATURE

Eye donation involves the selfless act of giving one's eyes after death, specifically benefiting individuals with corneal blindness. This process involves individuals pledging their eyes during their lifetime, with the hope that their families will honour this commitment upon their passing. Despite progress in recent years, there remains a significant disparity between the demand for corneas and their availability. Educating the public about eye donation is key to boosting corneal procurement. Encouraging individuals to pledge their eyes and ensuring their families understand and support this decision is crucial. The need of hour is abundance of research involving various aspects of eye donation like factors affecting corneal procurement and public attitudes toward eye donation.[12]

A cross sectional study was conducted to assess the knowledge and attitude of college students towards eye donation. Data was collected using a pre-structured and pre-tested questionnaire among 403 students across eight colleges in Hubli and Dharwad. Among the students surveyed, 222 (55%) were male and 181 (45%) were female. The age range was from 16 to 25 years, with 230 (57.1%) of them between 16 and 20 years old. Hindu students constituted 92% of the respondents, while 6% identified as Muslim and 2% belonged to other religion. It was found in the study that 387 (96%) of students were aware regarding eye donation, with 382 (94.8%) knowing that eyes are to be donated only after death. Around 246 (61%) understood that eyes need to be donated within six hours and 134 (33.4%) knew only cornea is transplanted while 293 (41%) believed that a person with a communicable disease cannot donate eyes. Additionally, 278 (69%) believed age was not a limiting factor for eye donation. Regarding the process, 272 (68%) believed eye donation

wouldn't disfigure the face, with females exhibiting slightly higher awareness than males. Around 255 (63%) were aware one could pledge to donate eyes while alive, with 109 (27%) aware that one can donate only after death. Around 299 (74.2%) believed eyes could only be removed in hospitals. Regarding willingness, 315 (78.1%) expressed willingness to donate their eyes after death the reason being primarily to help those who are blind in 192 (61%) participants or to immortalize their eyes in 123 (39%) participants. Around 88 (22%) were unwilling for eye donation, the reason being lack of interest in 53 (60%) participants while weak eyesight, religious beliefs, fear of the process and stigma were reasons behind rest 25 (40%) of them. When chi-square test was applied it was found that there were no statistically significant differences between male and female students in knowledge and attitude regarding eye donation. The study's conclusion emphasizes the untapped potential for cornea donation despite the favourable attitude on eye donation among the majority. Furthermore, the survey identified weak eyesight, religious beliefs, fear of invasive procedures and social stigma as prominent barriers to eye donation. The findings reveal the importance of targeted education to dispel myths and social stigmas surrounding eye donation, thereby potentially increasing the availability of corneas for transplantation.[13]

A cross-sectional study was conducted among 188 first and second-year nursing students in Bengaluru with aim to assess awareness and perception of eye donation. Among them 106 (56.4%) were male and 82 (43.6%) were female. Around 41 (21.8%) students were 18 years old, 100 (53.3%) were 19 years old, 39 (20.7%) were 20 years old and 8 (4.2%) were 21 years old. The findings revealed that a substantial majority 181 (96.8%) of students were aware of eye donation after death. Around 72 (38.2%) were knowledgeable of the ideal time

frame for donation, highlighting a knowledge gap. The most common source of information on eye donation was Television for 145 (77.1%) students, followed by the newspaper for 136 (72.8%) students and magazines for 94 (50%) students. Around 108 (85.1%) participants expressed willingness or had pledged to donate their eyes, citing nobility as the primary motivating factor. Of those 80 (14.9%) who were unwilling noteworthy barriers to eye donation included concerns about the separation of eyes from the body in 54 (67.9%), lack of awareness in 34 (42.8%), objections from family members in 23 (28.5%) and health issues in 9 (10.7%). Around 89 (47.3%) felt that donor's consent expressed before death is mandatory, whereas 27 (14.4%) students felt consent should be mandatory but may be given by their family members. Around 56 (29.8%) felt consent is not necessary but the eyes can be donated if the donor alone was interested and 16 (8.5%) believed consent is not necessary and if the family members of the donor are willing it can be donated. These results highlight the strong awareness and positive inclination among nursing students towards donation of eyes. The study suggests the importance of addressing barriers, such as concerns about eye separation and leveraging nursing student's enthusiasm and knowledge in promoting eye donation awareness campaigns and community awareness initiatives. Additionally, nursing students could play crucial roles as volunteers and counsellors in advocating for donation of eyes and motivating potential donors.[14]

Awareness and perception on eye donation among 60 students (aged 18 – 25 years) in Srikrishna Degree College, Bengaluru was assessed by a study using demographic and knowledge questionnaire. The objectives of the cross sectional study were to assess the awareness and perception on eye donation among college students and to associate the relationship of awareness levels and perception with

selected socio demographic variables. The study revealed that 74.16% were aware of eye donation and mean perception score was 72.01%. Nearly 71% were aware that eye donation needs to be done within six hours after death. The mean score was higher 73.68% in male respondents than females but the association was not found to be significant. Similarly mean score variability with respect to religion, income of father and education status of father were found to be non-significant. There was statistically significant association between perception on eye donation and place of stay by way of increased mean score 74.14% in respondents who stayed at home with parents than those who stayed in hostel. The limitation of this study is the small sample size and non-generalizability of results due to it.[15]

A study was conducted to assess awareness regarding eye donation among 200 Life science students in a college in Bengaluru, Karnataka with a pretested semi structured questionnaire. The study revealed that, though all students knew about eye donation, with reference to actual knowledge 185 (92%) knew eyes are donated only after death and 170 (85%) knew that age limit is not there for donation of eyes and around 140 (70%) were aware that donation of eye needs to be done within six hours after death. The fact that consent of family was needed for donation was known to 55 (27.5%). The existence of shortage in donors was known to 170 (85%) and 80 (40%) were aware of where to donate eyes. The major source of information on eye donation in 80 (40%) was television followed by newspapers in 30 (15%), magazines in 15 (7.5%), posters in 8 (4%), doctors in 15 (7.5%), radio in 12 (6%) friends in 7 (3.5%) family in 12 (6%) and internet in 21 (10.5%). The study concluded that though students were willing for the noble act an increased awareness level is needed beyond media propagation. The limitation of the study is that all students belonged to the same course in the college and it did not involve different academic streams.[16]

The awareness about eye donation and their willingness to donate eye was assessed among 211 degree college students in a university of Ramanagara district of Karnataka . A cross sectional study was done and data collection was carried using a predesigned and semi structured questionnaire. Of the 211 around 198 (94%) have heard of eye donation. Among them, 56 (28%) were male and 142 (72%) were female, with age ranging from 18 to 21 years and a mean age of 19.35 ± 0.73 years. In terms of study streams, 143 (72%) were from Bachelor of Commerce (B.Com), 46 (23%) from Bachelor of Computer Applications (BCA) and 9 (4.5%) from Bachelor of Business Administration (BBA). On the knowledge part the study revealed that 198 (94%) knew about eye donation of which 135 (68%) responded that anyone can donate eyes irrespective of age. It was believed by 69 (35%) that a person when alive can donate eyes but more than half 110 (55%) rightly told eyes can be donated only after death and 142 (71%) were aware that eye donation needs to be done within six hours after death. When questioned on which part of the eye was taken for transplantation, 42 (21%) students answered that whole eye is taken and 46 (23%) told that cornea (outer part of eye) and both responses were considered as correct. Regarding transplantation 111 (56%) correctly answered that, cornea is transplanted. When questioned if procurement of donor eye can be done at home, 83 (42%) rightly told yes while 66 (33%) felt it can be done only in hospital. Only 15 (8%) knew those with diabetes / hypertension can donate eyes. On the attitude and willingness part 116 (59%) of the students expressed willingness to donate their eyes and helping the blind was the prime intent, 44 (22%) needed time to decide, 28 (14%) needed consent from family and 10 (5%) were unwilling to donate eyes and disfigurement of face was felt as the prime reason.[17]

A two-year study was conducted, utilizing convenience sampling and a standardized questionnaire, to study 150 students enrolled in paramedical and allied health sciences in a tertiary care teaching hospital in Mangalore, Karnataka. The study aimed to assess knowledge, willingness and limiting factors pertaining to eye donation. Of the participants, 56 (36.67%) were male and 94 (63.33%) were female. Regarding age distribution, 50 (33.3%) were aged 18–20 years, 58 (38.7%) were aged 21–23 years, 30 (20%) were aged 24–26 years, 10 (6.7%) were aged 27–29 years and only 2 (1.3%) were above 29 years. Out of 150 students, 110 (73.3%) belonged to Allied Health Science, 7 (4.3%) to Bachelor of Public Health (BPH), 18 (12%) to Master of Health Administration (MHA), 29 (19.3%) to Medical Laboratory Technology (MLTC), 30 (20%) to Masters of Public Health (MPH), 18 (12%) to Nutrition and Dietetics and 8 (5.3%) were from Perfusion Technology. The rest 40 students belonged to the paramedical field. Among them 30 (20%) belonged to Diploma in Medical Laboratory Technology (DMLT) and 10 (6.7%) were from Diploma in Occupational Therapy (DOT). The study revealed that 93.3% (140) of the study subjects had pre-existing knowledge on the eye donation procedure. Around 69 (46%) obtained information from mass media, 39 (26%) from lectures, 17 (11.3%) from organ donation campaigns, 5 (3.3%) from doctors, 16 (10.7%) from hospital/clinic and 4 (2.7%) from unspecified sources. Around 81 (54%) were aware of the optimal time for retrieving eyes after death of the donor, while 100 (66.67%) were unaware that age is not a limiting factor for eye donation. Moreover, 78 (52%) were unaware that people wearing spectacles can donate their eyes and 122 (81%) were aware that eye donation mandates prior consent. Further, 106 (71%) were aware that no charges will be levied on donor's family for the donation and 66 (44%) were aware that all types of blindness cannot be cured by eye donation. Additionally, 81

(54%) knew that the name of donors are kept confidential. Regarding the benefits derived from eye donation, 54 (36%) believed one person will be benefitted, 17 (11.3%) believed more than two people will be benefitted and 79 (52.7%) believed exactly two people will be benefitted. About 73 (49%) expressed willingness to pledge their eyes, while 77 (51%) were not willing with familial opposition cited as a major reason for hesitation among the majority of unwilling respondents. The study concludes that knowledge levels of the study subjects are not upto expectations, highlighting the need for increased efforts to ensure that healthcare practitioners are adequately trained so that knowledge can then be transferred to the general population, potentially resulting in enhanced corneal transplantation rates.[18]

A co-relational study was done with descriptive survey approach among 100 adolescents in a Pre-university college in Mangalore, selected by non-probability purposive sampling technique. The data was collected using a structured knowledge questionnaire and attitude scale to identify the relationship between knowledge and attitude. Regarding assessment of knowledge aspect, the maximum score was 18, with the participants scoring 16 (Mean 10.26, standard deviation (SD) ± 2.63). With respect to attitude the maximum score was 70, with the participant scoring 70 (mean 49.35, SD ± 7.17). The study revealed that in the knowledge part 48% study participants had good knowledge, 44% average knowledge, 7% very good knowledge and 1% poor knowledge. In the attitude part 72% had positive attitude, 26% had highly positive attitude and 2% had negative attitude. The attitude towards eye donation were positively correlated with their knowledge levels ($r_{(98)} = 0.201$, $p < 0.313$), indicating that as knowledge increased, so did positive attitude towards eye donation. Small sample size and non-representativeness of general population were limitations of this study.[19]

A descriptive study aimed to assess knowledge, awareness and attitude towards eye donation among 121 students of a junior college at Mapusa, North Goa. Out of the participants 78 (60%) were male and 43 (40%) were female. After obtaining Institutional Ethics Committee approval and informed consent from participants, a pretested self-administered questionnaire was administered. Study results revealed high level of awareness, with 104 (86%) participants knew that eyes could be donated after death. Around 22 (18%) knew of individuals who were eye donors and 20 (17%) knew individuals who were recipients of donated eyes. Surprisingly, 118 (98%) didn't know of eye bank in Goa and 36% believed that eyes of donor can be procured or sold. While 63 (52%) knew that eyes donation had to be done after death and 54 (45%) believed that donors can donate their eyes when alive. With respect to knowledge on procedure on eye donation 98 (81%) knew that the procedure needed to be done within six hours after death. Around 65 (54%) believed the whole globe is enucleated, while 21 (17%) correctly identified only the cornea is transplanted and 79 (65%) participants believed that the cornea, retina and lens are transplanted. Knowledge regarding the medium required for transporting donor cornea varied among participants. While 63 (52%) knew the necessity for a special medium and 58 (48%) remained unaware of its existence. Around 24 (20%) study subjects knew that the donor's eyes are to be kept closed after informing institution on donor's death. With respect to attitude on eye donation results revealed that 73 (60%) participants were willful to pledge his/her eyes and 50 (41%) among those willing felt that helping the blind and needy was a pleasurable act. Among those unwilling for eye donation, 17 (14%) expressed lack of awareness as the reason, 12 (10%) participants said that family members would object and 11 (9%) expressed they felt unease that eyes would be removed from body. Television was the prime source of knowledge for

50 (41%) of participant followed by medical professionals from who 47 (39%) gained awareness, friends and family members were the sources for 16 (13%) and 9 (7%) participants and the rest were other sources such as radio, newspapers and cinemas. The study concludes that while there is good awareness on eye donation in college students in North Goa, there is also a significant lack of knowledge regarding the procedure, emphasizing the need for educational initiatives to bridge this gap and promote eye donation effectively.[20]

The study was conducted among students pursuing Allied health sciences (AHS), medicine and nursing course in Goa. A total of 990 subjects comprising 340 AHS, 450 medical and 200 Nursing students were present in the target population. They were surveyed using a closed-ended structured questionnaire focusing on eye donation awareness and knowledge. Overall response rate was 68.7% (340 subjects). However, the response rate differed among the three groups 97.7% among AHS, 40.0% among medical and 85.0% among nursing. Of the total participants 279 (82.1%) were female and 61 (67.7%) were male. Mean age was 19.54 ± 0.9 years. Results showed a high awareness level, with 97.9% of participants acknowledging the practice of eye donation, primarily through mass media (62.9%). However, 145 (42.6%) were willing for eye donation. Interestingly, there were significant differences observed among the three groups in terms of knowledge level. Bachelor of Science in Audiology and Speech Therapy (B Sc AT) participants were most willing to donate eyes (68.4%), while Bachelor of Occupational Therapy (BOT) participants were inclined to donate their relative's eyes (26.8%). B Sc AT (65.9%) and BOT (73.7%) participants were aware of the Rotary Eye Bank in Goa. All Bachelor of Optometry (BOPT) students (100%) were also aware of the Rotary Eye Bank. BOT participants exhibited the highest knowledge about the ideal time for donation

(68.3%). Knowledge about corneal transplantation was high among BOPT (93.1%) and BOT (73.2%) participants. A significant portion of AHS participants (71.5%) lacked correct information about storage time before transplantation. When association between willingness for eye donation and knowledge was assessed, positive association were found among those with awareness on where / who should retrieve the eye from the donor with [Odds ratio (OR) 2.26 (95% confidence interval (CI) 1.06 - 4.82) p = 0.031] whereas no association was found with knowledge on removal time after death [OR 0.69 (95% CI 0.44 - 1.07) p = 0.100] and what is removed from the donor eye [OR 0.89 (95% CI 0.50 - 1.56) p = 0.680] as well as gender of the person [OR 1.09 (95% CI 0.62 - 1.90) p = 0.44]. However negative association was observed with knowledge on what is transplanted from the donor eye [OR 0.47 (95% CI 0.29 - 0.77) p = 0.002] and how long the donor eye can be kept / stored before transplantation [OR 0.44 (95% CI 0.28 - 0.70) p = 0.001]. Notably, eye donation awareness did not correlate with the willingness for eye donation. The study concludes that despite satisfactory awareness levels, there exists a reluctance towards donating eyes among the surveyed students. It emphasizes the need to address the gap between potential donors and eye banks, suggesting targeted interventions to increase willingness and understanding among individuals regarding the importance and process of eye donation. This study exclusively focused on college students from health science backgrounds, the findings may not be extrapolated to students from diverse academic disciplines or the wider population. Additionally, the study faced limitations in examining certain associated factors, such as the rationale behind being unwilling on eye donation, eligibility criteria for donation and religious perspectives on eye donation.[21]

A descriptive study to assess the awareness regarding eye donation and corneal transplantation within the adult population of Pondicherry Southern India involving 507 participants selected by systematic random sampling, who were interviewed using a structured questionnaire. The mean age of participants was 52 years (range 35 – 80 years) and 278 (54%) of them were male. Around 326 (64%) of them were literate and 188 (37%) were residing in urban areas. Findings revealed that 257 (50.69%) participants were aware on eye donation, with publicity campaigns being the primary source of awareness for 105 individuals. Around 22 (4.34%) respondents were knowledgeable that the crucial timeframe for donating eyes is within six hours after death of the individual. Furthermore 403 (79.50%) participants were unaware of corneal transplantation. After adjusting for age, gender, literacy and place of residence in a multiple logistic regression model illiteracy was the strongest predictor of ignorance of eye donation and corneal transplantation with Adjusted odds ratio (AOR) 16.0 95%CI 9.0 - 28.5 and the association between rural residence and ignorance of corneal transplantation was of borderline significance AOR 1.6 (95% CI 1.0 - 2.5). The conclusion drawn emphasizes the inadequacy of current strategies in increasing awareness, particularly among those who are illiterate and those residing in rural areas. It suggests the necessity for more innovative approaches to address these gaps in knowledge and promote awareness on eye donation effectively within the community.[22]

A cross sectional study was done to assess the rural people of Andhra Pradesh, Southern India, with respect to their knowledge regarding eye donation and readiness to donate eyes. Out of 7,775 interviewed in three rural areas of Andhra Pradesh, representing an 88% participation rate of the eligible population, data were analysed for 5,572 (71.7%) above 15 years. Among them, 3,011 (54%) were female

and 5,318 (95.4%) were Hindus. Awareness regarding eye donation was reported by 1,561 (28.0%). The age-gender-adjusted prevalence of awareness was 30.7% [95% CI 29.5 - 31.9; Design Effect (DE) 14.2]. Only 180 (11.5%) had knowledge on eye donation. The prime sources of awareness were mass media for 1,237 (79.2%) and family members, relatives, or friends for 297 (19.0%). Multiple logistic regression analysis showed that awareness regarding eye donation was significantly low among people 70 years of age or older, illiterate people (OR 0.2 95% CI 0.1 - 0.2), women (OR 0.8 95% CI 0.7 - 0.9), people from lower socioeconomic backgrounds (OR 0.4 95% CI 0.3 - 0.4) and Christian by religion (OR 0.2 95% CI 0.1 - 0.6). With an age-gender-adjusted frequency of 0.1% (95% CI 0.05 – 0.25 DE 1.4), only 8 (0.5%) had pledged eyes. About 516 (32.9%) of the 1,561 participants expressed willingness to donate their eyes, yielding a frequency adjusted for age and gender of 10.9% (95% CI 10.1 – 11.7 DE 8.9). Nearly 91.2% of those who were interested to pledge were educated. Of those who knew about donating their eyes were 789 (50.6%). The study comes to the conclusion highlighting the need for more information to be shared about eye donation because only a one fifth of who are aware of the practice have actually pledged their eyes. This underscores the significance of education and awareness campaigns to close this knowledge gap and promote increased participation in eye donation programs.[23]

A study deploying cross sectional design was done among students from standard VIII, IX and X in eight government aided schools of North Kolkata and aim was to evaluate awareness regarding eye health care and eye donation among these secondary level school students. Around 1525 students comprising of 687 (45%) boys and 838 (55%) girls. Out of them 822 (53.9%) students were in age group 13 – 15 years, while 644 (42.2%) and 59 (3.9%) belonged to the age group 15 – 17 and 17

– 19 years respectively, with an overall mean age being 14.5 ± 1.1 years. Findings revealed substantial awareness levels with 1284 (84.2%) students recognizing the significance of eye health in preventing blindness and 1206 (79.1%) acknowledging the role of Vitamin A in preventing childhood blindness. About 1235 (81.0%) students knew eye donation and 489 (32.1%) of them knew the optimal timeframe for donating eyes which is within six hours after death. Additionally, the study noted that 802 (52.6%) students relied on printed and electronic media for information on eye donation. Around 1432 students (93.9%) were willing to spread awareness regarding eye donation and eye health among their family members. Only 97 respondents (6.4%) were of opinion that of first eye screening needs to be done within six months of age and 1193 (78.2%) students believed that blind religious belief an important deterrent in eye donation. The conclusions drawn highlight the insufficiency of media publicity alone in promoting awareness and highlights the need for tailored educational strategies targeting students. Such efforts are deemed crucial for empowering students to serve as forerunners of awareness campaigns, thereby facilitating increased awareness and participation in eye health and donation initiatives within the community.[24]

A descriptive study was conducted among 334 students in a science college on perception regarding eye donation in Himmatnagar city of Gujarat state using a pretested and self-administered questionnaire. Out of the total of 334 participants, the mean age was 19.6 years with a standard deviation of ± 1.1 years. Among them, 180 (54%) were male and 282 (84.4%) identified as Hindus. With respect to knowledge 93.4% knew about eye donation while 22 (6.6%) had never heard of it. Channels of information was primarily media sources 247 (73.8%). Around 266 (79.8%) students understood that eye donation occurs after death with

only the cornea used for transplantation 174 (52.2%). The ideal time frame for collecting eyeballs was known by 94 (28.2%). Furthermore 108 (34.6%) were aware of the place for eye donation. Regarding pledges, only 1 (0.3%) had pledged eyes for donation, while 246 (73.6%) were willing to take pledge. Among those willing 53 (15.8%) required more information before deciding. Around 34 subjects (10.2%) were not ready to pledge citing various reasons. The motivations for eye donation included nobility in 273 (81.8%), restoring sight to the blind 220 (65.9%) and the satisfaction of aiding the visually impaired 175 (52.4%). The limitation identified in the study was that individualized opinions of students cannot be generalized to the population as a whole.[25]

A comparative study was conducted during eye donation fortnight, where 112 medical and 115 nursing students of medical college in Odisha participated, each receiving a pretested semi-structured questionnaire after providing informed consent. The male to female ratio among medical students was 1.3:1, while among nursing students it was 1:10.5. Results revealed that all medical students and 91.3% of nursing students had awareness regarding eye donation, with a statistically significant difference ($p< 0.0016$). Additionally 42% of medical students in comparison to 29.5% nursing students knew about the annual observance of eye donation fortnight ($p < 0.05$). Medical students displayed a higher awareness level, with 69% acknowledging the ideal time for eye donation as within 4–6 hours of death, compared to 60.9% of nursing students ($p < 0.266$). Moreover, 88.4% of medical students expressed enthusiasm for eye donation, compared to 79.1% of nursing students ($p< 0.07$). The primary motivational factor towards eye donation among 81.8% medical and 60% nursing students was the restoration of vision of the blind ($P < 0.001$). Notably, 25.8% of medical and 5.2% of nursing students ($p< 0.0001$) were influenced by reading

articles, while 10.7% of medical and 12.1% of nursing students ($p < 0.08$) were motivated by lectures. Furthermore, 12.5% of medical and 11.3% of nursing students ($p < 0.08$) confirmed familial involvement in eye donation. Regarding knowledge, approximately 54% of medical students and 38.2% of nursing students ($p < 0.02$) knew that prior pledging is necessary before eye donation. Surprisingly, more nursing students (55.6%) compared to medical students (46%) ($p < 0.14$) knew that family members can donate the eyes of a deceased in the absence of prior pledging. Compared to nursing students, medical students showed a higher knowledge of the scarcity of eye transplantation (89% vs. 63.4%, $P < 0.0001$). In a similar vein, a higher proportion of nursing students (72.1%) than medical students (60%) ($p<0.05$) knew about organ donation laws. Furthermore, 84% of medical students and 64.3% of nursing students had a thorough understanding of eye banks ($p < 0.0009$). The study found that the most common reasons limiting donation of eyes were lack of awareness, which was cited by 87.5% of medical students and 76.5% of nursing students ($p< 0.03$), followed by objection from family members, which was reported by 61.6% of medical students and 36.5% of nursing students ($p< 0.0002$). Around 32.1% of medical students and 26% of nursing students ($p < 0.38$) reported having religious constraints, whereas 30.3% of medical students. Television and newspapers emerged as the primary information source on eye donation for both the groups. About 99 (88.4%) medical and 91 (79.1%) nursing students ($p<0.07$) had willingness to donate their eyes in the future. The limitation encountered in this study is a notable non-response rate likely influenced by reluctance to admit ignorance, highlighting the fact that question framing should prioritize maximizing responses to ensure study significance.[26]

An analytical cross-sectional study was done to assess awareness and attitude regarding eye donation among undergraduate students enrolled in professional colleges in the Jhalarapatan block of Jhalawar, Rajasthan. Among 342 students surveyed, all of them knew regarding eye donation. Gender distribution comprised 115 female (33.3%) and 227 male (66%). Urban residents constituted 203 students (59.4%), while 139 (40.6%) hailed from rural areas. The age range was 16 to 24 years, with a mean age of 19.99 ± 2.43 years. The majority attended medical college (38.3%), while the fewest were from horticulture and forestry college (5.8%). All 342 participants were aware about eye donation, with varying levels of awareness across different academic streams. Medical students exhibited the highest awareness (84%), followed by nursing (46%), horticulture (40%), engineering (31.1%) and academic students (26.9%). Most students from Government PG college (73.1%) had average knowledge, while only 16.0% of medical college students had average knowledge. None of the participants displayed poor knowledge on eye donation. The study found a significant association between awareness regarding eye donation and academic stream of the students ($p<0.001$). In terms of eye donation, favorable attitudes were more prevalent among medical students over other academic disciplines. Among medical students, 79.4% demonstrated a positive attitude towards eye donation, followed by nursing students (74%), horticulture students (60%), engineering students (48.6%) and academic students (34.3%). While 65.7% of academic students displayed an average attitude, only 20.6% of medical students did so. None of the participants exhibited a negative attitude regarding eye donation. The study found a significant association between attitude towards eye donation and students' academic disciplines

($p<0.001$). In terms of religious affiliation, Muslim respondents showed good awareness (62.1%), but a lower percentage had a positive attitude (31.0%) compared to Hindu respondents, where a higher percentage exhibited a positive attitude (62.9%) than good knowledge (52.4%). Regarding gender, female's awareness (60.9%) and positive attitude (60.6%) surpassed those of males, where 49.3% had good knowledge and 59.0% exhibited a positive attitude towards eye donation. Urban residents showed higher awareness (61.1%) and better knowledge and attitude towards eye donation compared to rural residents (41.7%). Significant associations were found between awareness and gender ($p=0.043$) and between attitude and religion ($p=0.001$) and area of living ($p<0.001$). There was no significant association between awareness and religion or between attitude and gender. The study revealed that mass media, such as Television, radio and social media contributed to good awareness (43.6%) among the public, while friends and close relatives contributed the least to awareness about eye donation (4.7%). The study concludes that students enrolled in medical and nursing programs, due to their direct association with healthcare activities, possess greater potential for raising awareness on eye donation within their communities. Additionally, it emphasizes the significant role of mass media in disseminating information and promoting awareness regarding eye donation in society at large.[27]

A cross sectional study was conducted across 1179 students from Department of Sociology under Punjab University and its affiliated colleges in Chandigarh to explore various aspects of eye donation among students using the knowledge, attitude and practice (KAP) model assessing the role of youth in eye donation. There were 598 (50.7%) male and 581 (49.3%) female. The respondents belonged to the age group ranging from 16 to 34 years, with a mean age of 20.99 ± standard deviation 3.30 years. The majority of respondents belonged to Hindu religion

(73.9%), the general caste (75.9%) and urban areas (59.2%). Nearly 63.0% of respondents were pursuing graduation. The findings showed that, although 21.8% of respondents had a favorable attitude regarding eye donation, only 3.5% of respondents had a good degree of knowledge about it. Remarkably, just 2.6% of participants scored high on eye donation practices. The calculation of Karl Pearson's coefficient correlation revealed that sociodemographic variables among respondents, including age and education level, exhibited a linear relationship with the level of knowledge and practice ($p \leq 0.01$). The involvement of respondents in activities related to raising awareness on eye donation, such as attending awareness camps, discussions and motivation, showed a statistically significant correlation with their willingness toward eye donation ($p \leq 0.01$ in Karl Pearson's correlation). Additionally, pledging to donate eye was associated with the willingness to donate one's own eyes ($p = 0.000$). Moreover, the willingness to donate deceased relative's eyes showed a linear relationship with the willingness to donate one's own eyes ($p = 0.000$) and the pledge to donate eyes ($p= 0.000$). Additionally, a significant association ($p \leq 0.01$ in Chi-square) was found between students' pledges and their knowledge and attitude. According to Karl Pearson, there was a substantial correlation between KAP (p 0.01). Nonetheless, a substantial majority (92.6%) thought that young people might encourage donating eyes in a constructive way. The overall results show that this population has low levels of practice, neutral attitudes and inadequate understanding about eye donation.[28]

A descriptive study was done to assess the perception on eye donation among college-going girls in Chandigarh, Northern India by conducting an online survey among participants deploying a pre-structured and pre-validated questionnaire. In this study, a total of 1816 female college students consented to participate, of

which 1721 were included in the final analysis after excluding 95 participants due to incomplete entries. The socio demographic profile of the participants revealed that 89% were aged from 17 to 21 years, 80% were pursuing undergraduate courses with non-science backgrounds, 81% hailed from urban background and 75% identified as Hindu. Additionally, 71% had fathers with education equal to or greater than graduation, while 69% had mothers with similar educational backgrounds. Fathers of 74% worked in non-government jobs and around 88% lived in their own houses. Later the scores on knowledge and attitude were subjected to regression and latent analysis to generate results. The participants were divided into two groups based on their scores as those exhibiting better corneal donation behaviour (BCDB) and those with poorer behaviour. For the domain pertaining to knowledge, the mean KSum used for classification into BCDB and poor corneal donation behavior (PCDB) was 0.59 ± 0.19, while for the domain pertaining to attitude, the mean ASum was 0.76 ± 0.39. Univariate analysis identified significant predictors such as participant age, parent's education, birth order, religion and maternal occupation. In binomial logistic regression model, significant predictors for BCDB in knowledge domain included participant age, awareness regarding corneal donation and willingness to discuss regarding donation of eyes with family members. For the attitude domain, significant predictors were awareness on corneal donation, knowledge on ideal timeframe for donating eyes and knowledge regarding eye donation during COVID pandemic time. The latent class model showed clear differentiation between the two classes based on specific questions, with PCDB and BCDB significantly differing between them ($p < 0.001$). Class 2 participants, who scored lower in both attitude as well as knowledge domains, were more likely to come from rural backgrounds, have higher birth orders, belong to SC / ST classes, have parents with lower education levels and reside in

rented houses. These findings bring out the importance of targeted interventions to enhance knowledge and attitude with respect to eye donation among young females, who can seed transformations in eye donation behaviours among individuals as they have huge influences in bringing changes beginning in their own family, community, village and thereby this will amplify into the entire society and nation as a whole.[29]

A descriptive study was done to evaluate the perception and willingness of 180 first-year medical students regarding eye donation in Delhi utilizing a pretested and semi-structured questionnaire. Among the students 39 (21.7%) were 18 years old, 96 (53.3%) were 19 years, 38 (21.1%) were 20 years and 7 (3.9%) were 21 years with a mean age of 19.07 ± 0.76 years. There were 96 (53.3%) male and 84 (46.7%) female. Around 145 (80.5%) of the students studied in public and private schools and only 35 (19.5%) had done their schooling from government and government-aided schools. There was no significant difference in the distribution of male and female students with regard to age and schooling. Regarding awareness on eye donation, 179 (99.4%) knew that eyes are donated only after death, while 74 (41.1%) were aware that it should ideally occur within six hours. Around 49 (27.2%) knew the place to contact for donation. About 157 (87.2%) expressed willingness to donate eyes. Perceived reasons for willingness to donate eyes included nobility in the act in 154 (85.5%) and the limiting factors attributed in the rest were lack of awareness in 59 (32.7%), objection from family members and disliking to separate the eye from their body in 23 (12.8%) participants. Regarding consent for donation, 89 (49.4%) believed donors consent should be mandatory and expressed before death, while 27 (15%) thought consent should be mandatory but may be given by another adult family member. Around 56 (31.1%) believed consent is not necessary but can donate if the donor wishes alone and 8 (4.4%) believed consent is not necessary but

can donate if the family members wish to do so. Television was the most common source for information on eye donation for 140 (77.8%), followed by newspapers for 131 (72.8%) and magazines for 98 (54.4%) participants. These findings underscore the importance of addressing perceived barriers and enhancing community awareness initiatives towards eye donation effectively.[30]

A descriptive study conducted among 205 students of school of management at Kathmandu university, using a online questionnaire that was self administered. All participants were from 18 - 31 years with mean age 22.71 ± 2.65 standard deviation. There were 133 (64.9%) female and 72 (35.1%) male. Around 125 (61.0%) of them were pursuing a bachelor's degree. Around 94 (45.9%) of participants identified themselves as belonging to the Newar ethnicity. More than 80.5% of the respondents practiced Hinduism, while 2.0% identified as Christian. Regarding awareness and knowledge eye donation, 59.5% knew that eyes need to be donated within six to eight hours after death, 90% were aware that eyes can be donated at any age beyond one year, 93.7% understand that consent towards eye donation is to be given by the individual when alive, 76.1% were aware that consent can be given by the donor's family for deceased donation, 75.1% knew to place wet cotton on eyelids after death to donate eyes and 86.3% recognized Nepal Eye Donation Society as an accessible organization for eye donation. Regarding sources of information on eye donation 51.7% received information from internet and 22.4% learnt from friends and relatives. Regarding attitude 93.2% believed donating eyes is a noble act, 55.6% expressed willingness to pledge and 65.4% are willful to donate eyes. Merely 4% of respondents exhibited good knowledge which means they responded correctly to more than 79% of questions, while 61.5% demonstrated moderate understanding with correct responses between 50 - 79% and 34.6% had

poor knowledge regarding eye donation with correct responses less than 50%. Despite this, an encouraging 70% displayed a positive attitude towards eye donation while 35% expressed uncertainty about donating eyes after death. Notably, the study found a significant association between the source of information and knowledge regarding eye donation ($p = 0.000$), suggesting that information dissemination channels play a crucial role. Further no association was revealed between other sociodemographic variables like gender, ethnicity and religion. However, the effectiveness of information received from various sources, including the media, appeared limited in improving knowledge levels. Consequently, the study underscores the pressing need for community awareness programs, particularly led by health professionals to enhance awareness and knowledge regarding eye donation among students.[31]

A study aimed to assess the awareness regarding eye donation among 270 medical students across all the levels at Kathmandu University of Medical Sciences through a cross-sectional analysis. Around 169 of them were male and 101 were female and the mean age was 20.67 ± 1.42 years. There were 60, 69, 71, and 70 participants from 1st, 2nd, 3rd, and 4th year respectively. Findings revealed that nearly half of the medical students (45.6%) were aware that eyes can be donated only after death, with newspapers being the prime source of information (72.2%). The average knowledge was 10.02 ± 2.07 (range 5 - 15) with the scores for first year, second year, third year and fourth-year students being 8.98 ± 1.62 (range 6 - 13), 9.65 ± 1.89 (range 5 - 14), 9.73 ± 1.76 (range 6 - 14) and 11.56 ± 2.05 (range 5 - 15) respectively. Notably, final-year medical students exhibited greater awareness compared to their junior counterparts. Furthermore, a significant majority (80.7%) of students were willing to donate their eyes, citing noble intentions and the desire to aid the visually impaired as primary motivators. Conversely, reasons for reluctance to

donate included lack of awareness and family objections. The study concludes that while future medical practitioners demonstrated satisfactory knowledge regarding eye donation, further education and sensitization efforts among this group could significantly contribute to addressing the burden of corneal blindness. This study, conducted solely among medical students at one university, indicates incomplete knowledge regarding eye donation among this cohort. However, to validate these findings, future multicentric studies with larger sample sizes are warranted.[32]

A cross sectional study was done using an open-ended questionnaire to assess awareness and knowledge regarding eye donation among 400 first-year students across various degree programs at the University of Malaya. Out of the assessed students, there were 103 (25.8%) medical, 82 (20.5%) dental, 83 (20.8%) laboratory technology, 50 (12.5%) pharmacy, 48 (12%) biomedical and 34 (8.5%) bioengineering students, all aged 20 and in their first year of their degree course. Of them 344 students (86%) knew regarding eye donation, with the prime source of information being mass media / Television / radio / movies (71%). There was a distinct difference in awareness among the various streams where medical and biomedical students exhibited awareness levels of 76.7% and 77.1% respectively. While awareness levels of rest other degree students in the university like dentistry, pharmacy, laboratory technology and bioengineering ranged from 55.9% to 70.7%. Around 108 (27%) expressed willingness to pledge their eyes, while 132 (33%) were willing to donate eyes of their close relative. However, 136 (34%) were unsure of the process for pledging eyes. Around 285 (71%) of them knew that the eye removal is done by doctor / surgeon / eye specialist. However, 376 (94.0%) were unaware of eye banks in Malaysia. Regarding knowledge, 126 (31.5%) knew that eyes cannot be donated while a person is alive, while 58.25% were unaware of this fact. Around 115

(28.75%) students were aware that the eyeball removal should be done within a few hours after death. Around 160 (40%) knew that the entire eye has to be taken from the donor, while 101 (25.25%) knew that the cornea has to be removed separately. Around 121 (30.25%) were aware that donated eyes are used in corneal transplantation. Around 231 students (57.75%) had no knowledge on storage of eyes in eye banks before transplantation. These findings highlight the urgent need for comprehensive education initiatives targeting young adults to increase awareness and knowledge regarding corneal transplantation. Such efforts could empower them to advocate for eye donation within their communities and families, ultimately improving the availability of donor corneas for corneal transplantation in Malaysia.[33]

An observational study aimed to evaluate awareness and willingness towards eye donation was conducted in Melaka, Malaysia. The study surveyed 400 participants accompanying patients in various clinics. Results revealed that 276 (69%) participants were aware of eye donation, with females showing higher awareness than males ($p= 0.009$). However 34.42% of those aware expressed willingness to donate eyes. Among the participants, higher rate of awareness and willingness was noted among the Indian race ($p = 0.02$) and male ($p = 0.02$), while level of education did not impact willingness. Additionally, while a majority of participants demonstrated awareness on eye donation, only about one-third were willing for eye donation. Notably, despite agreeing that eye donation is not against their religion, the majority of Malays were hesitant to donate their eyes. Hence, there exists a pressing need for targeted awareness initiatives aimed at motivating individuals to contribute towards eye donation efforts and help restore sight to those in need. One limitation of this study was its reliance on participants from hospital settings, which may limit the

generalizability of the findings to the broader Malaysian population. Conducting a population-based survey would have provided a more representative sample.[34]

An institutional-based cross-sectional study was conducted at the University of Gondar Comprehensive and Specialized Hospital Ethiopia to assess the proportion of willingness to donate cornea among their patients and identify associated factors. A total of 451 patients were recruited as sample by systematic random sampling and of it 408 adult patients participated, yielding a response rate of 90%. Results revealed that 179 (43.9%) participants were willing for eye donation. Factors positively associated with willingness included having a religious belief in christianity (AOR = 3.23, 95% CI 1.09 – 9.57) and possessing good knowledge about corneal donation (AOR = 5.45, 95% CI 2.69 – 11.18). Conversely, the factor negatively associated with willingness to donate cornea was the age group above 43 years (AOR = 0.31, 95% CI 0.11 – 0.89). These findings underscore the importance of religious beliefs and knowledge levels in influencing individuals' willingness to donate cornea. The study suggests that targeted interventions focusing on improving knowledge about corneal donation may help increase the willingness of individuals, particularly among older age groups, thus potentially contributing to the availability of cornea for transplantation. The limitation in this study was that it was an institution-based and hence results can be overestimated and did not include the practice component as well.[35]

An analytical cross-sectional study was done at Al-Mouwasat University Hospital in Damascus, Syria, to analyse the attitude and associated factor towards cornea donation in Syria where 637 participants above 18 years old visiting the hospital were randomly interviewed. The major proportion of the sample were

female (70.8%) and 45.7% knew about cornea donation. Interestingly, 68.3% of study subjects were acceptive of donation of their cornea after death, this acceptance declined to 56.2% when considering eye donation from relatives after death. The prime reasons for acceptance were the intention to help others (65.8%), while religious beliefs (10.8%) were the prime reason for refusal. Furthermore, women were more acceptive on donating eyes after death compared to men (71.4% vs. 60.8%, p=0.009). Additionally, acceptance of cornea donation appeared to increase among participants who envisioned living in a more developed country (71.7% vs. 68.3%). The study concludes that eye donation in Syria remains insufficient despite the high willingness. It suggests the need for an established donation system and clarification of religious instructions to enhance donation rates. Limitation of this study is its restricted sample size, as it only included attendants of a single hospital in the Syrian capital, potentially limiting its representativeness to the broader population. This highlights the necessity for a nationwide study to obtain a more comprehensive understanding. Additionally, participants were typically alone when expressing their opinions, which may differ when influenced by family members, particularly among the younger demographic, as parental influence has been noted in decision-making.[36]

A systematic review was conducted at Sydney, Australia where extensive search across multiple databases yielded 25 studies meeting the inclusion criteria for this review, covering data from January 2010 to March 2021. Among these studies, a pooled analysis from six of them revealed that approximately 30.8% of participants [95% CI = 11.0 – 55.4] possessed some level of knowledge pertaining to eye donation. Furthermore, data from seventeen studies indicated that 40.6% of participants (95% CI = 39.8 – 41.3) expressed willingness to donate their eyes, with

7.3% (95% CI = 6.5 – 8.3) having already pledged their eyes based on findings from five studies. Regarding the source of information on eye donation, eleven studies reported that 50.9% of participants (95% CI = 49.8 – 52.1) acquired information from

relatively positive attitude towards corneal donation within the general population, mass media channels. These findings underscore the moderate knowledge levels and highlighting the importance of ongoing educational campaigns and targeted interventions to further promote awareness and participation towards eye donation.[37]

MATERIALS AND METHODS

Source of Data:

Belagavi is a district located in the northwest region of the state of Karnataka. According to Census 2011 statistics, the population of Belagavi city was 47,79,661.[38] As per the Aadhar Unique Identification Authority of India 2022 data, the population in the district was estimated to be 51,43,390.[39] For proper convenience and administration, Belagavi district is divided into 10 taluks which have 18 municipalities, 22 towns, 35 hobli, and 485-gram panchayats encompassing 1,270 villages.[40] The majority of people in Belagavi district speak Kannada, Marathi, Hindi, and the rest speak other languages like Konkani, Urdu, Sindhi, and Punjabi. All degree colleges in the district are divided into six different blocks, namely Belagavi city block, Belagavi rural block, Bailhongal block, Khanapur block, Ramdurg block and Soundatti block.

In Belagavi city, there are a total of 14 degree colleges of which 10 are private aided first grade degree colleges and four are government first grade degree colleges.[41] These colleges typically offer undergraduate degrees in various streams such as Arts, Science, Commerce and Management. The various colleges are spread across different areas within Belagavi city, catering to the educational needs of students from Belagavi city and surrounding neighbourhoods. The study population were degree college students pursuing their degree in B. Com / B. Sc / B. A from the selected four colleges.

Study Design:

A cross sectional study

Study Period:

1st October 2022 to 30th September 2023.

Sample Size:

P = 28.2[12] (P = prevalence of correct knowledge)

q = 100 – p = 100 – 28.2 = 71.8

d = Relative error 10% of 28.2%

= 2.82

$$n = 4pq / d^2$$

$$= 4 \times (28.2 \times 71.8) / (2.82 \times 2.82)$$

$$= 1018.$$

Sampling technique:

As per the list obtained from Department of Collegiate Education, Government of Karnataka there are a total of fourteen degree colleges conducting courses in B. Com / B. Sc / B. A, out of which four colleges were selected randomly. One college from north, one from south, one from west and one from east zone of Belagavi city. Among the colleges selected, letter seeking permission with detail explanation regarding the need of the study was addressed to the principals of the selected colleges and their approval was obtained.

Name of the selected college	Total student strength	Population proportionate sample
Mahaveer. P. Mirji Arts College from North	487	132
Beynon Smith Methodist College from East	1257	340
KLE Society's Raja Lakhamagouda Science Institute from West	877	237
Rani Parvati Devi Arts & Science College from South	1141	309
Total	**3762**	**1018**

Using the Attendance Registers sampling frame was prepared. Desired number of students were selected using simple random sampling method, using computer generated random number.

Inclusion Criteria:

Degree college students pursuing their degree in B. Com / B. Sc / B. A from the selected four colleges

Ethical Clearance:

Ethical clearance was obtained from Institutional Ethical Committee, J.N. Medical College, KAHER, Belagavi. (Letter no.- MDC/JNMCIEC/79dated. 27/09/2022)

Data collection procedure:

Data was collected after obtaining informed written consent from the students of the selected colleges. Data was collected by personal interview from all the study participants using a pre-designed and pre-tested questionnaire. The questionnaire includes the socio-demographic variables and knowledge, attitude and practice of study participants regarding eye donation.

Definition of Study variables:

1. Age: Age was recorded to the nearest completed years.

2. Type of family:

I. Nuclear: The family consisting of married couple along with their dependent children.

II. Joint: The family consisting of more than one married couples and their dependent children.

3. Literacy status:

I. Illiterate: A person who cannot read or write with understanding in any language

II. Primary: A person who has studied up to 7^{th} standard

III. Secondary: A person who has studied up to 10^{th} standard

IV. Pre-University College (PUC):A person who has completed education up to PUC 2nd year

V. Diploma: A person who has completed any diploma course

VI. Degree: A person who has completed any graduate degree course

VII. Post graduate: A person who has completed any post-graduation course

4. Occupation:

I. Farmer: A person who owns land or on a contract basis or who works at any place including agricultural fields on a daily wage basis.

II. Labourer: A person who works in any place on a daily wage basis.

III. Self-employed: A person engaged in commercial or industrial business either an owner or executive.

IV. Government employee: A person who is a permanent or contract worker in any government agency.

V. Private employee: A person who is a permanent or contract worker in any private company or factory or Non - governmental organizations (NGOs).

VI. Unemployed: A person who is currently not working.

VII. Home maker: A person who looks after the home and children.

Socioeconomic class: The B.G. Prasad's scale was first introduced in the year 1961. It was calculated by considering the base Consumer Price Index (CPI) as 100 for the year 1960. It was later modified by introducing the Linking Factors 4.63, 4.93, 2.88 for the year 1982, 2001 and 2016 respectively as given by the Labor Bureau.

Average CPI for the period 1st October 2022 to 30th September 2023.is 134.3.[42]

Multiplication factor = Average CPI for the period 1st October 2022 to 30th September 2023.

(134.3) / Base index value in 2016 (100)

= 1.343

The new income value is calculated using the following equation:

New income value = Multiplication factor (MF) × Old income value × 4.63 × 4.93 x 2.88.

Upon substituting the values in the equation, the updated ranges were calculated as shown below.

Revised BG Prasad Socio-economic Status Classification for the period 1st October 2022 to 30th September 2023.

Socio-Economic classes	Original B. G. Prasad's classification (1961)	Revised B. G. Prasad's classification for 1st October 2022 to 30th September 2023.
I	100 and above	8829 and above
II	50-99	4414-8828
III	30-49	2649-4413
IV	15-29	1324-2648
V	Below 15	Below 1324

6. Definition of variables

Knowledge question	Correct answer
Eye donation involves transplantation of	Cornea
Can a living person donate his / her eyes	No
When is the ideal time to collect donated eyes	1 - 6 hours after death
Can eye donation cure all types of blindness	No
Can a person suffering from diabetes mellitus donate his / her eyes after death	Yes
Can a person suffering from hypertension donate his / her eyes after death	Yes
Can a person with history of previous cataract surgery donate his / her eyes after death	Yes
Can a person with spectacles / contact lens donate his / her eyes after death	Yes
Can a person with history of injury / trauma to the eyes donate his / her eyes after death	Yes
Is there any age limit for eye donation	No
Where does removal of eye for transplantation take place after death	Home / Hospital
Is consent of family member required for eye donation after	Yes

death, if not pledged the eyes	
Person suffering from HIV/AIDS cannot donate eyes	Yes
Person suffering from Hepatitis B cannot donate eyes	Yes
Person suffering from Hepatitis C cannot donate eyes	Yes
Person suffering from Rabies cannot donate eyes	Yes
Person suffering from tuberculosis cannot donate eyes	Yes
Person suffering from Dengue cannot donate eyes	Yes
How many people can be benefitted by one donor eye donation	Two
Can the recipients of the eye be told who donated the eyes for him / her	No

Data processing and analysis / statistical analysis:

Collected surveys sheets were bundled and numbered according to respective colleges. Collected data was entered into Excel sheets. Data was analyzed using SPSS software (Trial version). The quantitative data was analyzed using mean, median and standard deviation. The qualitative data was summarized as percentage and proportion. To study the association between variables Chi square test was applied.

Score:

Knowledge regarding Eye donation: For every correct answer one mark was given and every wrong, don't know and unanswered questions were considered as zero. Knowledge score was divided according to marks scored by each participant

Good knowledge: Above (Mean + SD)

= Above (7.59 + 3.45)

= > 11.04

Average knowledge: (Mean + SD) to (Mean – SD)

= mean 7.59 ± SD 3.45

= 4.14 to 11.04

Poor knowledge: Below (Mean - SD)

= < 4.14

Attitude towards Eye donation: For positive question three mark was given for Agree, two for Neutral, one for Disagree. For negative questions three for Agree, two for Neutral and one for Disagree marks were allotted. Attitude score was divided according to marks scored by each participant.

Positive attitude: More than or equal to Mean

= $\geq$ 13.61

Negative attitude: Less than Mean

= < 13.61

Practice regarding Eye donation: For every correct answer one mark was given and wrong, don't know and unanswered questions were considered as zero. Practice score was divided according to marks scored by each participant.

Favourable practice: More than or equal to Mean

$= \geq 0.58$

Unfavourable practice: Below Mean

$= < 0.58$

RESULTS

The present cross-sectional study was conducted in degree colleges of Belagavi city during the period of 1st October 2022 to 30th September 2023.

A total of 1018 students participated in the study. The data obtained was tabulated and analysed under the following headings.

I. Socio-demographic profile of the study participants

II. Knowledge of the study participants regarding eye donation

III. Attitude of the study participants towards eye donation

IV. Practice of the study participants regarding eye donation

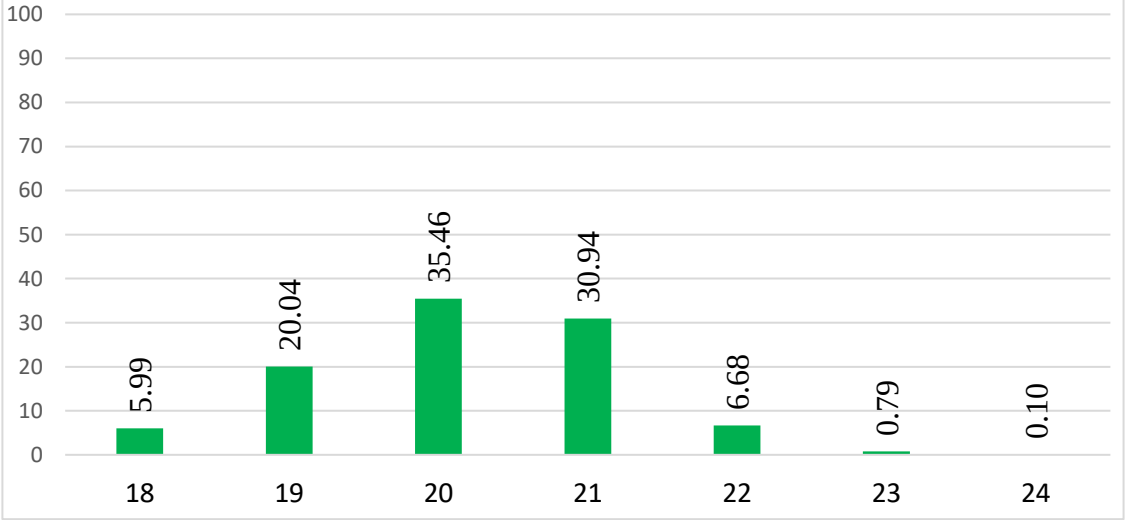
V. Association between Sociodemographic factors and Knowledge, Attitude and Practice regarding eye donation

I. Socio-demographic profile of the study participants

Table 1: Age distribution of study participant

Age (in years)	Number	Percentage
18	61	5.99
19	204	20.04
20	361	35.46
21	315	30.94
22	68	6.68
23	8	0.79
24	1	0.10
Total	**1018**	**100**

Graph 1 (Table 1): Age distribution of study participant



Among the 1018 study participants, 61 (5.99%) were aged 18 years, 204 (20.04%) were aged 19 years, 361 (35.46%) were aged 20 years, 315 (30.94%) were aged 21 years, 68 (6.68%) were aged 22 years, 8 (0.79%) were aged 23 years and 1 (0.10%) was 24 years old student. The age of the study participants ranged from 18 to 24 years. The mean age was 20.15 years, with a standard deviation of 1.04 years.

Table 2: Distribution of study participant according to the pursued degree course

Course	Number	Percentage
B Com	402	39.49
B Sc	309	30.35
B A	307	30.16
Total	**1018**	**100**

Out of 1018 degree college students in our study, 402 (39.49%) were pursuing B Com, 307 (30.16%) were pursuing BA and 309 (30.35%) were pursuing BSc degree.

Table 3: Distribution of study participant according to year of studying

Year of studying	Number	Percentage
First	337	33.10
Second	364	35.76
Third	317	31.14
Total	**1018**	**100**

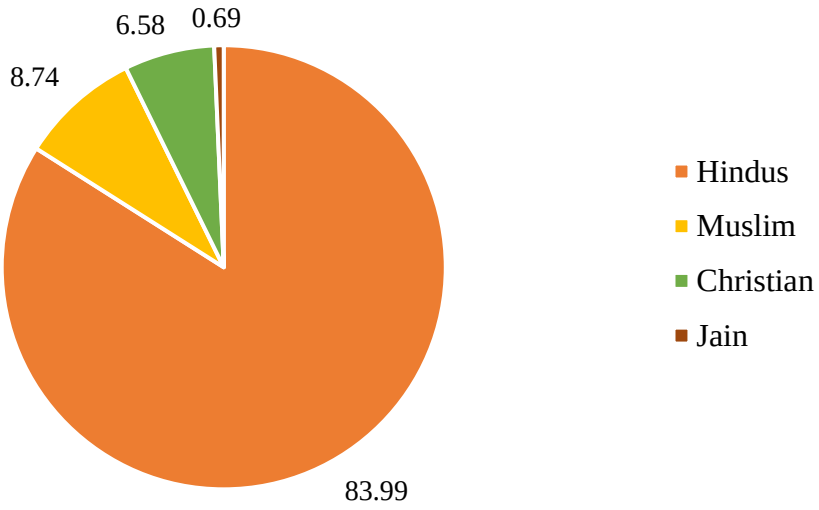
Out of 1018 students pursuing B Com, BA and BSc in the selected colleges, 337 (33.10%) were studying in first year, 364 (35.76%) and 317 (31.14%) were studying in second and third year respectively.

Distribution of study participant according to sex: Among the 1018 participants in our study, 383 (37.62%) were male and 635 (62.38%) were female.

Table 4: Distribution of study participant according to religion

Religion	Number	Percentage
Hindus	855	83.99
Muslim	89	8.74
Jain	67	6.58
Christian	7	0.69
Total	**1018**	**100**

Graph 2 (Table 4): Distribution of study participant according to religion



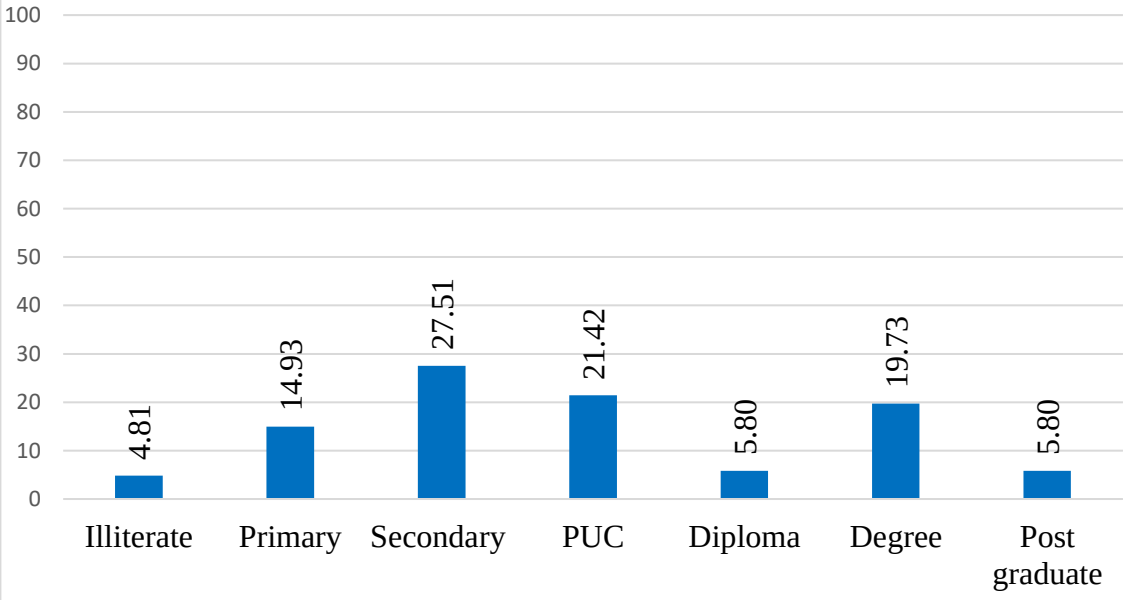
Out of 1018 study participant, 855 (83.99%) were Hindus by religion, 89 (8.74%) were Muslim by religion, 67 (6.58%) were Jain by religion and 7 (0.69%) were Christian by religion.

Distribution of study participant according to type of family: In our study, out of 1018 students 360 (35.36%) of the study participant were staying in joint family whereas 658 (64.64%) were staying in nuclear family.

Table 5: Distribution of study participant according to literacy status of father

Literacy status	Number	Percentage
Illiterate	49	4.81
Primary	152	14.93
Secondary	280	27.51
PUC	218	21.42
Diploma	59	5.80
Degree	201	19.73
Post graduate	59	5.80
Total	**1018**	**100**

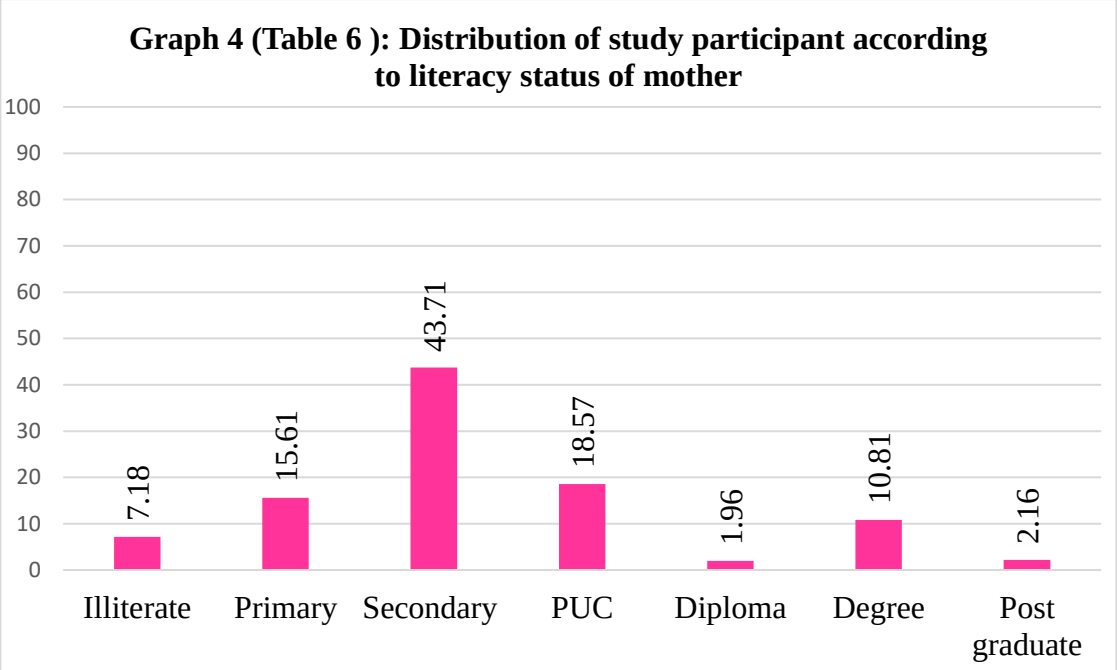
Graph 3 (Table 5): Distribution of study participant according to literacy status of father



In our study regarding literacy status of father's of study participant, majority of them 969 (95.19%) were literates. Among them 201 (19.73%) were degree holder, 59 (5.80%) were diploma holder, 218 (21.42%) had completed PUC, 280 (27.51%) had completed schooling uptill 10thstandard, 152 (14.93%) had completed schooling uptill 7th standard and 59 (5.80%) were postgraduates.

Table 6: Distribution of study participant according to literacy status of mother

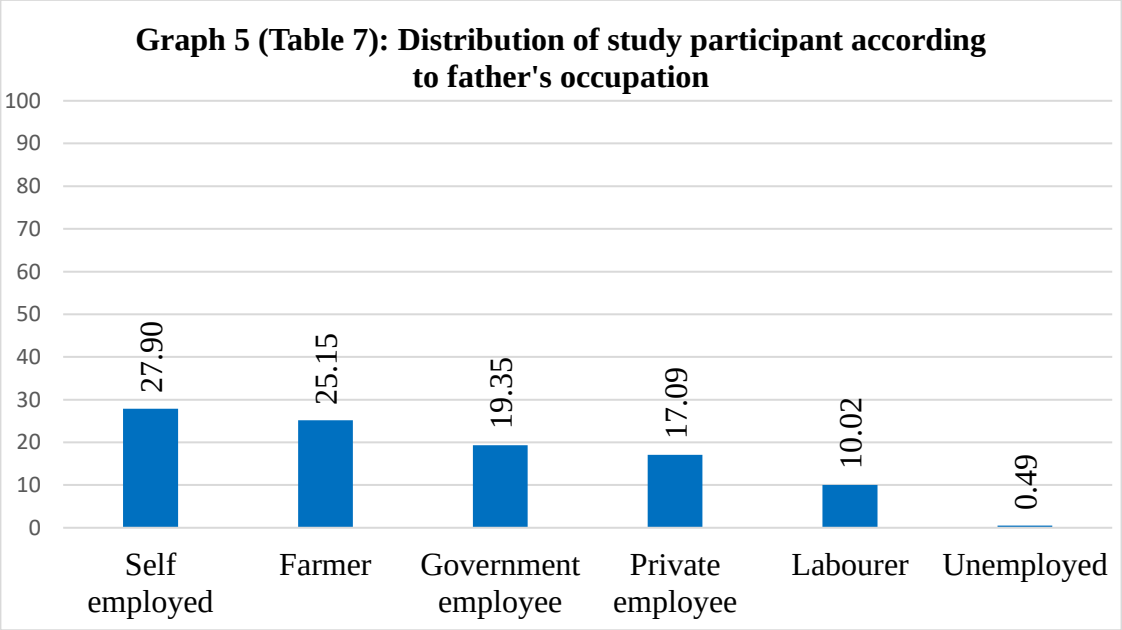
Literacy status	Number	Percentage
Illiterate	73	7.18
Primary	159	15.61
Secondary	445	43.71
PUC	189	18.57
Diploma	20	1.96
Degree	110	10.81
Post graduate	22	2.16
Total	**1018**	**100**



Regarding literacy status of mother's of study subject, most of them 945 (92.82%) were literates. Among them 110 (10.81%) were degree holder, 20 (1.96%) were diploma holder, 445 (43.71%) had completed schooling uptill 10thstandard, 159 (15.61%) had completed schooling uptill 7th standard, 189 (18.57%) had completed PUC and 22 (2.16%) were post graduates.

Table 7: Distribution of study participant according to father's occupation

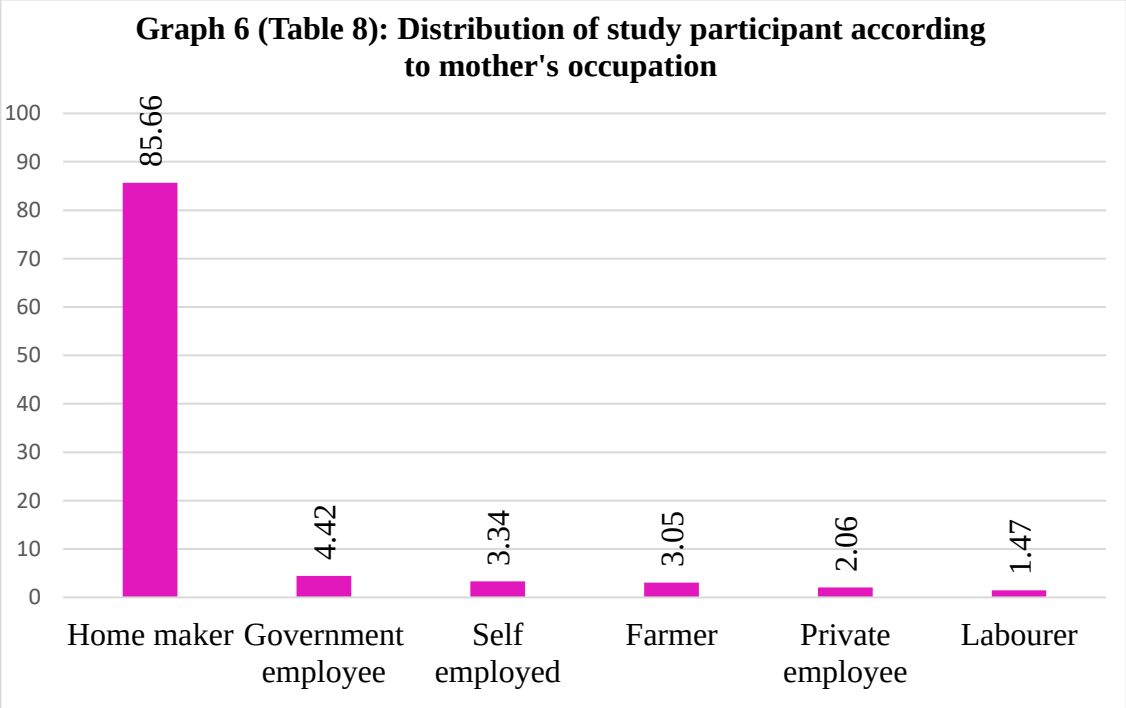
Occupation of father	Number	Percentage
Self employed	284	27.90
Farmer	256	25.15
Government employee	197	19.35
Private employee	174	17.09
Labourer	102	10.02
Unemployed	5	0.49
Total	**1018**	**100**



In the present study regarding occupation of fathers' of study participant, 284 (27.90%) were self-employed, 174 (17.09%) were employed in private sector, 197 (19.35%) were government employee, 102 (10.02%) were labourer, 256 (25.15%) were farmer by occupation and 5 (0.49%) were unemployed.

Table 8: Distribution of study participant according to mother's occupation

Occupation of mother	Number	Percentage
Home maker	872	85.66
Government employee	45	4.42
Self employed	34	3.34
Farmer	31	3.05
Private employee	21	2.06
Labourer	15	1.47
Total	**1018**	**100**

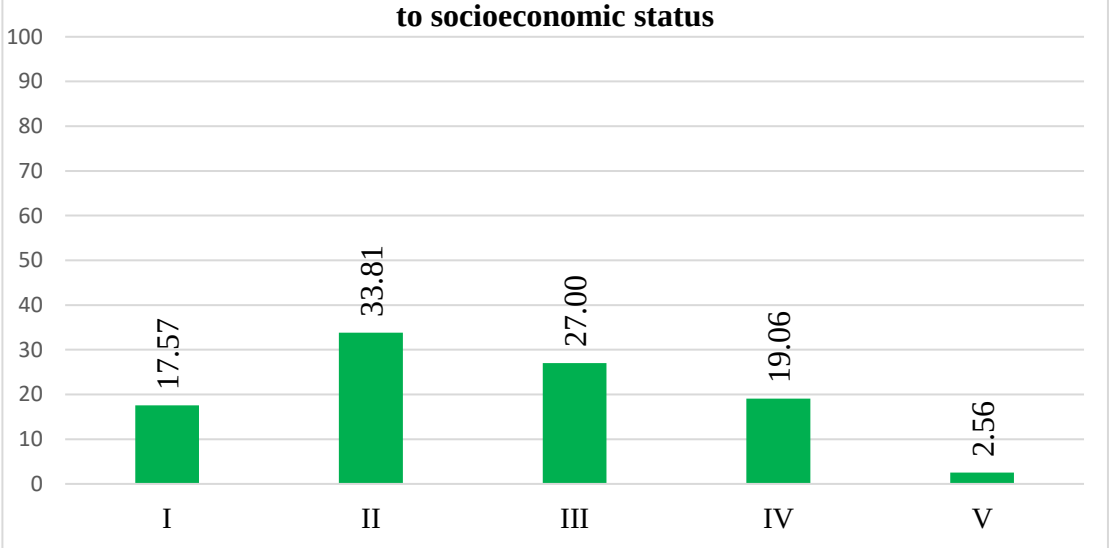


In relation to occupation of mothers' of study participant, 872 (85.66%) were homemaker and 146 (14.34%) were working mothers. Out of them 34 (3.34%) were self-employed, 21 (2.06%) were employed in private sector, 45 (4.42%) were government employee, 15 (1.47%) were labourer and 31 (3.05%) were farmer by occupation.

Table 9: Distribution of study participant according to socioeconomic status

Socioeconomic status class	Number	Percentage
I	179	17.57
II	344	33.81
III	275	27.00
IV	194	19.06
V	26	2.56
Total	**1018**	**100**

Graph 7 (Table 9): Distribution of study participant according to socioeconomic status



The present study reveals that out of 1018 students, 344 (33.81%) of the study participant belonged to socio-economic class II according to Modified B. G. Prasad's classification, 179 (17.57%) belonged to class I, 275 (27.00%) belonged to class III, 194 (19.06%) belonged to class IV and 26 (2.56%) belonged to class V.

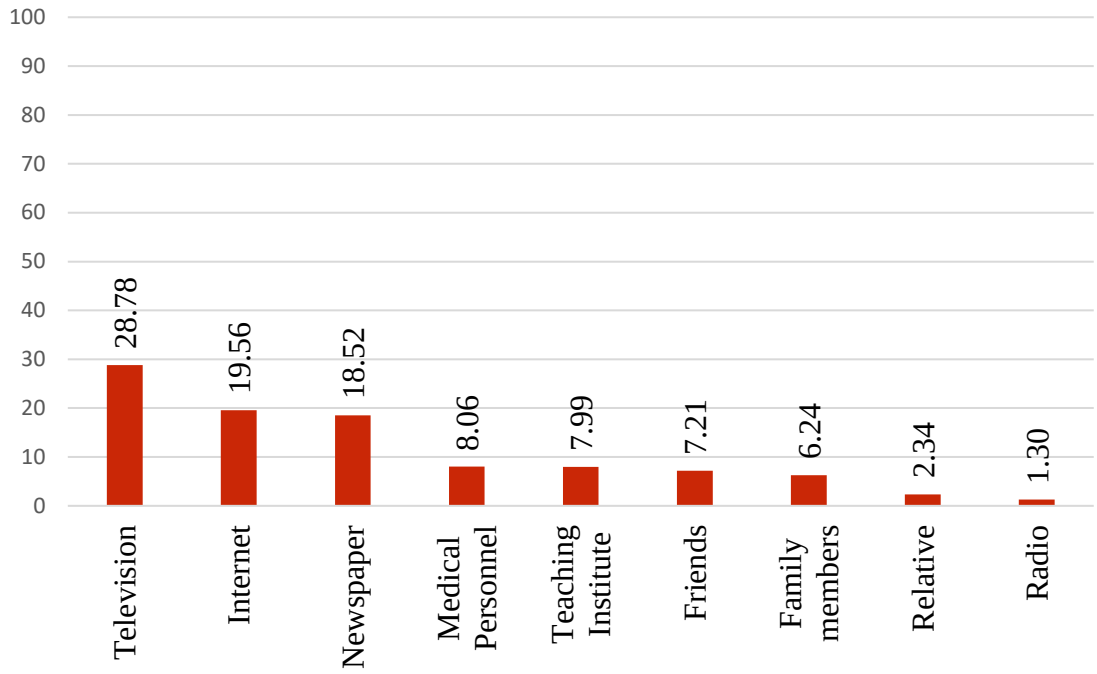
II. Knowledge of the study participants regarding eye donation

Table 10: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Heard about eye donation		
Yes	1000	98.23
No	18	1.77
Total	**1018**	**100**
Source of information		
Television	443	28.78
Internet	301	19.56
Newspaper	285	18.52
Medical Personnel	124	8.06
Teaching Institute	123	7.99
Friends	111	7.21
Family members	96	6.24
Relative	36	2.34
Radio	20	1.30
Total	**1539***	**100**

*Multiple responses

Graph 8 (Table 10): Distribution of study participant according to knowledge regarding eye donation



In our study majority 1000 (98.23%) of the study participant had heard about eye donation while 18 (1.77%) were unaware of it. Of the 1000 students who had heard about eye donation the major source of information were Television in 443 (28.78%), followed by Internet in 301 (19.56%), Newspaper in 285 (18.52%), Medical Personnel in 124 (8.06%),Teaching Institute in 123 (7.99%), Friends in 111 (7.21%), Family members in 96 (6.24%), Relatives in 36 (2.34%) and Radio was the source of information in 20 (1.30%) of the study participants. Among the 1000 study subjects who had heard about eye donation, majority 775 (77.50%) of them had one source of information, 88 (8.80%) two sources, followed by 58 (5.80%) with three sources and 79 (7.90%) participants with four or more sources of information regarding eye donation.

Table 11: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Eye donation involves transplantation of		
Eyeball	226	22.15
Cornea	224	21.97
Lens	115	11.31
Don't know	453	44.57
A living person can donate his/her eyes		
Yes	348	34.21
No	306	30.06
Don't know	364	35.73
Total	**1018**	**100**

In our study regarding knowledge on which part of eye is transplanted during eye donation, 224 (21.97%) had correct knowledge i.e. cornea is used for transplantation. Whereas 226 (22.15%) of the students thought that entire eyeball is used for transplantation and 115 (11.31%) thought only lens is used for transplantation during eye donation. Nearly 453 (44.57%) did not have any knowledge regarding which part of the eye is used during surgery for revival of vision. When asked if a living person can donate his/her eyes, 306 (30.06%) knew correctly that it cannot be done. Whereas 348 (34.21%) thought that a living person can donate his/her eyes and 364 (35.73%) of the students did not have any knowledge.

Table 12: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Ideal time to collect donated eyes (in hours)		
1 - 6	451	44.25
7 - 12	104	10.21
13 - 24	105	10.31
Don’t know	358	35.23
Eye donation can cure all types of blindness		
Yes	275	26.99
No	326	32.01
Don’t know	417	41.00
Total	**1018**	**100**

Out of 1018 students, 451 (44.25%) of the study participant knew the ideal time to collect donated eyes was1-6 hours after death. Whereas, 209 (20.52%) of students gave incorrect answers i.e. 104 (10.21%) and 105 (10.31%) of them thought that the ideal time was 7-12 hours and 13-24 hours after death respectively. Nearly 358 (35.23%) didn't have any idea about ideal time for collection of eyes for donation. When asked if eye donation can cure all types of blindness, 275 (26.99%) study subjects correctly said that it cannot be done. Whereas 326 (32.01%) thought that it is possible to cure all types of blindness by eye donation and 417 (41.00%) didn't have any knowledge regarding it.

Table 13: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Person suffering from diabetes mellitus can donate his / her eyes		
Yes	136	13.38
No	392	38.48
Don't know	490	48.14
Person suffering from hypertension can donate his / her eyes		
Yes	241	23.71
No	265	26.02
Don't know	512	50.27
Total	**1018**	**100**

In the present study, out of 1018 subjects, 136 (13.38%) of them correctly knew that a person with diabetes mellitus can donate his/her eyes after death. However, 392 (38.48%) of them believed that individuals with diabetes cannot donate their eyes and 490 (48.14%) of them were unsure about this aspect. Similarly, when questioned if individuals with hypertension can donate eyes, 241 (23.71%) of them correctly knew that they can donate his/her eyes after death. Whereas, 265 (26.02%) of them incorrectly thought that individuals with hypertension cannot donate his/her eyes and 512 (50.27%) of the study participant expressed uncertainty regarding this aspect of knowledge.

Table 14: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Person with history of previous cataract surgery can donate his/ her eyes		
Yes	175	17.21
No	279	27.42
Don't know	564	55.37
Person with spectacles/ contact lens can donate his/ her eyes		
Yes	208	20.41
No	297	29.19
Don't know	513	50.40
Person with injury/ trauma to the eyes can donate his/ her eyes		
Yes	131	12.87
No	358	35.17
Don't know	529	51.96
Total	**1018**	**100**

In the present study, out of 1018 participant, 175 (17.21%) of them correctly knew that a person with a history of previous cataract surgery can donate his/her eyes after death. However, 279 (27.42%) of the participants believed that individuals with cataract surgery cannot donate his/her eyes and 564 (55.37%) of them were unsure about this aspect. When questioned if individuals who wear spectacles or contact lenses can donate his/her eyes after death, 208 (20.41%) of the study participant correctly knew that they can donate his/her eyes. However, 297 (29.19%) of them incorrectly thought that individuals with spectacles or contact lenses cannot donate his/her eyes and 513 (50.40%) of them expressed uncertainty regarding this matter. Regarding eye donation eligibility for individuals with a history of injury or trauma to the eyes, 131 (12.87%) of the participants correctly knew that they can donate his/her eyes after death. However, 358 (35.17%) incorrectly thought that individuals with eye injury or trauma cannot donate his/her eyes and 529 (51.96%) were unsure regarding this aspect.

Table 15: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Presence of eye bank in your surrounding		
Yes	139	13.67
No	879	86.33
Eyes can be preserved in eye banks		
Yes	590	58.02
No	118	11.59
Don't know	310	30.39
Total	**1018**	**100**

In the current study, out of 1018 students, 139 (13.67%) of the study participant were aware of the presence of an eye bank in their surroundings, while 879 (86.33%) of them were not aware of any particular place for eye donation. Among the 139 participant who were aware, 89 (64.03%) of them told as KLE Hospital, 34 (24.46%) of them Civil Hospital, 6 (4.31%) of them DE Eye Bank, 3 (2.16%) of them Bengaluru Eye Bank, 2 (1.44%) of them Shahapur Eye Bank and 1 (0.72%) participant each told Netra Darshan, Gokak General Hospital, Sharad Eye Bank, Medical college Bagalkot and Vijayapura eye banks. Concerning the preservation of donated eyes in eye banks, 590 (58.02%) of the study participant knew correctly that eyes can be preserved in eye banks, 118 (11.59%) of them believed they cannot preserve eyes in eye banks after removal from the donor and 310 (30.39%) participant expressed uncertainty about it.

Table 16: Distribution of study participant according to knowledge regarding age limit for eye donation

Age limit for eye donation	Number	Percentage
Yes	249	24.46
No	509	50.00
Don't know	260	25.54
Total	**1018**	**100**

In the current study, out of 1018 students, 509 (50.00%) of the study participant correctly knew that there was no age limit for eye donation, while 249 (24.46%) of them believed that there was an age limit for eye donation which was incorrect and 260 (25.54%) of them expressed uncertainty about it.

Table 17: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Removal of eye for transplantation takes place at		
Home	40	3.93
Hospital	635	62.41
Home/hospital	215	21.09
Don't know	128	12.57
Consent of family member required for eye donation, if not pledged		
Yes	408	40.07
No	183	17.98
Don't know	427	41.95
Total	**1018**	**100**

In the present study out of 1018 students, 215 (21.09%) of the participant responded correctly that removal of eyes for transplantation after death can take place at either home or hospital. Whereas, 40 (3.93%) participant believed that the removal of eyes for transplantation after death takes place at home only, 635 (62.41%) of them believed that it can happen only in a hospital setup and 128 (12.57%) of them were unsure on where eye removal for transplantation is carried out. Regarding the consent of family members for eye donation after death if the deceased had not pledged his/her eyes, 408 (40.07%) of the participant correctly knew that family members consent is required, 183 (17.98%) of them thought that it was not required and 427 (41.95%) study participant did not have knowledge regarding it.

Table 18: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Persons suffering from HIV/AIDS cannot donate his/her eyes		
Yes	124	12.18
No	894	87.82
Persons suffering from Hepatitis B cannot donate his/her eyes		
Yes	276	27.08
No	742	72.92
Persons suffering from Hepatitis C cannot donate his/her eyes		
Yes	265	26.01
No	753	73.99
A person died due to Rabies infection cannot donate his/her eyes		
Yes	233	22.89
No	785	77.11
Persons suffering from Tuberculosis cannot donate his/her eyes		
Yes	267	26.20
No	751	73.80
Persons suffering from Dengue cannot donate his/her eyes		
Yes	296	29.06
No	722	70.94
Total	**1018**	**100**

In the present study, out of 1018 study subjects, with respect to knowledge regarding influence of communicable diseases on eye donation, 124 (12.18%) of the participants correctly knew that individuals suffering from HIV/AIDS cannot donate his/her eyes, while 894 (87.82%) of them believed that he/she can donate eyes. Similarly, for persons suffering with Hepatitis B infection, 276 (27.08%) of them correctly knew that individuals cannot donate his/her eyes, while 742 (72.92%) of them incorrectly believed that they can donate eyes. For Hepatitis C infection, 265 (26.01%) of the participant correctly knew that individuals cannot donate his/her eyes, while 753 (73.99%) of them incorrectly believed they can donate his/her eyes after death. A person who had died due to Rabies infection cannot donate his/her eyes, which was correctly identified in 233 (22.89%) of the study participant while 785 (77.11%) of them believed they can donate eyes after death. For tuberculosis, 267 (26.20%) of the participant correctly knew that individuals with tuberculosis infection cannot donate his/her eyes, while 751 (73.80%) of them incorrectly believed they can. Similarly, for dengue infection, 296 (29.06%) of the participant correctly knew that he/she cannot donate eyes, while 722 (70.94%) of them thought they can donate eyes.

In this study involving 1018 students, when the distribution of responses regarding knowledge about communicable diseases and eye donation was analysed it revealed that 577 (56.68%) of them did not have any knowledge regarding it. Whereas 78 (7.66%) of the students knew name of one communicable disease where eye donation cannot be done and 86 (8.45%) of them knew two communicable diseases. In addition to that, 100 (9.82%), 36 (3.54%) and 79 (7.76%) of the students knew three, four and five communicable diseases where eye cannot be donated respectively. Only 62 (6.09%) of the students knew all the six communicable diseases where eyes cannot be donated.

Table 19: Distribution of study participant according to knowledge regarding eye donation

Knowledge regarding eye donation	Number	Percentage
Centralized Toll-free number for eye donation		
Yes	403	39.57
No	145	14.22
Don't know	470	46.21
Number of people benefitted by one donor		
1	261	25.64
2	470	46.17
3	70	6.87
4	217	21.32
Recipients of the eye can be told who donated the eyes for him / her		
Yes	275	27.00
No	295	28.96
Don't know	448	44.04
Total	1018	100

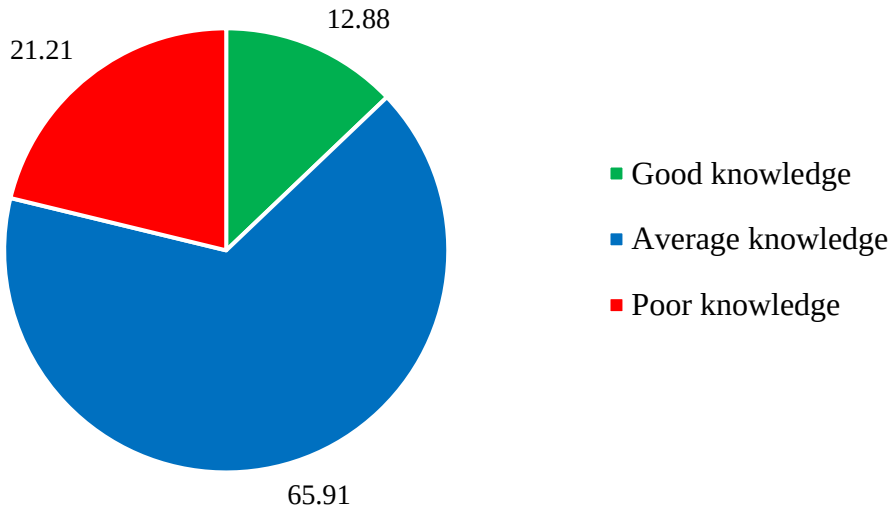
In our study out of 1018 students, 403 (39.57%) of the participant knew that the Government of India has a centralized toll-free number for eye donation, while 145 (14.22%) of them thought that there was no such facility available for information on eye donation and 470 (46.21%) study subjects expressed uncertainty regarding it. The number of people who can be benefitted from one donor, 470 (46.17%) study

participant knew correctly that two people will be benefitted. Whereas 261 (25.64%), 70 (6.87%) and 217 (21.32%) participants believed that one, three and four people will be benefitted by single donor respectively. In response to whether the recipients of the eyes can be informed about the donor, 295 (28.96%) of the participants correctly knew that they cannot be informed. Whereas 275 (27.00%) participants thought that the recipients can be informed on who donated eyes for them and 448 (44.04%) of them did not have any idea.

Table 20: Distribution of study participants according to the knowledge score regarding eye donation

Knowledge score	Number	Percentage
Good (>11.04)	131	12.88
Average (4.14 – 11.04)	671	65.91
Poor (< 4.14)	216	21.21
Total	**1018**	**100**

Graph 9 (Table 20): Distribution of study participants according to the knowledge score regarding eye donation



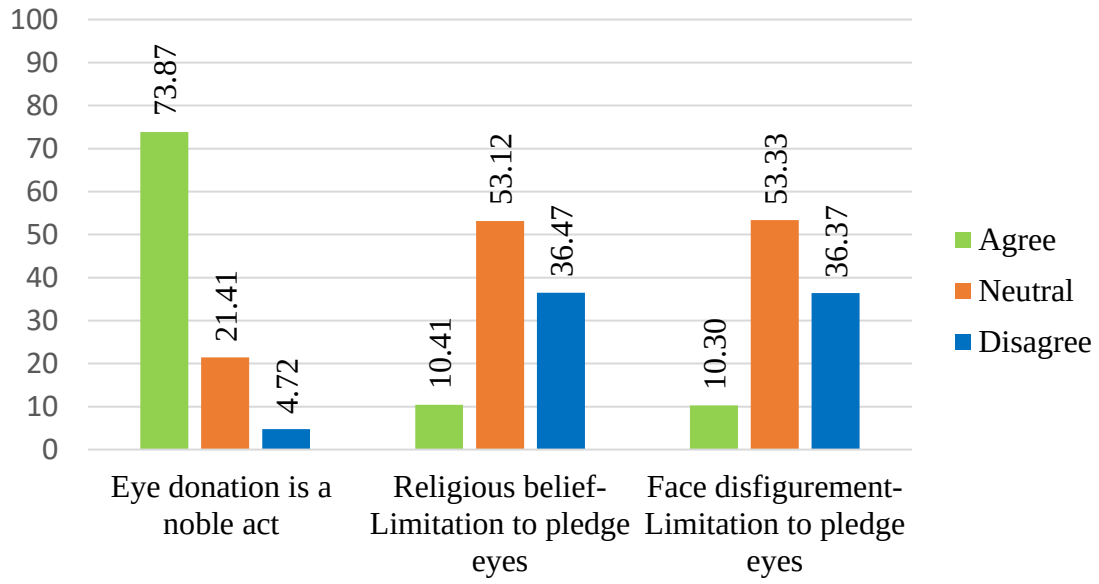
In the present study, among the students, the mean knowledge score was 7.59 with standard deviation of 3.45, the median score was 7 and the Interquartile range was from 5 to 10. A total of 131 (12.88%) participants of the study group had a good knowledge score, 671 (65.91%) had an average knowledge score and 216 (21.21%) had a poor knowledge score regarding eye donation.

III. Attitude of the study participants towards eye donation

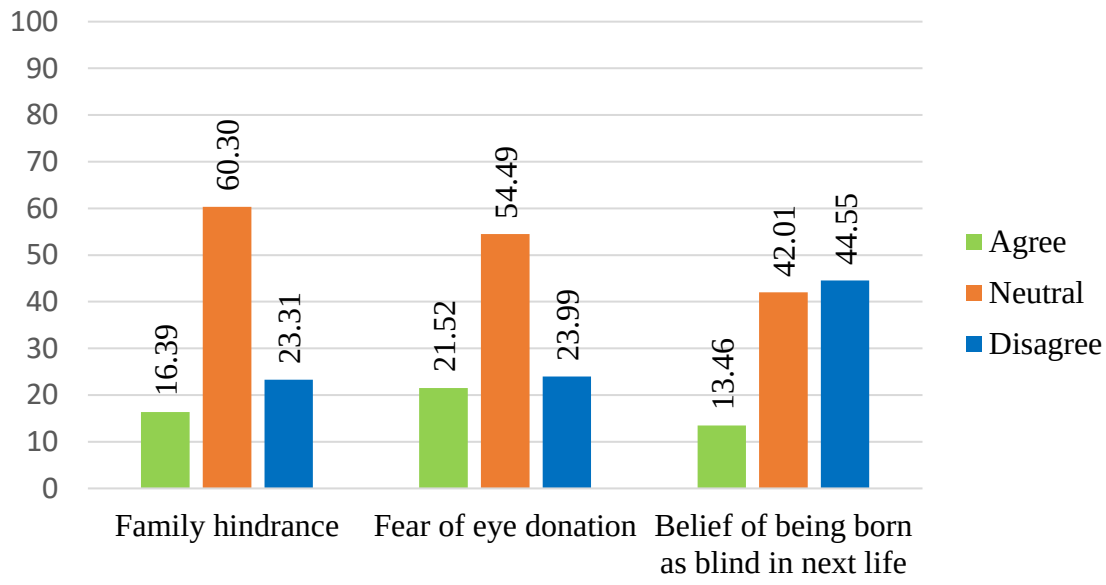
Table 21: Distribution of study participant according to the attitude towards eye donation

Attitude towards eye donation	Agree Number (%)	Neutral Number (%)	Disagree Number (%)	Total Number (%)
Pledging and donating one's eyes, can be a noble act	752 (73.87)	218 (21.41)	48 (4.72)	1018 (100)
Limitation for decision to pledge eyes				
Religious belief	106 (10.41)	541 (53.12)	371 (36.47)	1018 (100)
Disfigurement of face	105 (10.30)	543 (53.33)	370 (36.37)	1018 (100)
Family hindrance	167 (16.39)	614 (60.30)	237 (23.31)	1018 (100)
Fear of eye donation	219 (21.52)	555 (54.49)	244 (23.99)	1018 (100)
Belief of being born as blind in the next life, if you donate eyes	137 (13.46)	428 (42.01)	453 (44.53)	1018 (100)

Graph 10 (Table 21): Distribution of study participant according to the attitude towards eye donation



Graph 11 (Table 21): Distribution of study participant according to the attitude towards eye donation



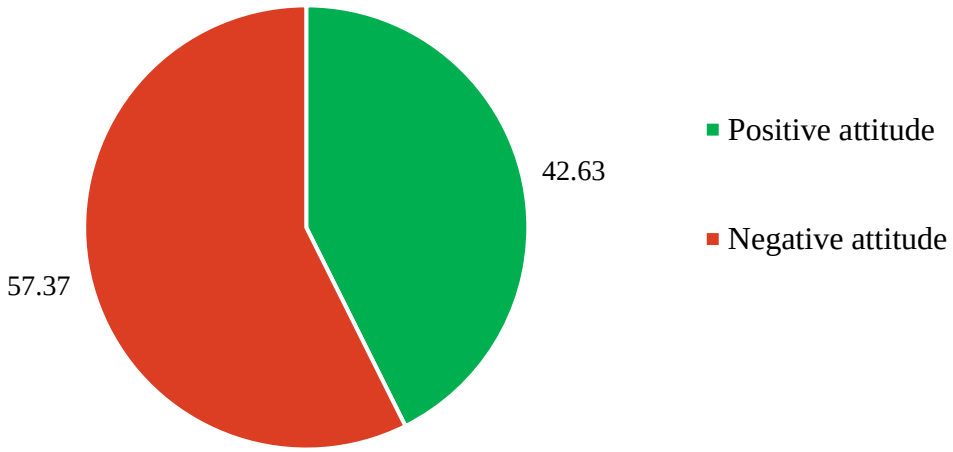
In the present study, out of 1018 students, 752 (73.87%) of the participants expressed a positive attitude towards the act of eye donation and agreed that pledging and donating one's eyes is a noble act of bringing vision to a fellow human deprived of sight.

Meanwhile, 218 (21.41%) of them were undecided upon this and maintained neutral attitude and 48 (4.72%) participant expressed a negative attitude and disagreed that eye donation and pledging were acts of nobility. When the attitude towards the factors that limits study subject's decision to pledge his/her eyes, various concerns were noted. Religion was a barrier among 106 (10.41%) of the participants while 105 (10.30%) were deterred by his/her belief that eye donation can lead to potential face disfigurement. Family hindrance was cited as a limitation by 167 (16.39%) of the participants, fear of eye donation by 219 (21.52%) and the belief that donating eyes could result in being born blind in the next life was a concern for 137 (13.46%) of the participants. A neutral attitude was expressed by a portion of participants who were undecided on factors limiting his/her decision to pledge eyes. Specifically, 541 (53.12%) of the participants were undecided on religious beliefs being a deterrent to his/her decision to pledge, 543 (53.33%) were undecided on belief of facial disfigurement to be a hindrance, 614 (60.30%) were undecided if family hindrance was the deterrent, 555 (54.49%) were undecided if fear of eye donation limits them and 428 (42.01%) participant were undecided if a notion of being born blind if they donated their eyes limits his/her decision to pledge eyes. However, a portion of students expressed a positive attitude by disagreeing with the aforementioned concerns. Among them, 371 (36.47%) disagreed that religious beliefs were a limiting factor, 370 (36.37%) did not consider facial disfigurement a deterrent, 237 (23.31%) did not feel family hindrance was an issue, 244 (23.99%) did not fear eye donation as a hindrance and 453 (44.53%) did not believe that donating eyes would affect their sight in their rebirth.

Table 22: Distribution of study participants according to the attitude score regarding eye donation

Attitude score	Number	Percentage
Positive (≥13.61)	434	42.63
Negative (<13.61)	584	57.37
Total	**1018**	**100**

Graph 12 (Table 22): Distribution of study participants according to the attitude score regarding eye donation



In the current study, among the 1018 study participants the mean attitude score was 13.61 with standard deviation of 2.17, median score was 13 and the Interquartile range was from 13 to 15. Out of 1018 students, 434 (42.63%) study participants had a positive attitude score while 584 (57.37%) had a negative attitude score regarding eye donation.

IV. Practice of the study participant regarding eye donation

Table 23: Distribution of the study participant according to the practice regarding eye donation

Practice regarding eye donation	Number	Percentage
Pledged your eyes		
Yes	20	1.97
No	998	98.03
Have eye donor card		
Yes	1	5.00
No	19	95.00
Total	**20**	**100**

In the present study involving 1018 students, with respect to practice regarding eye donation only 20 (1.97%) of them had pledged their eyes. Among the 20 students who had pledged their eyes, only 1 (5.00%) participant had an eye donor card.

Table 24: Distribution of study participant according to the practice regarding eye donation

Practice regarding eye donation	Number	Percentage
Involved in eye donation awareness activities/ programs		
Yes	112	11.00
No	906	89.00
Guided or assisted people to eye bank		
Yes	105	10.33
No	913	89.67
Motivated people to pledge his/ her eyes		
Yes	250	24.56
No	768	75.44
Total	**1018**	**100**

In the present study, the responses of study participant on practice regarding eye donation revealed various levels of engagement and involvement in eye donation activities. Among the 1018 study participant, 112 (11.00%) of the students had been involved in one or the other eye donation awareness activities or programs. Additionally, 105 (10.33%) of the participants had guided or assisted people to an eye bank whereas 913 (89.67%) of them had not got involved in assistance. When it came to motivating people to pledge his/her eyes, 250 (24.56%) of the participant had encouraged to do so.

Table 25: Distribution of study participant according to the practice regarding eye donation

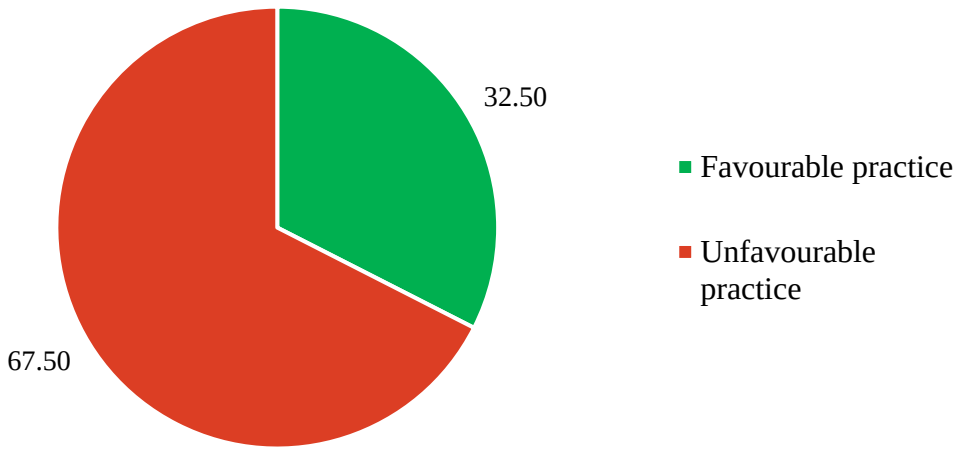
Practice regarding eye donation	Number	Percentage
Any of your family members have pledged his/her eyes		
Yes	48	4.71
No	970	95.29
Any of your family members donated his/her eyes after death		
Yes	11	1.08
No	1007	98.92
Any of your family members have been a recipient of donated eyes		
Yes	20	1.96
No	998	98.04
Total	**1018**	**100**

Out of 1018 study subjects, 48 (4.71%) of the participant had family members who had pledged his/her eyes, in contrast to 970 (95.29%) of them who did not have any family members who had made such a pledge. About 11 (1.08%) of the participant mentioned that their family members had donated his/her eyes after death and 20 (1.96%) of the participant reported that his/her family members had been recipients of donated eyes.

Table 26: Distribution of study participants according to the practice score regarding eye donation

Practice score	Number	Percentage
Favourable (≥0.58)	331	32.50
Unfavourable (<0.58)	687	67.50
Total	**1018**	**100**

Graph 13 (Table 26): Distribution of study participants according to the practice score regarding eye donation



In the present study the mean score for practice regarding eye donation was 0.58 with a standard deviation of 1.02. A total of 331 (32.50%) participants of the study group had a favourable practice score while 687 (67.50%) had unfavourable practice score regarding eye donation.

V. Association between Sociodemographic factors and Knowledge, Attitude and Practice regarding eye donation

Table 27: Association between knowledge score regarding eye donation and age of the study participant

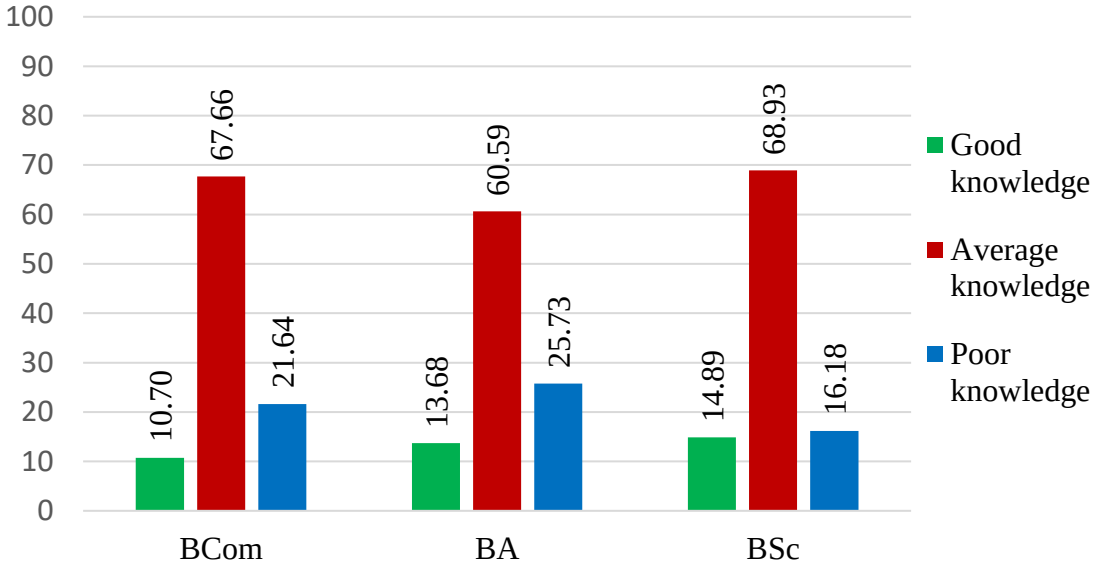
Age (in years)	Good knowledge Number (%)	Average Knowledge Number (%)	Poor knowledge Number (%)	Total Number (%)
18-20	83 (13.26)	404 (64.54)	139 (22.20)	626 (100)
21-24	48 (12.24)	267 (68.11)	77 (19.65)	392 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 1.41$ df = 2 p = 0.50				

In the present study, out of 626 students aged 18-20 years, 83 (13.26%) of the participants had a good knowledge score regarding eye donation, whereas 404 (64.54%) of them had an average knowledge score and 139 (22.20%) had a poor knowledge score. In comparison among the 392 students aged 21-24 years, 48 (12.24%) of students had a good knowledge score, 267 (68.11%) had an average knowledge score and 77 (19.65%) had a poor knowledge score. The association between the age of the study participants and their knowledge score regarding eye donation was not found to be statistically significant (p = 0.50).

Table 28: Association between knowledge score regarding eye donation and course of the study participant

Course of the study participant	Good knowledge Number (%)	Average Knowledge Number (%)	Poor knowledge Number (%)	Total Number (%)
B Com	43 (10.70)	272 (67.66)	87 (21.64)	402 (100)
B A	42 (13.68)	186 (60.59)	79 (25.73)	307 (100)
B Sc	46 (14.89)	213 (68.93)	50 (16.18)	309 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 11.22$ df = 4 p = 0.02				

Graph 14 (Table 28): Association between knowledge score regarding eye donation and course of the study participant

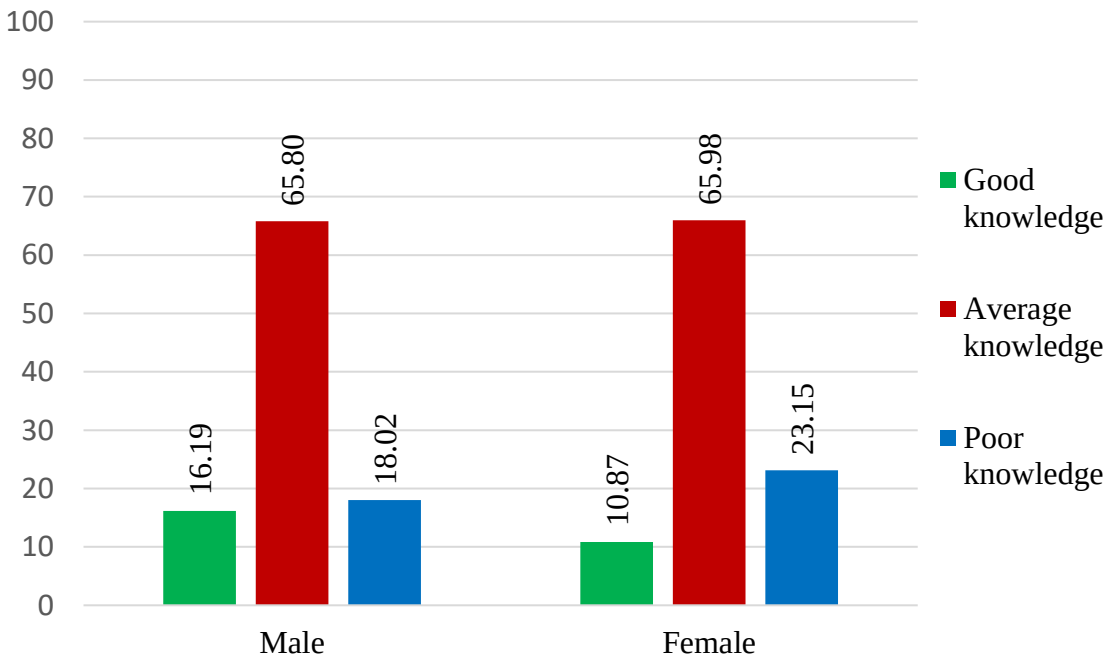


In the present study out of 402 students pursuing B Com degree course 43 (10.70%) of the participants had good knowledge score, whereas 272 (67.66%) of them had average knowledge score and 87 (21.64%) had poor knowledge score regarding eye donation. Among BA pursuing students, 42 (13.68%) had good knowledge score, 186 (60.59%) had average knowledge score and 79 (25.73%) had poor knowledge score. In comparison, 46 (14.89%) of BSc pursuing students had good knowledge score, 213 (68.93%) had average knowledge score and 50 (16.18%) had poor knowledge score. The students pursuing degree in science had better knowledge score compared to other streams and this association was found to be statistically significant ($p = 0.02$).

Table 29: Association between knowledge score regarding eye donation and sex of the study participant

Sex	Good knowledge Number (%)	Average Knowledge Number (%)	Poor knowledge Number (%)	Total Number (%)
Male	62 (16.18)	252 (65.80)	69 (18.02)	383 (100)
Female	69 (10.87)	419 (65.98)	147 (23.15)	635 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 8.23$ df = 2 p = 0.02				

Graph 15 (Table 29): Association between knowledge score regarding eye donation and sex of the study participant



In the present study, among male participants, 62 (16.18%) had good knowledge score, 252 (65.80%) had average knowledge score and 69 (18.02%) had poor knowledge score regarding eye donation. Among female participants, 69 (10.87%) had good knowledge score, 419 (65.98%) had average knowledge score and 147 (23.15%) had poor knowledge score. Male college students had better knowledge score compared to female students and this association was found to be statistically significant ($p = 0.02$).

Table 30: Association between knowledge score regarding eye donation and religion of the study participant

Religion	Good knowledge Number (%)	Average Knowledge Number (%)	Poor knowledge Number (%)	Total Number (%)
Hindus	109 (12.75)	558 (65.26)	188 (21.99)	855 (100)
Non-Hindus	22 (13.50)	113 (69.32)	28 (17.18)	163 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 1.90$ df = 2 p = 0.39				

In the present study out of 855 Hindu participants 109 (12.75%) had good knowledge score, 558 (65.26%) had average knowledge score and 188 (21.99%) had poor knowledge score regarding eye donation. Among the non-Hindu participants, 22 (13.50%) had good knowledge score, 113 (69.32%) had average knowledge score and 28 (17.18%) had poor knowledge score. Although non Hindu students had a better knowledge score but it was not found to be statistically significant (p = 0.39).

Table 31: Association between knowledge score regarding eye donation and type of family of the study participant

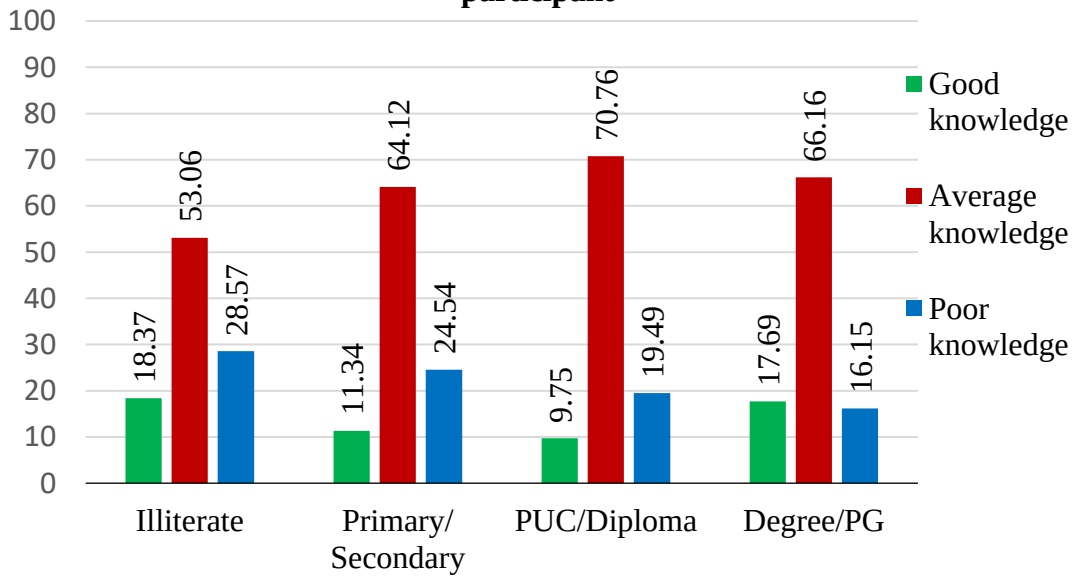
Type of family	Good knowledge Number (%)	Average Knowledge Number (%)	Poor knowledge Number (%)	Total Number (%)
Nuclear	78 (11.85)	443 (67.33)	137 (20.82)	658 (100)
Joint	53 (14.72)	228 (63.34)	79 (21.94)	360 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 2.19$ df = 2 p = 0.34				

In the present study, out of 658 students from nuclear families, 78 (11.85%) of the participants had a good knowledge score regarding eye donation, whereas 443 (67.33%) of them had an average knowledge score and 137 (20.82%) had a poor knowledge score. Among students from joint families, 53 (14.72%) had a good knowledge score, 228 (63.34%) had an average knowledge score and 79 (21.94%) had a poor knowledge score. Although the students residing in Joint family had better knowledge score but the association between the type of family of the study participants and their knowledge score regarding eye donation was not found to be statistically significant (p = 0.34).

Table 32: Association between knowledge score and literacy status of father of the study participant

Literacy status of Father	Good knowledge Number (%)	Average Knowledge Number (%)	Poor Knowledge Number (%)	Total Number (%)
Illiterate	9 (18.37)	26 (53.06)	14 (28.57)	49 (100)
Primary/ Secondary	49 (11.34)	277 (64.12)	106 (24.54)	432 (100)
PUC/Diploma	27 (9.75)	196 (70.76)	54 (19.49)	277 (100)
Degree/PG	46 (17.69)	172 (66.16)	42 (16.15)	260 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 18.18$ df = 6 p = 0.006				

Graph 16 (Table 32) : Association between knowledge score regarding eye donation and literacy status of father of the study participant

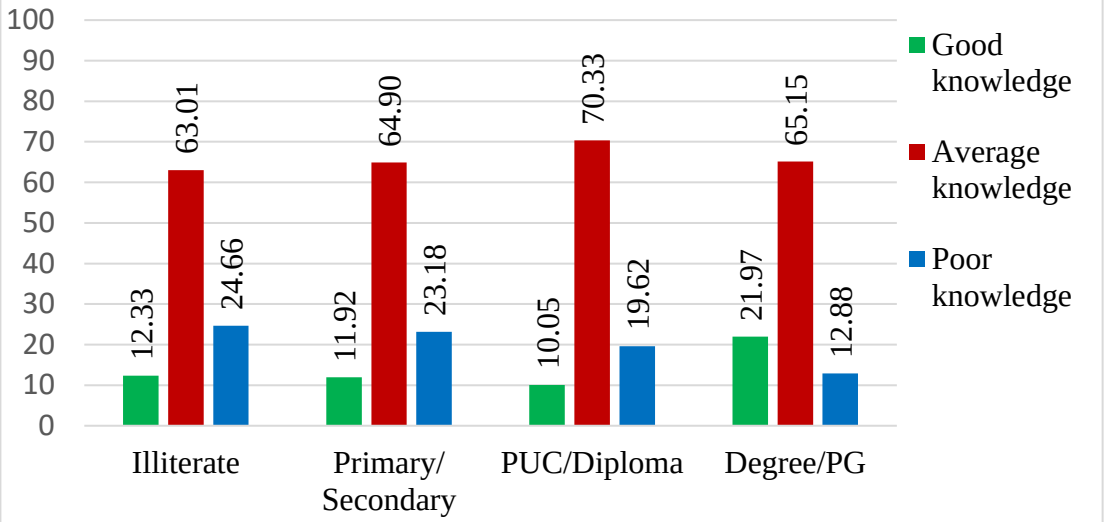


In our study, out 49 students whose fathers' were illiterate, 9 (18.37%) had a good knowledge score about eye donation, 26 (53.06%) had an average knowledge score and 14 (28.57%) had a poor knowledge score. Among those whose fathers' had a Primary/secondary education, 49 (11.34%) had a good knowledge score, 277 (64.12%) had an average knowledge score and 106 (24.54%) had a poor knowledge score. For students with fathers' educated up to PUC/Diploma, 27 (9.75%) had a good knowledge score, 196 (70.76%) had an average knowledge score and 54 (19.49%) had a poor knowledge score. Among students whose fathers' had a degree/ postgraduate education, 46 (17.69%) had a good knowledge score, 172 (66.16%) had an average knowledge score and 42 (16.15%) had a poor knowledge score. The literacy status of fathers of the study participants was directly related to the knowledge score regarding eye donation. The association was found to be statistically significant ($p = 0.006$).

Table 33: Association between knowledge score and literacy status of mother of the study participant

Literacy status of Mother	Good knowledge Number (%)	Average Knowledge Number (%)	Poor Knowledge Number (%)	Total Number (%)
Illiterate	9 (12.33)	46 (63.01)	18 (24.66)	73 (100)
Primary/ Secondary	72 (11.92)	392 (64.90)	140 (23.18)	604 (100)
PUC/Diploma	21 (10.05)	147 (70.33)	41 (19.62)	209 (100)
Degree/PG	29 (21.97)	86 (65.15)	17 (12.88)	132 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 17.13$ df = 6 p = 0.009				

Graph 17 (Table 33): Association between knowledge score regarding eye donation and literacy status of mother of the study participant



In our study, out 73 students whose mothers' were illiterate, 9 (12.33%) had a good knowledge score about eye donation, 46 (63.01%) had an average knowledge score and 18 (24.66%) had a poor knowledge score. Among those whose mothers' had a Primary/secondary education, 72 (11.92%) had a good knowledge score, 392 (64.90%) had an average knowledge score and 140 (23.18%) had a poor knowledge score. For students with mothers' educated up to PUC/Diploma, 21 (10.05%) had a good knowledge score, 147 (70.33%) had an average knowledge score and 41 (19.62%) had a poor knowledge score. Among students whose mothers' had a degree/ postgraduate education, 29 (21.97%) had a good knowledge score, 86 (65.15%) had an average knowledge score and 17 (12.88%) had a poor knowledge score. As the literacy status of mothers of the study participants increased, the knowledge score regarding eye donation also increased. The association was found to be statistically significant (p = 0.009).

Table 34: Association between knowledge score regarding eye donation and socioeconomic status of the study participant

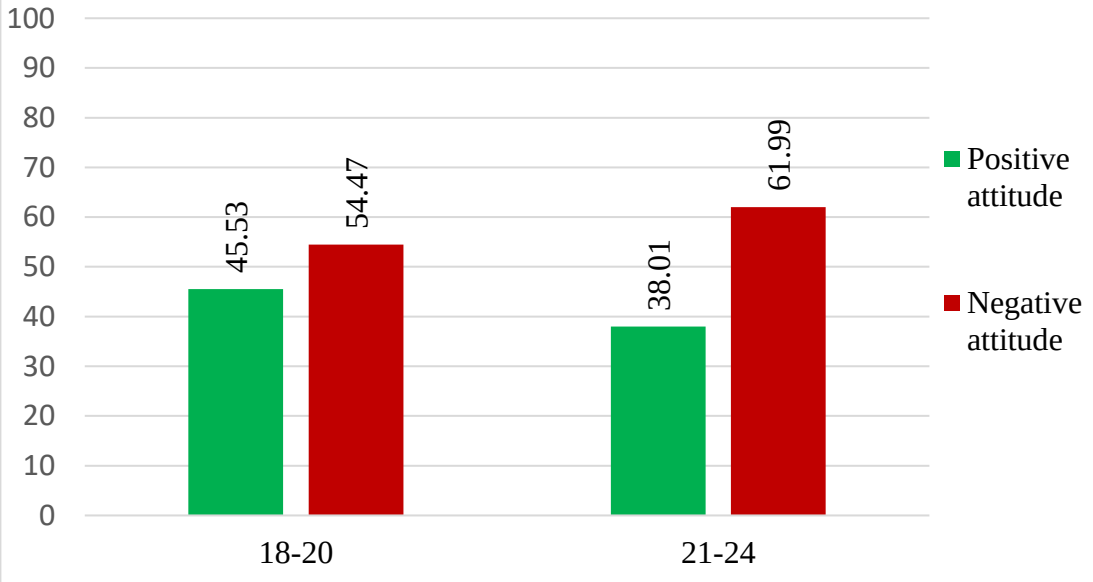
Socio economic class	Good knowledge Number (%)	Average Knowledge Number (%)	Poor Knowledge Number (%)	Total Number (%)
I	34 (18.99)	113 (63.13)	32 (17.88)	179 (100)
II	42 (12.21)	233 (67.73)	69 (20.06)	344 (100)
III	32 (11.64)	177 (64.36)	66 (24.00)	275 (100)
IV	18 (9.28)	135 (69.59)	41 (21.13)	194 (100)
V	5 (19.23)	13 (50.00)	8 (30.77)	26 (100)
Total	**131 (12.88)**	**671 (65.91)**	**216 (21.21)**	**1018 (100)**
$\chi^2 = 13.58$ df = 8 p = 0.09				

In the present study, 34 (18.99%) students from socioeconomic class I had good knowledge score, 42 (12.21%) from socioeconomic class II had good knowledge score, 32 (11.64%) from socioeconomic class III had good knowledge score, 18 (9.28%) from socioeconomic class IV had good knowledge score and 5 (19.23%) from socioeconomic class V had good knowledge score. Nearly 19.00% of the college students belonging to socioeconomic class I and V each had good knowledge score but the association between socioeconomic class and knowledge score regarding eye donation was not statistically significant (p = 0.09).

Table 35: Association between attitude score regarding eye donation and age of the study participant

Age (in years)	Positive attitude Number (%)	Negative attitude Number (%)	Total No (%)
18 -20	285 (45.53)	341 (54.47)	626 (100)
21-24	149 (38.01)	243 (61.99)	392 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
	χ^2 = 5.57 df = 1 p = 0.018		

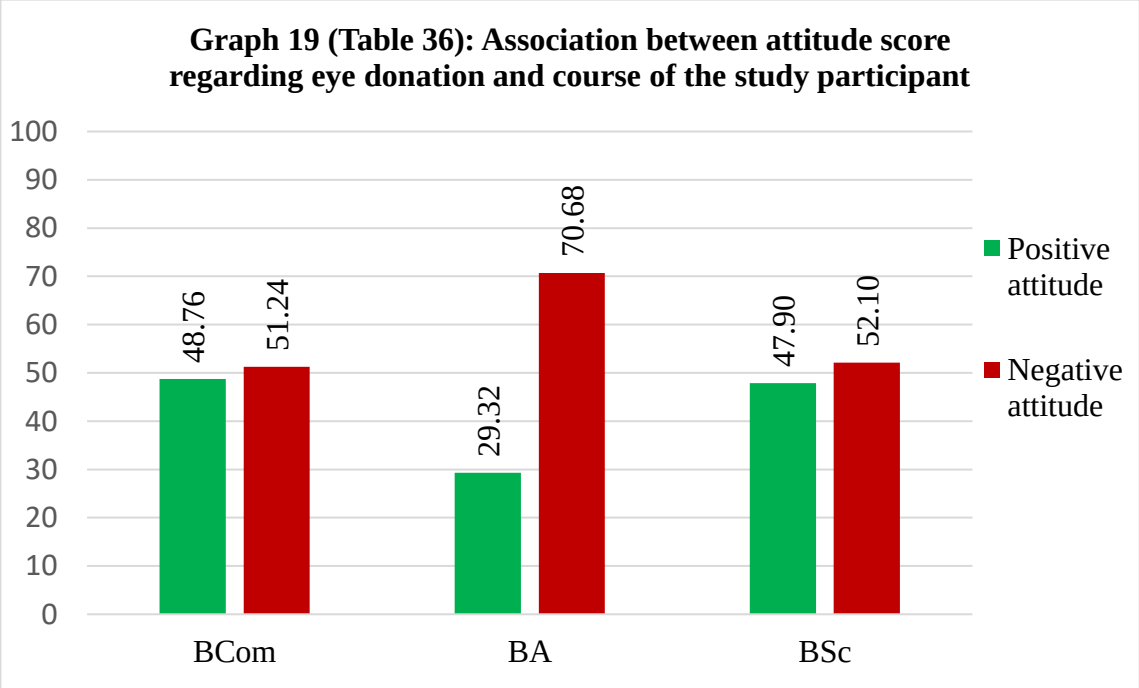
Graph 18 (Table 35): Association between attitude score regarding eye donation and age of the study participant



In the present study, 285 (45.53%) participants aged 18-20 years had a positive attitude score towards eye donation, while 341 (54.47%) had a negative attitude score. For participants aged 21-24 years, 149 (38.01%) had a positive attitude score and 243 (61.99%) had a negative attitude score. The attitude score was better among students aged 18-20 years and this association was found to be statistically significant (p = 0.018).

Table 36: Association between attitude score regarding eye donation and course of the study participant

Course of the study participant	Positive attitude Number (%)	Negative attitude Number (%)	Total No (%)
B Com	196 (48.76)	206 (51.24)	402 (100)
B A	90 (29.32)	217 (70.68)	307 (100)
B Sc	148 (47.90)	161 (52.10)	309 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
$\chi^2 = 31.92$ df = 2 p = 0.001			

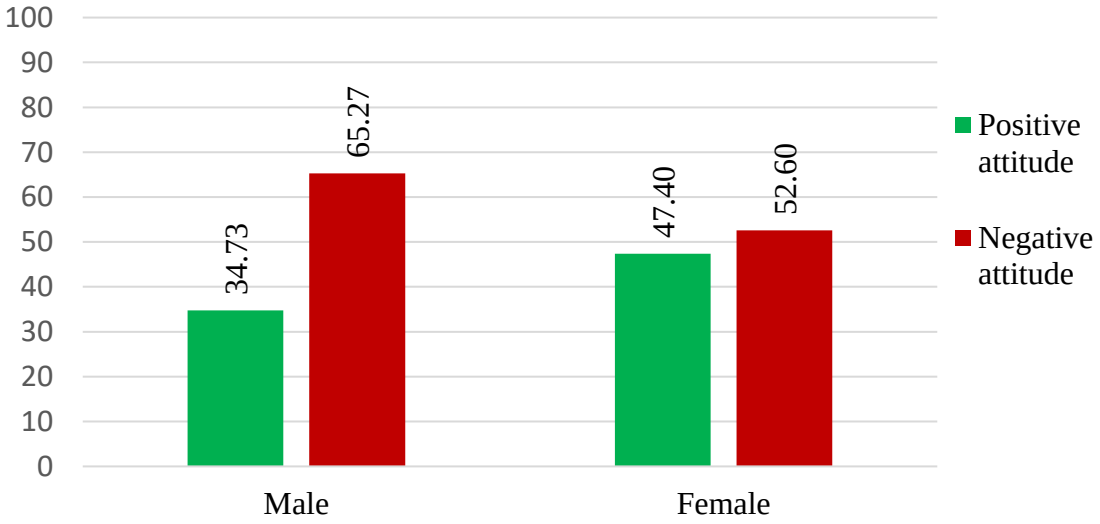


In the present study, among students pursuing B Com course, 196 (48.76%) had a positive attitude score towards eye donation similarly, BSc pursuing students 148 (47.90%) had positive attitude score compared to BA pursuing students who had the least (29.32%) positive attitude score. Commerce and Science students had a higher rate of positive attitude score towards eye donation when compared to Arts students and this association was found to be statistically significant (p = 0.001).

Table 37: Association between attitude score regarding eye donation and sex of the study participant

Sex	Positive attitude Number (%)	Negative attitude Number (%)	Total Number (%)
Male	133 (34.73)	250 (65.27)	383 (100)
Female	301 (47.40)	334 (52.60)	635 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
$\chi^2 = 15.66$ df = 1 p < 0.001			

Graph 20 (Table 37) : Association between attitude score regarding eye donation and sex of the study participant



In our study, out of 383 male students, 133 (34.73%) of them had positive attitude score towards eye donation, while 250 (65.27%) had negative attitude score. On the other hand, among female participants, 301 (47.40%) showed a positive attitude score and 334 (52.60%) had negative attitude score. The female college students had a higher positive attitude score when compared to male students and this association was statistically significant ($p < 0.001$).

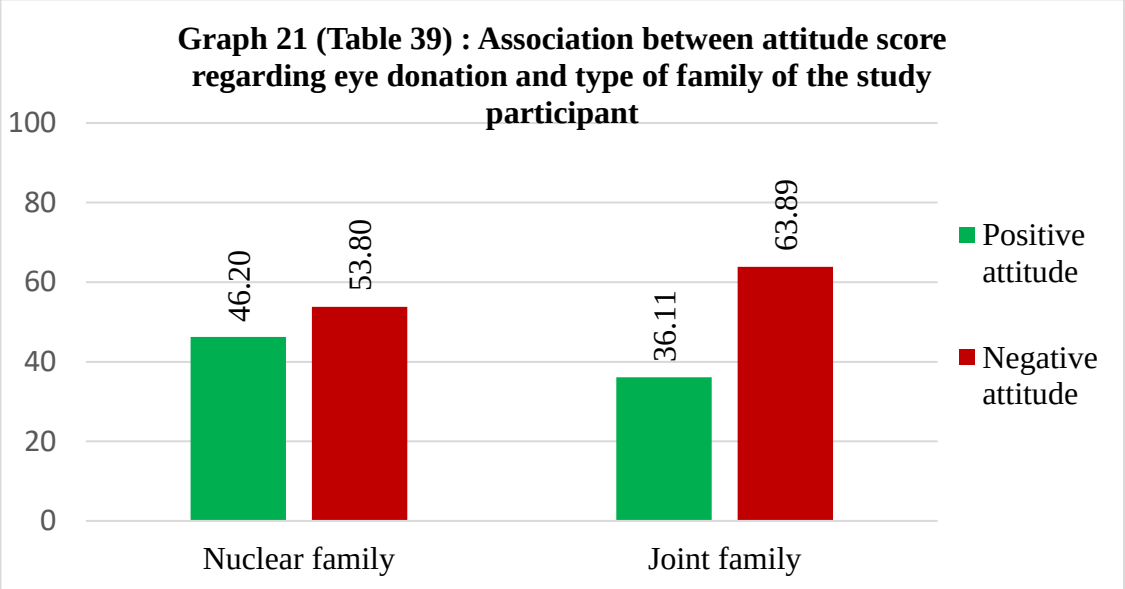
Table 38: Association between attitude score regarding eye donation and religion of the study participant

Religion	Positive attitude Number (%)	Negative attitude Number (%)	Total Number (%)
Hindus	363 (42.46)	492 (57.54)	855 (100)
Non-Hindus	71 (43.56)	92 (56.44)	163 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
$\chi^2 = 0.07$ df = 1 p = 0.79			

In our study, among Hindu participants, 363 (42.46%) had a positive attitude score towards eye donation and non-Hindu participants 71 (43.56%) showed a positive attitude score. Both the religions had almost similar rate of positive attitude score and this association was not found to be statistically significant (p = 0.79).

Table 39: Association between attitude score regarding eye donation and type of family of the study participant

Type of family	Positive attitude Number (%)	Negative attitude Number (%)	Total Number (%)
Nuclear	304 (46.20)	354 (53.80)	658 (100)
Joint	130 (36.11)	230 (63.89)	360 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
$\chi^2 = 9.69$ df = 1 p = 0.002			



In the present study, out of 658 students from nuclear families, 304 (46.20%) had a positive attitude score towards eye donation, while 354 (53.80%) had a negative attitude score. Among the 360 students from joint families, 130 (36.11%) had a positive attitude, whereas 230 (63.89%) had a negative attitude. The students belonging to nuclear family had a higher rate of positive attitude score compared to students belonging to joint family. The association between the type of family and the attitude score regarding eye donation was found to be statistically significant (p = 0.002)

Table 40: Association between attitude score regarding eye donation and literacy status of father of the study participant

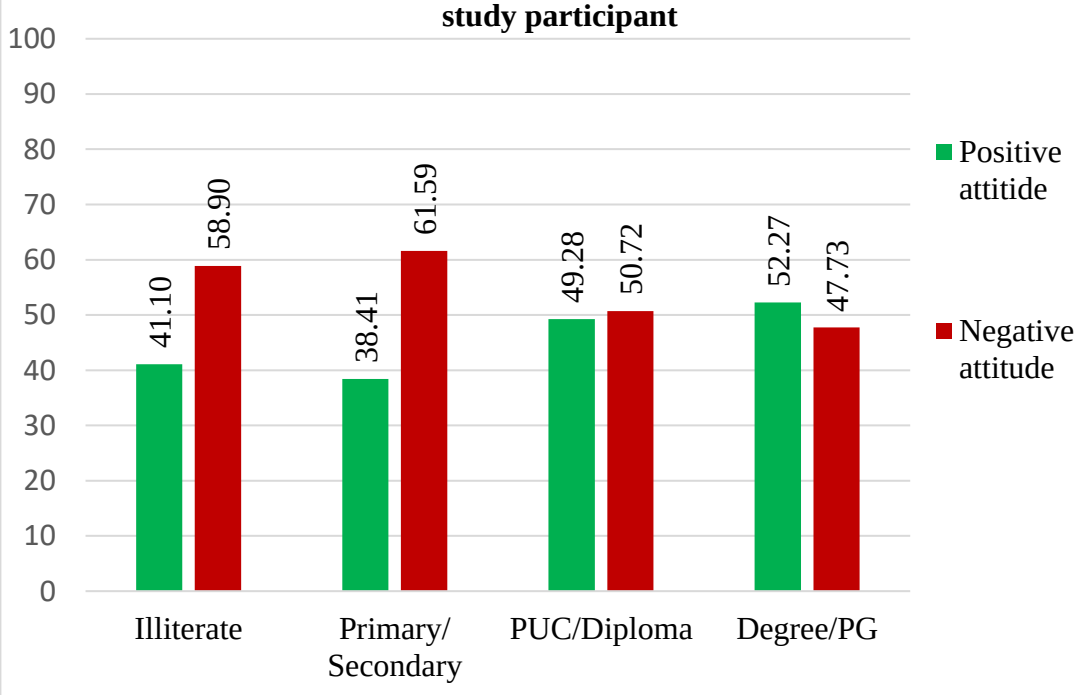
Literacy status of Father	Positive attitude Number (%)	Negative attitude Number (%)	Total Number (%)
Illiterate	22 (44.90)	27 (55.10)	49 (100)
Primary/Secondary	181 (41.90)	251 (58.10)	432 (100)
PUC/Diploma	123 (44.40)	154 (55.60)	277 (100)
Degree/PG	108 (41.54)	152 (58.46)	260 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
χ^2 =0.681 df = 3 p = 0.878			

In this study, among the 49 students whose fathers were illiterate 22 (44.90%) had a positive attitude score towards eye donation, while 27 (55.10%) had a negative attitude score. For students whose fathers had a Primary/Secondary education, 181 (41.90%) had a positive attitude score, whereas 251 (58.10%) had a negative attitude score. Among those whose fathers completed PUC/Diploma, 123 (44.40%) had a positive attitude score, while 154 (55.60%) had a negative attitude score. For students whose fathers had a degree/ postgraduate education, 108 (41.54%) had a positive attitude score and 152 (58.46%) had a negative attitude score. The association between the father's literacy status and the attitude score regarding eye donation among participants was not statistically significant (p = 0.878).

Table 41: Association between attitude score regarding eye donation and literacy status of mother of the study participant

Literacy status of Mother	Positive attitude Number (%)	Negative attitude Number (%)	Total Number (%)
Illiterate	30 (41.10)	43 (58.90)	73 (100)
Primary/Secondary	232 (38.41)	372 (61.59)	604 (100)
PUC/Diploma	103 (49.28)	106 (50.72)	209 (100)
Degree/PG	69 (52.27)	63 (47.73)	132 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
$\chi^2 = 13.27$ df = 3 p = 0.004			

Graph 22 (Table 41): Association between attitude score regarding eye donation and literacy status of mother of the study participant



In this study, among the 73 students whose mothers were illiterate, 30 (41.10%) had a positive attitude score towards eye donation, while 43 (58.90%) had a negative attitude score. For students whose mothers had a Primary/Secondary education, 232 (38.41%) had a positive attitude score, whereas 372 (61.59%) had a negative attitude score. Among those whose mothers had a PUC/Diploma education 103 (49.28%) had a positive attitude score and 106 (50.72%) had a negative attitude score. For students whose mothers had a Degree/ Postgraduate education, 69 (52.27%) had a positive attitude score and 63 (47.73%) had a negative attitude score. Higher rate of positive attitude score was found among the participants whose mothers had a higher literacy status and the association between the mother's literacy status and the attitude score regarding eye donation among participants was statistically significant ($p = 0.004$).

Table 42: Association between attitude score regarding eye donation and socio economic status of the study participant

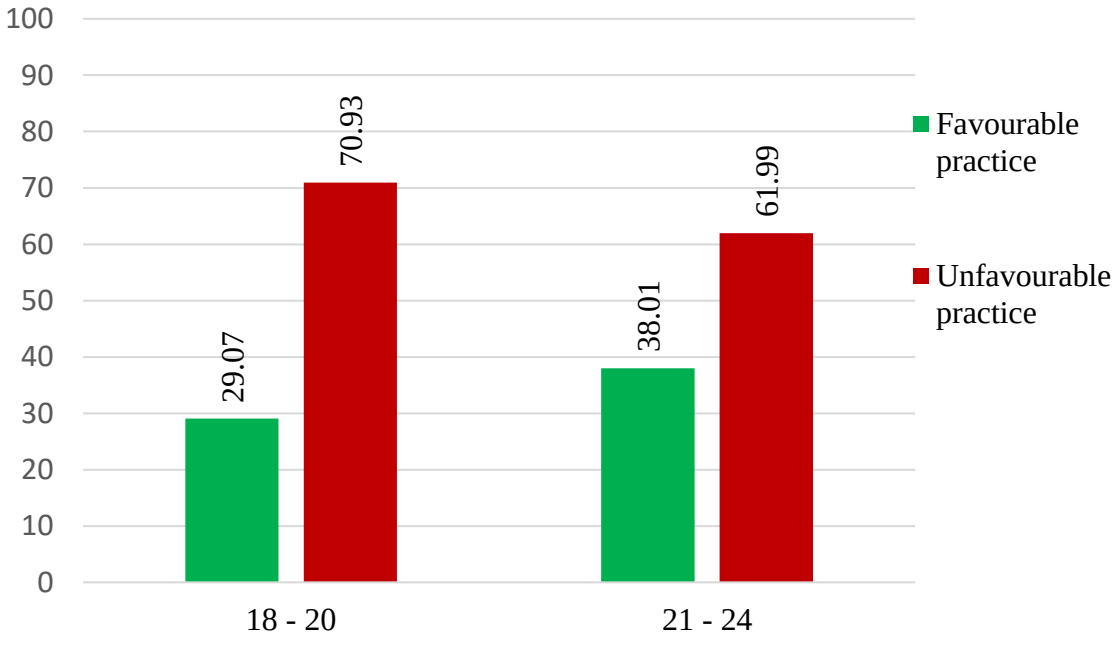
Socio economic class	Positive attitude Number (%)	Negative attitude Number (%)	Total Number (%)
I	79 (44.13)	100 (55.87)	179 (100)
II	152 (44.19)	192 (55.81)	344 (100)
III	109 (39.64)	166 (60.36)	275 (100)
IV	84 (43.30)	110 (56.70)	194 (100)
V	10 (38.46)	16 (61.54)	26 (100)
Total	**434 (42.63)**	**584 (57.37)**	**1018 (100)**
χ^2 =1.73 df = 4 p = 0.79			

In the present study, 79 (44.13%) students from socioeconomic class I had positive attitude score, 152 (44.19%) from socioeconomic class II had positive attitude score, 109 (39.64%) from socioeconomic class III had positive attitude score, 84 (43.30%) from socioeconomic class IV had positive attitude score and 10 (38.46%) from socioeconomic class V had positive attitude score. Nearly more than 43.00 % of the college students belonging to socioeconomic class I , II and IV had similar positive attitude score but the association between socioeconomic class and attitude score regarding eye donation was not statistically significant (p = 0.79).

Table 43: Association between practice score regarding eye donation and age of the study participant

Age (in years)	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
18-20	182 (29.07)	444 (70.93)	626 (100)
21-24	149 (38.01)	243 (61.99)	392 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
χ^2 **= 8.77** **df = 1** **p = 0.003**			

Graph 23 (Table 43) : Association between practice score regarding eye donation and age of the study participant

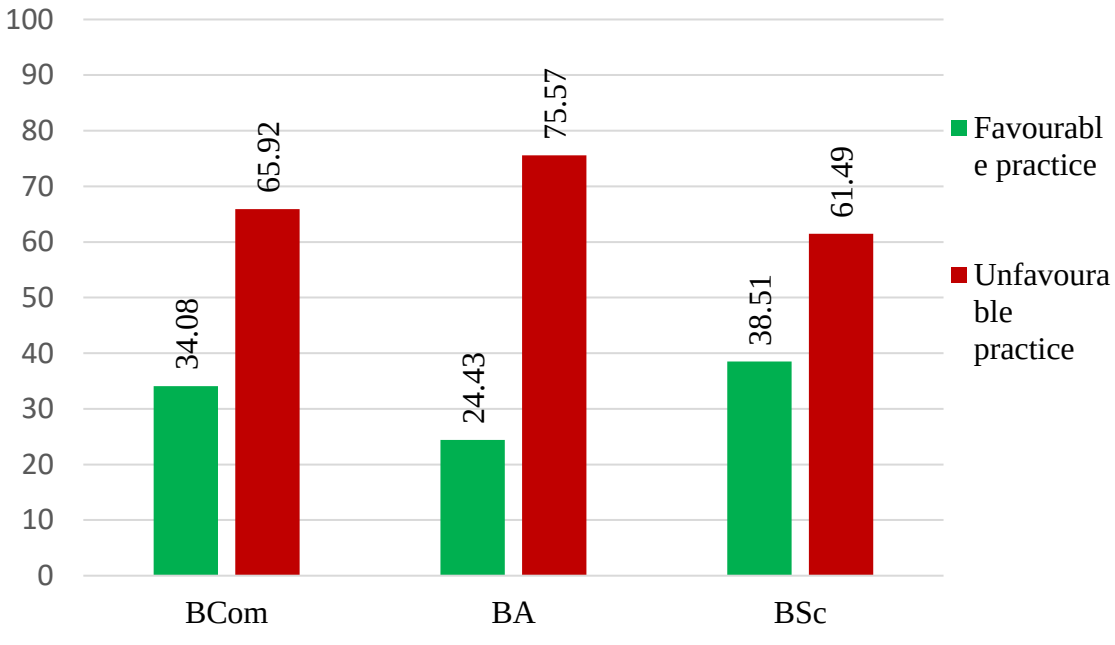


In our study, among participants aged 18-20 years 182 (29.07%) students had a favourable practice score toward eye donation, while 444 (70.93%) individuals had an unfavourable practice score. Among participants aged 21-24 years, 149 (38.01%) individuals had a favourable practice score and 243 (61.99%) individuals had an unfavourable practice score. The individuals in the age group of 21 – 24 years had better practice score compared to the younger students and this association between age and practice score regarding eye donation was found to be statistically significant ($p = 0.003$).

Table 44: Association between practice score regarding eye donation and course of the study participant

Course of the study participant	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
B Com	137 (34.08)	265 (65.92)	402 (100)
B A	75 (24.43)	232 (75.57)	307 (100)
B Sc	119 (38.51)	190 (61.49)	309 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
χ^2 = 14.65 df = 2 p = 0.002			

Graph 24 (Table 44) : Association between practice score regarding eye donation and course of the study participant



In our study, among 402 of B Com students, 137 (34.08%) had a favourable practice score towards eye donation, while 265 (65.92%) had an unfavourable practice score. For BA students, 75 (24.43%) had a favourable practice score and 232 (75.57%) had an unfavourable practice score. Similarly, among 309 BSc students, 119 (38.51%) had a favourable practice score, while 190 (61.49%) had an unfavourable practice score towards eye donation. Students pursuing science degree course had a higher rate of favourable practice score when compared to Commerce and Arts students. This association was found to be statistically significant ($p = 0.002$).

Table 45: Association between practice score regarding eye donation and sex of the study participant

Sex	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
Male	125 (32.64)	258 (67.36)	383 (100)
Female	206 (32.44)	429 (67.56)	635 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
$\chi^2 = 0.004$ df = 1 p = 0.948			

In our study, among male participants, 125 (32.64%) had a favourable practice score towards eye donation and 206 (32.44%) of female students showed a favourable practice score. There was no significant difference between the practice score towards eye donation and sex of the study participants (p = 0.948).

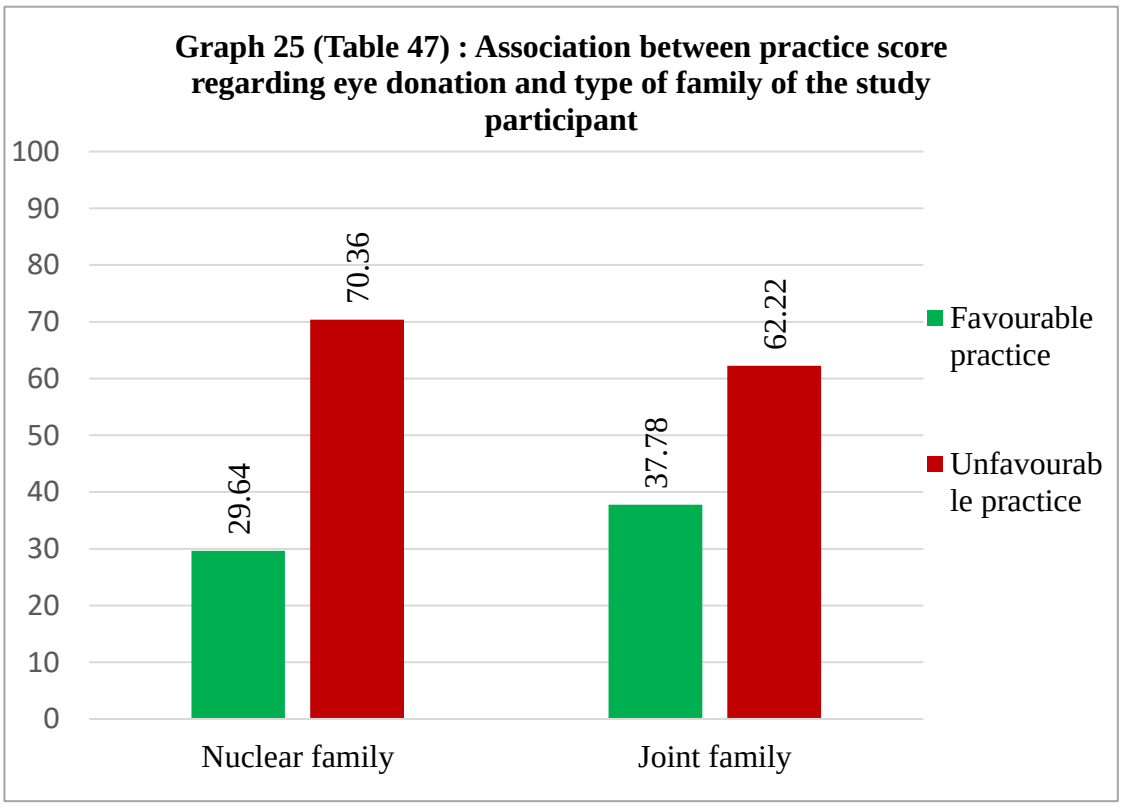
Table 46: Association between practice score regarding eye donation and religion of the study participant

Religion	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
Hindus	288 (33.68)	567 (66.32)	855 (100)
Non-Hindus	43 (26.38)	120 (73.62)	163 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
$\chi^2 = 3.33$ df = 1 p = 0.07			

In our study, among Hindu participants, 288 (33.68%) had a favourable practice score towards eye donation, while 567 (66.32%) had an unfavourable practice score. Conversely, among non-Hindu participants, 43 (26.38%) showed a favourable practice score and 120 (73.62%) had an unfavourable practice score. Our analysis did not indicate a significant association between religion of the study participants and practice score regarding eye donation ($p = 0.07$).

Table 47: Association between practice score regarding eye donation and type of family of the study participant

Type of family	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
Nuclear	195 (29.64)	463 (70.36)	658 (100)
Joint	136 (37.78)	224 (62.22)	360 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
χ^2 =7.03 df = 1 p = 0.008			



In our study, within the nuclear family group, 195 (29.64%) individuals had a favourable practice score toward eye donation, while 463 (70.36%) individuals had an unfavourable practice score. Conversely, among participants from joint families, 136 (37.78%) individuals had a favourable practice score, while 224 (62.22%) individuals had an unfavourable practice score. The individuals belonging to joint family had higher rate of favourable practice score. The analysis indicated a statistically significant association between the type of family and practice score regarding eye donation ($p = 0.008$).

Table 48: Association between practice score regarding eye donation and literacy status of father of the study participant

Literacy status of Father	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
Illiterate	13 (26.53)	36 (73.47)	49 (100)
Primary/Secondary	135 (31.25)	297 (68.75)	432 (100)
PUC/Diploma	85 (30.69)	192 (69.31)	277 (100)
Degree/PG	98 (37.69)	162 (62.31)	260 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
$\chi^2 = 4.71$ df = 3 p = 0.194			

In this study, out of 49 students whose fathers were illiterate 13 (26.53%) had a favourable practice score towards eye donation, while 36 (73.47%) had an unfavourable practice score. Among students whose fathers had a Primary/Secondary education 131 (31.25%) had a favourable practice score, whereas 297 (68.75%) had an unfavourable practice score. Among those whose fathers completed education up to PUC/Diploma, 85 (30.69%) had a favourable practice score, while 192 (69.31%) had an unfavourable practice score. For students whose fathers had a Degree/ Postgraduate education, 98 (37.69%) had a favourable practice score and 162 (62.31%) had an unfavourable practice score. As the literacy status of fathers of study participants increased, the practice score towards eye donation also increased but the association was not found to be statistically significant (p = 0.194).

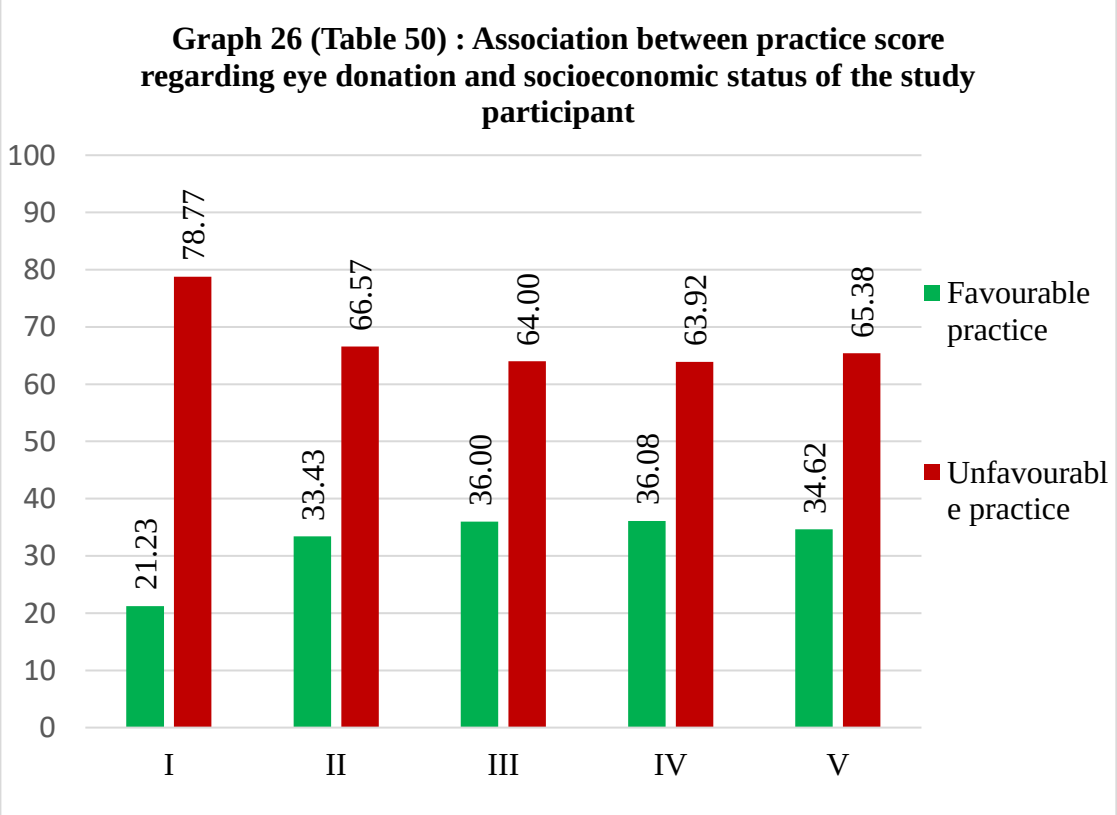
Table 49: Association between practice score regarding eye donation and literacy status of mother of the study participant

Literacy status of Mother	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
Illiterate	27 (36.99)	46 (63.01)	73 (100)
Primary/Secondary	181 (29.97)	423 (70.03)	604 (100)
PUC/Diploma	76 (36.36)	133 (63.64)	209 (100)
Degree/PG	47 (35.61)	85 (64.39)	132 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
χ^2 =4.44 df = 3 p = 0.218			

In this study, among the 73 students whose mothers were illiterate 27 (36.99%) had a favourable practice score towards eye donation, while 46 (63.01%) had an unfavourable practice score. Among students whose mothers had a Primary/ Secondary education, 181 (29.97%) had a favourable practice score, whereas 423 (70.03%) had an unfavourable practice score. Among those whose mothers completed PUC /Diploma 76 (36.36%) showed a favourable practice score, while 133 (63.64%) had an unfavourable practice score. For students whose mothers had a Degree/Postgraduate education, 47 (35.61%) had a favourable practice score and 85 (64.39%) had an unfavourable practice score. The association between the mother's literacy status and the practice score regarding eye donation among participants was not statistically significant (p = 0.218).

Table 50: Association between practice score regarding eye donation and socio economic status of the study participant

Socio economic class	Favourable practice Number (%)	Unfavourable practice Number (%)	Total Number (%)
I	38 (21.23)	141 (78.77)	179 (100)
II	115 (33.43)	229 (66.57)	344 (100)
III	99 (36.00)	176 (64.00)	275 (100)
IV	70 (36.08)	124 (63.92)	194 (100)
V	9 (34.62)	17 (65.38)	26 (100)
Total	**331 (32.50)**	**687 (67.50)**	**1018 (100)**
$\chi^2 = 13.22$ df = 4 p = 0.01			



In our study, among 179 participants from socioeconomic class I, 38 (21.23%) had a favourable practice score towards eye donation, while 141 (78.77%) showed an unfavourable practice score. Among those from socioeconomic class II, 115 (33.43%) students showed a favourable practice score and 229 (66.57%) had an unfavourable practice score. Similarly, participants from socioeconomic class III and IV 99 (36.00%) and 70 (36.08%) had favourable practice score respectively. Lastly, participants from socioeconomic class V, 9 (34.62%) had a favourable practice score, while 17 (65.38%) had an unfavourable practice score. Lower the socioeconomic class of the study participants, better was the practice score regarding eye donation and this was statistically significant ($p = 0.01$).

DISCUSSION

The present cross-sectional study was conducted among degree colleges of Belagavi city during the period of 1st October 2022 to 30th September 2023.

Table 1: Age distribution of study participants

In the present study, the participants aged 18-20 years were 61.49% and those aged 21-24 years were 38.51%. The mean ± standard deviation of age of the study subjects was 20.15 ± 1.04 years. A study conducted in Hubli had 57.10% students in the age group of 16-20 years and 42.90% in the age group of 21 – 25 years.[13] In Bangalore, a study was conducted, it was noted that 26.66% individuals were aged 18 years and below, 51.67% 19-20 years old and 21.67% were aged 21 years and above.[15] In a study done in Ramnagara, age of the students varied from 18-21 years with a mean age ± standard deviation of 19.35 ± 0.73 years.[17] In a study done in Mangalore, the participants aged 18-20 years were 33.33% and those aged 21-29 years were 66.67%.[18]

In the current study, 37.62% were male students and 62.38% were female students. In the study conducted in Ramnagara district Karnataka, 28.00% were male and 72.00% were female.[17] In a cross-sectional study in Mangalore, there were 36.67% male and 63.33% female students.[18] In the study carried out in Kathmandu, 62.59% were male and 37.41% were female.[22] Studies conducted in Karnataka had similar participants in relation to sex distribution whereas male study participants were more in the Kathmandu study.

Table 2 and 3: Distribution of study participants according to the pursued degree course and year of study

In the present study, there were 39.49% B. Com, 30.16% BA and 30.35% B.Sc. degree-pursuing students. In a study in Ramnagara district there were 72.00% B. Com, 23.00% BCA and 4.50% BBA students.[17] A study in Mangalore had 73.33% Allied health science, 20.00% DMLT and 6.70% DOT pursuing students.[18] A study conducted in Kathmandu had 61.00% BBA and 39.00% MBA students.

In the present study, 33.10% were first-year students, 35.76% were second-year and 31.14% were in the third year.[31] A study conducted in Goa had 22.40% first year, 37.80% second year, 42.90% third year and 41.70% fourth year students respectively.[21] In a study in Kathmandu, 22.22%, 25.55% and 25.92% of participants were from 1st, 2nd, and 3rd year respectively.[32] A Malaysian study was conducted among 100.00% first-year students.[33]

Table 4: Distribution of study participants according to religion

In the current study, out of 1018 study participants, there were 83.99% Hindus, 8.74% Muslim, 6.58% Christian and 0.69% Jain. Nearly 35.36% of the study participants were residing in a joint family and 64.64% in a nuclear family. In a Bangalore study, there were 45.00% Hindus, 30.00% Christian, 18.33% Muslim and 6.67% belonged to other religion. About 45.00% were from joint families and 48.33% from nuclear families.[15] As per National Family Health Survey (NFHS) 5 India, 81.90% are Hindu by religion, 12.40% Muslim, 2.80% Christian, 0.30% Jain and 2.60% belong to other religion. According to NFHS 5 data India, 58.20% stay in nuclear families whereas 41.80% reside in non-nuclear families. This slight difference

in data in the study can be explained due to regional variation in sociodemographic factors.

Table 5 and 6: Distribution of study participants according to literacy status of father and mother

In the present study, regarding the literacy status of the fathers of study participants, the majority 95.19% were literate. Among them 42.44% were educated till primary/secondary, 21.42% PUC, 5.80% diploma holder, 19.73% degree holder and 5.80% postgraduate. Regarding the literacy status of the mothers of study participants, 92.82% were literates Among them 59.32% were educated till primary/secondary, 18.57% PUC, 1.96% diploma holder, 10.81% degree holder and 2.16% postgraduate. In a Bangalore study, regarding the education status of parents, all were literates (100%). Among fathers, there were 70% who had studied till primary/secondary, 23.33% graduate and 6.67% postgraduate. Among mothers 78.33% were educated till primary/secondary, 15.00% graduate and 6.67% postgraduate.[15] In a study conducted in Chandigarh, 98.61% and 97.27% of fathers and mothers of study participants respectively were literates. Among fathers, there were 40.00% graduates and 31.00% postgraduates. Among mothers there were 35.00% graduates and 34.00% postgraduates.[29] In our study, the literacy status of the parents of study participants was lesser compared to Chandigarh and Bangalore studies which may be due to the difference in standards and living conditions of the study area.

Table 7 and 8: Distribution of study participants according to occupation of father and mother

In the present study regarding the occupation of the fathers of study participants, there were 27.90% self-employed, 17.09% in the private sector, 19.35% government employee, 10.02% laborer, 25.15% farmer and 0.49% unemployed. In relation to the occupation of the mothers of study participants, 85.66% were homemaker and 14.34% working mothers. Out of them, 3.34% were self-employed, 2.06% in the private sector, 4.42% government employee, 1.47% laborer and 3.05% farmer. A Bangalore study reported that among fathers 36.67% were in business, 28.33% in government jobs, 16.67% self-employed, 11.67% in private job and 6.67% were unemployed.[15] Among mothers 30.00% were homemaker, 25.00% in government job, 20.00% in private, 13.33% business and 11.67% were self-employed. In a study conducted in Chandigarh city, 74.00% of fathers were in non-government jobs and 26.00% in government jobs. With respect to mothers' occupation, 89.00% and 11.00% were in non-government and government jobs respectively.[29] When comparing our study to the Chandigarh study, the occupation status of the parents of study participants was slightly different which could be because the study areas differed in terms of employment prospects.

Table 9: Distribution of study participants according to socioeconomic status

In the present study out of 1018 students, according to Modified B. G. Prasad's classification, 17.57% belonged to socio-economic class I, 33.81% belonged to class II, 27.00% in class III, 19.06% class IV and 2.56% class V, reflecting a better socioeconomic profile compared to a study conducted in Andhra that reported monthly per capita income up to Rs.200 in 13.31% of the participants, Rs.201 to

Rs.500 in 54.13%, Rs.501 to Rs.2000 in 30.96% and more than Rs.2000 in 1.60% participants.[23] A study in Ethiopia had 25.00% of individuals with monthly family income of Rs1000, 22.30% between Rs.1000 to Rs.2000, 14.50% between Rs.2000 to Rs.3000 and 38.20% above Rs.3000.[35]

Table 10: Distribution of study participants according to knowledge regarding eye donation

In our study, a majority 98.23% of the study participants had heard about eye donation. Of them, the major sources of information were Television 28.78%, Internet 19.56%, Newspaper 18.52%, Medical Personnel 8.06%, Teaching Institute 7.99%, Friends 7.21%, Family members 6.24%, Relatives 2.34% and Radio 1.30%. Among the 98.23% study subjects who had heard about eye donation, the majority 77.50% of them had one source of information, 8.80% two sources, 5.80% with three sources and 7.90% participants with four or more sources of information regarding eye donation. In a study conducted in Bengaluru among life science students, 100% of them had heard about eye donation. The major sources of information on eye donation were television 40.0%, internet 10.5%, newspapers 15.0%, doctors 7.5% and magazines 7.5%.[16] In a study in Goa, 86% of the participants had known about eye donation and television was the main source of knowledge for 41% of participants, followed by medical professionals from whom 39% students gained awareness. Friends and family were the sources for 13% and 7% of participants and the rest were other sources such as radio, newspapers and cinemas.[20] In a study among management students in Kathmandu regarding the source of information, 51.7% received information about eye donation from the internet and 22.4% learned from friends and relatives.[31] It is found that in our study,

as well as the studies from Bengaluru and Goa, television is the major source of information, while in the Nepal study, the internet was the major source.

Table 11: Distribution of study participants according to knowledge regarding eye donation

In our study regarding knowledge on which part of the eye is transplanted during eye donation, 21.97% had correct knowledge that the cornea is used for transplantation, 22.15% of the students thought that the entire eyeball is used and 11.31% thought only the lens is used for transplantation during eye donation and 44.57% of them had replied that they did not know the answer. These findings indicate a considerable portion of the population has misconceptions or a lack of knowledge, which is evident when compared to other regional studies. A study in Hubli showed a slightly higher awareness with 23% correctly identifying the cornea,[13] while the Ramnagara study reported a lower awareness level with only 17% knowing that cornea is the transplanted part.[17] In contrast., a study conducted in Goa among B.OT students demonstrated an exceptionally high knowledge level, with 93.1% aware of corneal transplantation, attributable to their specialized education and training.[21] In the present study, when asked if a living person can donate his/her eyes, 30.06% of the participant knew correctly that it cannot be done. In a study done in Gujarat, 79.8% of students replied that eye donation occurs after death and 31.5% knew that eyes cannot be donated while a person is alive, indicating a relatively high level of awareness compared to other regions.[25] The Delhi study showed a very high awareness, with 99.4% knowing that eyes can be donated after death that can be attributed to their educational exposure in medical curriculum.[30]

Table 12: Distribution of study participants according to knowledge regarding eye donation

In the present study, 44.25% of the study participant knew the ideal time to collect donated eyes was 1-6 hours after death. In comparison, the Hubli Dharwad study found that 61% knew that eyes should be donated within 6 hours.[13] In the Bengaluru study carried out in nursing students, 38.2% were knowledgeable about the ideal time frame for donation[14] and in another study in Bengaluru, 71% were aware that eye donation has to be done within 6 hours after death.[15] Similarly, 70% of life science students in another study done in Bengaluru knew the ideal time frame[16] and the Ramnagara study also reported 71% awareness.[17] The Mangalore study showed that 54% were well aware of the optimal time for retrieval of eyes after death.[18] In Kolkata, 32.1% knew the optimal timeframe for donation is within 6 hours after death.[24] Regions like Hubli Dharwad, Bengaluru and Goa, where specific groups such as B.OT students and life science students showed high levels of awareness, likely benefit from targeted education programs and curricula that emphasize the importance of timely eye donation. When asked if eye donation can cure all types of blindness, in the present study, 32.01% of the individuals correctly said it cannot be done. In a study in Mangalore, 44% participants were aware that eye donation can't cure all types of blindness.

Table 13 and 14: Distribution of study participants according to knowledge regarding eye donation

In the present study, with respect to knowledge whether people with certain special conditions can donate eyes, 13.38% rightly said people with diabetes can donate eyes, 23.71% knew hypertensives can donate eyes,20.41% rightly said people with

spectacles/ contact lens can donate eyes. Nearly 17.21% and 12.87% knew that people with a previous history of cataract surgery and people with history of trauma can donate eyes respectively. In a study in Ramnagara, 8% knew that people with diabetes or hypertension can donate eyes.[17] Mangalore study noted that 48% knew people with spectacles can donate eyes.[18] Katmandu study showed 27.5%, 31.9%, 38.2% knew Diabetics, Hypertensives and people with spectacles can donate eyes respectively.[31]

Table 15: Distribution of study participants according to knowledge regarding eye donation

In the current study, 13.67% of the study participant were aware of the presence of an eye bank in their surroundings. A study in Mangalore noted 63% were aware of eye bank[18] whereas 98% of participants didn't know of any eye bank in a study conducted in Goa.[20] In a Gujarat study 34.6% knew the appropriate place for eye donation.[25] A study done in Delhi observed that 27.2% individuals knew the contact place for donation.[30] In a study in Kathmandu, 86.3% recognized Nepal Eye Donation Society as an accessible organization for eye donation.[31] In the present study, regarding the preservation of donated eyes in eye banks, 58.02% of the study participant knew correctly that eyes can be preserved in eye banks. In a Malaya study, 47.25% individuals knew that the donor eye can be stored before transplantation.

Table 16: Distribution of study participants according to knowledge regarding age limit for eye donation

In the current study, around 50% of the study participant correctly knew that there

was no age limit for eye donation. In a study in Hubli 69% noted that there was no age limit for eye donation.[13] A study conducted in Bengaluru showed 85% individuals knew that there is no age limit for donation of eyes,[16] whereas in Ramnagara study 68% responded that anyone can donate eyes irrespective of age.[17] In a Mangalore study, 33.33% were aware that age does not restrict eye donation.[18] In Kathmandu study 90% were aware that eyes could be donated at any age above one year.[31] The findings indicate significant variability in awareness about the age limit for eye donation across different regions, with the highest awareness in Kathmandu (90%) and the lowest in Mangalore (33.33%). This may be due to the fact that regional differences, education and varying age of study participants may impact knowledge levels regarding eye donation.

Table 17: Distribution of study participants according to knowledge regarding eye donation

In the present study, 21.09% of the participant responded correctly that removal of eyes for transplantation after death can take place at either home or hospital, the findings in our study is similar to the Hubli study where 17.6% knew eyes can be removed in home/hospital.[13] Whereas in Ramanagara study 42% rightly told that eyes can be removed in either of the places.[17] The differences in awareness may be due to the effectiveness of local educational programs, cultural attitudes toward eye donation and access to information. In our study regarding the consent of family members for eye donation after death if the deceased had not pledged his/her eyes, 40.07% of the participant correctly knew that family members consent is required. In a study in Punjab 18.24% knew that authorization by way of consent is required from family members for an individual who has not pledged his/her eyes

when alive.[28] In Kathmandu study, 76.10% respondents had awareness regarding family members consent.[31]

Table 18: Distribution of study participants according to knowledge regarding eye donation

In our study with respect to knowledge regarding influence of communicable diseases on eye donation, percentage of correct responses, that people with following communicable diseases cannot donate eyes; HIV/AIDS 12.18%, Hepatitis B 27.08%, Hepatitis C 26.01%, Rabies 22.89%, Tuberculosis 26.20% and Dengue 29.06%. Hubli study noted 72% knew that a person with communicable disease cannot donate his/her eyes.[13] In a study done in Kathmandu 47.32% and 39.51% of participants knew that eyes cannot be donated by individuals infected with HIV & Hepatitis B respectively.[31]

Table 19: Distribution of study participants according to knowledge regarding eye donation

In the present study 39.57% of the participant knew that the Government of India has a centralized toll-free number for eye donation. Whereas in a study in Chandigarh 5.06% recognized presence of toll-free number to be contacted for eye donation.[29] In our study 46.17% study participant knew correctly that two people will be benefitted from eye donation by single donor. Our findings were similar to a study in Mangalore where 52.70% knew that two unsighted persons will be benefitted by donation of eyes by a donor.[18] In response to whether the recipients of the eyes can be informed about the donor, 28.96% of the participants correctly knew that they

cannot be informed. Our findings are consistent with a study in Punjab 27.91% were aware of the rule of confidentiality and anonymity by which a recipient will never know who had been the donor for him/her.[28] Whereas in a study in Mangalore 54% were aware that the names and details of donors should be unknown to recipient.[18]

Table 20: Distribution of study participants according to Knowledge score regarding eye donation

In the present study 12.88% participants had a good knowledge score, 65.91% had an average knowledge score and 21.21% had a poor knowledge score regarding eye donation. In a study in Mangalore, 7% of the participants had very good knowledge score, 48% had good knowledge score, 44% had average knowledge score and 1% poor knowledge score.[19] In a study conducted in Punjab, the level of knowledge noted was Good in 3.47%, satisfactory in 17.56% and poor in 78.97% of study subjects.[28] In a study in Rajasthan, it was noted that 53.20% had good knowledge and 46.80% had average knowledge score. Among PG college students 26.9% had good and 73.1% had average knowledge score, Engineering college 31.1% had good and 68.9% had average score, Horticulture 40% had good and 60% had average score, 46% had good and 54% had average score in nursing college students and in medical college 84% had good and 16% had average knowledge score respectively.[27] In Kathmandu study 3.9% of the respondents had good knowledge, 61.5% had moderate knowledge and 34.6% had poor knowledge.[31] The significantly higher knowledge scores among medical and nursing students in Rajasthan suggest that specialized education in these fields greatly enhances awareness and knowledge of eye donation.

Table 21: Distribution of study participant according to the attitude towards eye donation

In the present study, 73.87% of the participants agreed that pledging and donating one's eyes is a noble act of bringing vision to a fellow human deprived of sight. In Odisha study 81.8% of medical students and 60% of nursing students agreed eye donation is a noble act.[26] In Kathmandu study 93.2% respondents agreed that eye donation is a noble work.[31] In the present study with respect to the attitude towards the factors that limits study subject's decision to pledge his/her eyes, religion was a barrier among 10.41% participant, belief that eye donation can lead to potential face disfigurement in 10.30%, family hindrance in 16.39%, fear of eye donation in 21.52% and the belief that donating eyes could result in being born blind in the next life in 13.46% of the participants. In a study in Hubli 22% were not willing to donate eyes, the reason being lack of interest among 60% participants while weak eyesight, religious beliefs, fear of the process and social stigma were reasons behind 40% of them.[13] In a study in Bengaluru among nursing students, barriers to eye donation included concerns about the separation of eyes from the body in 67.9%, lack of awareness in 42.8%, objections from family members in 28.5% and health issues in 10.7%.[14] In a study conducted in Ramanagara 5% were not willing to donate eyes and disfigurement of face was felt as the prime reason.[17] In a Manglore study 51% participants were unwilling to donate eyes with familial opposition cited as a major reason for hesitation.[18] In the Goa study 14% expressed lack of awareness as the reason, 10% participants said that family members would object and 9% expressed they felt unease of the fact that eyes would be removed from body.[20] In the Kolkata study 78.2% students said that religious belief was an important deterrent in eye donation.[24] A study conducted in Delhi cited lack of awareness in 32.7%

individual, objection by family members or disliking to separate the eye from the body among 12.8% participants.[30]

Table 22: Distribution of study participant according to the attitude score towards eye donation

In the current study, 42.63% study participants had a positive attitude score while 57.37% of them had a negative attitude score regarding eye donation. In the study in Mangalore, 36% of the participants had highly positive attitude score, 72% had positive attitude score and 2% had negative attitude score.[19] In a study in Punjab 21.80% had a positive attitude, 43.26% had neutral attitude and 34.94% had a negative attitude.[28] In a Rajasthan study 60.20% had good attitude and 39.80% had average attitude overall. Of which among PG college students 34.30% had good and 65.70% had average attitude score, Engineering college students 48.60% had good and 51.40% had average attitude score, Horticultures students 60.00% had good and 40.00% had average attitude score, Nursing students 74.00% had good and 26.00% had average attitude, Medical college students had highest rate of good attitude score among 78.40% and 20.60% had average attitude respectively.[27] In Ethiopia study 44.9% had a favourable attitude and 55.1% had an unfavourable attitude.[35] These findings highlight that specialized groups, particularly those in the medical and nursing fields, tend to have more positive attitude towards eye donation, likely due to their education and greater exposure to the medical implications and benefits of eye donation. Comparing these studies, the current study's relatively low percentage of positive attitude suggests a need for targeted educational initiatives to improve perception and attitude towards eye donation.

Table 23, 24 and 25: Distribution of study participant according to practice towards eye donation

In the present study, 1.97% of the participants had pledged their eyes of whom only one had donor card. Only 11.00% of students had been involved in eye donation awareness activities. Around 10.33% individuals had guided people to an eye bank and 24.56% had motivated people to pledge his/her eyes. Only 4.71% of the participant had family members who had pledged his/her eyes, 1.08% had family members who donated his/her eyes and 1.96% of the participant's family members had been recipients of donated eyes. In the Punjab study 17.30% of the respondents had motivated their family members, relatives, friends, neighbours and teachers for eye donation. Around 16.3% and 30.7% of the participant had involved in active discussion regarding eye donation with their family members and friends respectively.[28] In a cross sectional study in Gujarat, only 0.3% of the respondents had pledged for eye donation which is even less that that found in our study.[25]

Table 26: Distribution of study participant according to the practice score towards eye donation

In the present study, a total of 32.50% participants of the study group had a favourable practice score while 67.50% had an unfavourable practice score regarding eye donation. In a study in Punjab 2.63% of participants had a high level of practice, 8.23% had moderate level of practice and 89.14% had a low level of practice regarding eye donation.[28] Both studies indicate that favourable practices related to eye donation are generally low, though the extent varies. This suggests that despite some awareness and positive attitude, a significant proportion of the study group may not be actively engaging in practices that support eye donation.

Table 27 to 34: Association between knowledge score regarding eye donation and sociodemographic profile of the study participants

In the present study, a better knowledge score was seen among students aged 18-20 years, students pursuing a science degree ($\chi 2 = 11.22$, $p = 0.02$), male students ($\chi 2 = 8.23$, $p = 0.02$), non-Hindus, students belonging to joint families, students whose fathers have a degree or postgraduate qualification ($\chi 2 = 18.18$, $p = 0.006$), individuals with higher literacy status of mothers ($\chi 2 = 17.13$, $p = 0.009$) and students belonging to socioeconomic classes I and V. In a study conducted in Bangalore, the mean knowledge score was highest among male, Hindus, students living in extended families and students with parents having higher education; however, the associations were not statistically significant.[15] A study in Pondicherry noted that illiteracy (adjusted odds ratio 16.0, 95% CI: 9.0-28.5) and rural residence (adjusted odds ratio 2.9, 95% CI: 1.8-4.6) were possible predictors of ignorance of eye donation.[22] A study conducted in Chandigarh reported that study subjects aged 27-30 years ($p= 0.04$) and those with better literacy among father ($p=0.001$) and mother ($p<0.001$) had a higher score in the knowledge domain on eye donation which is similar to the present study.[29] In a Malaysian study, awareness score was better among people aged 18-45 years (odds ratio 1.6, 95% CI: 1.02-2.45), female (odds ratio 1.95, 95% CI: 1.27-3), graduates and above (odds ratio 2.2, 95% CI: 1.02-4.76) and those occupied in the paramedical field (odds ratio 2.32, 95% CI: 1.05-5.12).[34] Having a qualification in a science-related field and individuals with higher literacy status among parents were found to have significantly higher knowledge score, which was consistent among other studies. In the present study, male participants had better knowledge score, which may be attributed to the fact that they have more exposure to the happenings around them

compared to their female counterparts. However, the Malaysian study reported better knowledge among female participants, possibly due to region-specific factors.

Table 35 to 42: Association between attitude score regarding eye donation and sociodemographic profile of the study participants

In the present study, a higher rate of positive attitude score was noted among students aged 18- 20 years ($\chi 2 = 5.57$, $p = 0.018$), students pursuing commerce and science degrees ($\chi 2 = 31.92$, $p = 0.001$), female students ($\chi 2 = 15.66$, $p < 0.001$), non-Hindus, students belonging to nuclear families ($\chi 2 = 9.69$, $p = 0.002$), individuals with higher literacy status in mothers ($\chi 2 = 13.27$, $p = 0.004$) and students belonging to socioeconomic classes I, II and IV. In a study conducted in Mangalore, a higher attitude score was seen among female students ($\chi 2=4.04$, $p<0.05$).[19] In a study in Chandigarh, people of first birth order ($p = 0.027$), Hindus and Christian ($p = 0.004$), individuals with higher education among parents ($p < 0.001$) and people with mothers employed in government organizations ($p = 0.004$) had better attitude score.[29] A study in Rajasthan reported higher positive attitude among medical and nursing students ($p<0.001$), Hindus ($p=0.001$), female ($p=0.523$) and those living in urban area ($p<0.001$).[27] Females had better attitude towards eye donation owing to better reception of the sensitivity on the issue. The differences among religions in various studies could be due to doctrine variations and the faith of individuals of different religions. Students pursuing science degrees had better attitude, which was common in all studies, due to the enhanced comprehension and heightened sensitivity regarding eye donation.

Table 43 to 50: Association between practice score regarding eye donation and sociodemographic profile of the study participants

In the present study, a higher proportion of favourable practice score was observed among students aged 21-24 years ($\chi 2 = 8.77$, $p = 0.003$), students pursuing science degree ($\chi 2 = 14.65$, $p = 0.002$), Hindus, students belonging to joint families ($\chi 2 = 7.03$, $p = 0.008$) and study subjects belonging to lower Socio-economic class ($\chi 2 = 13.22$, $p = 0.01$). In a study conducted in Punjab, students aged 21-25 years ($p<0.001$) and those pursuing postgraduate degrees ($p=0.009$) had high practice score.[28] In a Malaysian study, willingness to donate eyes was higher among male ($p=0.02$) and people of Indian race ($p=0.02$). [34] As the age of participants increased, they had better practice score with respect to eye donation.

CONCLUSION

The present study revealed many insights into the knowledge, attitude and practice regarding eye donation among college students. More than 10% of the participants had good knowledge score about eye donation, while less than a half showed a positive attitude towards it and nearly one-third had favourable practice score.

Further analysis revealed that several factors influenced these domains. Pursuing degree in science, male participant and students whose parents had a higher literacy status were more likely to have higher knowledge score regarding eye donation. Whereas students of younger age, female students, those pursuing science and commerce degree, belonging to nuclear family and those whose mother had a higher literacy status were more likely to have positive attitude score towards eye donation. With respect to eye donation practice, students of older age, enrolled in science course, belonging to joint family and socioeconomic class III and IV had favourable practice score. However, religion of the students did not significantly affect knowledge, attitude or practice regarding eye donation.

Despite the positive attitude among students, actual practice regarding eye donation was minimal. Only very few participants had pledged eyes and of them only one individual possessed an eye donor card. Participation in eye donation awareness activities was also low, with only $1/10^{th}$ of students' involvement. Nonetheless, a more encouraging trend was seen with around $1/4^{th}$ of students motivating others to pledge their eyes. Efforts should focus on enhancing knowledge and bridging the gap between positive attitude and actual practice in eye donation among college students through targeted awareness campaigns and educational programs.

RECOMMENDATIONS

Based on our study findings the following recommendations are given:

- To develop comprehensive programs to improve detailed knowledge regarding eye donation including procedures to pledge and donate eyes
- Implement targeted campaigns in colleges to increase awareness and dispel misconceptions on eye donation and increase participation of students in awareness drives
- Establish peer education and mentorship programs to enhance positive attitude and practice and thereby take best efforts to bridge the attitude to practice gap
- Design initiatives to specifically reach and involve students from diverse backgrounds
- Use online platforms for broad and accessible information dissemination.
- Incorporate healthcare professionals in educational activities to provide accurate information.
- Regularly monitor and assess the effectiveness of educational and awareness efforts.
- Organize eye donation pledge drives and provide guidance on obtaining donor cards.
- Further research in this area is required to explore the effects of cultural factors pertaining to eye donation and investigate related behaviour and barrier.

LIMITATIONS

Limitations noted in the study were:

- The study was limited to degree college students in Belagavi city, thus the result may not represent the knowledge, attitude and practice of the whole community and hence non-generalizable.
- The subjective reporting of favourable practices towards eye donation by participants like involvement in eye donation programs/awareness campaigns were not assessed by verification of any certificates awarded for the same.
- Locally prevailing cultural factors hindering eye donation practices were not deeply explored.

SUMMARY

The present study cross sectional study was conducted among 1018 degree college students of Belagavi city during the period 1st October 2022 to 30th September 2023. It was carried out to assess the knowledge, attitude and practice regarding eye donation. In Belagavi city there were 14 degree colleges, out of which four colleges were selected randomly- one college from each zone of Belagavi city namely the north, south, east and west.

The mean ± SD age of the participant was 20.15 ± 1.04 years. In our study 402 (39.49%) were pursuing B Com, 307 (30.16%) were pursuing BA and 309 (30.35%) were pursuing BSc degree. Among the participants, 337 (33.10%) were studying in first year, 364 (35.76%) and 317 (31.14%) were studying in second and third year respectively.

Majority of our study subject, 855 (83.99%) were Hindus by religion and 658 (64.64%) of the study participant were staying in nuclear family. Most of the parents of the students: father 969 (95.19%) and mother 945 (92.82%) were literates. With regards to occupation of parents of study participants: father 1013 (99.51%) were employed in one or other occupation and 872 (85.66%) mothers were home makers. Our study showed that 813 (79.87%) of the study participant belonged to socioeconomic class II, III & IV according to modified BG Prasad classification.

Majority 1000 (98.23%) of the study participant had heard about eye donation and among them the major source of information was Television in 443 (28.78%). More than 1/2 of our study participant had correct knowledge regarding: eyes can be preserved in eye banks 590 (58.02%) and there is no age limit for eye donation 509 (50.00%). Nearly 1/2 of our study participant had correct knowledge regarding:

ideal time to collect donated eyes 451 (44.25%), number of people who can be benefitted from one donor 470 (46.17%) and consent of family member is required for eye donation if not pledged 408 (40.07%).

More than 1/4th of our study participant had correct knowledge regarding: living person cannot donate his/her eyes 306 (30.06%), eye donation cannot cure all types of blindness 326 (32.01%), persons suffering from Hepatitis B cannot donate his/her eyes 276 (27.08%), persons suffering from Hepatitis C cannot donate his/her eyes 265 (26.01%), persons suffering from Tuberculosis cannot donate his/her eyes 267 (26.20%), persons suffering from dengue cannot donate his/her eyes 296 (29.06%), Government of India has a centralized toll-free number for eye donation 403 (39.57%) and the recipients of the eyes cannot be informed about the donor 295 (28.96%). Less than 1/4th of our participant had correct knowledge regarding: eye donation involves transplantation of cornea 224 (22.15%), person suffering from diabetes mellitus can donate his /her eyes 136 (13.38%), person suffering from hypertension can donate his /her eyes 241 (23.71%), person with history of previous cataract surgery can donate his /her eyes 175 (17.21%), person with spectacles can donate his /her eyes 208 (20.41%), person with injury /trauma to eyes can donate his/her eyes 131 (12.87%), presence of eye bank in his/her surrounding 139 (13.67%), removal of eye for transplantation takes place at Home/Hospital 215 (21.09%), person suffering from HIV/AIDS cannot donate his/her eyes 124 (12.18%) and person suffering from Rabies infection cannot donate his/her eyes 233 (22.89%). The mean knowledge score was 7.59 with standard deviation of 3.45, the median was 7 and the Interquartile range was from 5 to 10. Out of the 1018 students, 131 (12.88%) students had a good knowledge score, 671 (65.91%) students had an average knowledge score and 216 (21.21%) students had a poor

knowledge score regarding eye donation. Higher knowledge score was significantly associated with course of the study participant (χ^2 = 11.22, p = 0.02), sex of the study participant (χ^2 = 8.23, p = 0.02**)**, literacy status of father of participants (χ^2 = 18.18, p = 0.006) and literacy status of mother of participants (χ^2 = 17.13, p = 0.009).

Nearly 3/4th of our study participant 752 (73.87%) had positive attitude regarding: pledging and donating one's eyes can be a noble act of bringing in vision for a fellow human deprived of vision. More than 1/4th of our study participant had positive attitude regarding: religious beliefs do not limit his/her decision to pledge eyes 371 (36.47%), facial disfigurement was not a deterrent to decide 370 (36.37%) and do not believe the myth that donating eyes would affect his/her sight in rebirth 453 (44.53%). Less than 1/4th of our study participant had positive attitude regarding: family hindrance does not limit their decision to pledge eyes 237 (23.31%) and fear of eye donation is not a deterrent to their decision to pledge eyes 244 (23.99%). The mean attitude score was 13.61 with standard deviation of 2.17, median was 13 and the Interquartile range was from 13 to 15. Out of 1018 students, 434 (42.63%) study participant had a positive attitude while 584 (57.37%) had a negative attitude towards eye donation. The positive attitude score towards eye donation was significantly associated with age of the study participant (χ^2 = 5.57, p = 0.018), course of the study participant (χ^2 = 31.92, p = 0.001), sex of the study participant (χ^2 = 15.66, p < 0.001), type of family of the study participant (χ^2 = 9.69, p = 0.002) and literacy status of mother of participant (χ^2 = 13.27, p = 0.004)

Nearly 1/4th of our study participant had favourable practice regarding: motivating others to pledge their eyes 250 (24.56%). While nearly 1/10th of the students had a

favourable practice regarding: involvement in eye donation awareness activities or programs 112 (11.00%) and guiding or assisting people to an eye bank 105 (10.33%) respectively. Less than $1/10^{th}$ of the students had a favourable practice regarding: having family members who had pledged their eyes 48 (4.71%) or donated their eyes 11 (1.08%). In our study only a very few have actually pledged their eyes 20 (1.97%) and among them only 1 (5.00%) participant had an eye donor card. The mean score for practice was 0.58 with a standard deviation of 1.02. Out of 1018 participants 331 (32.50%) of them had a favourable practice score while 687 (67.50%) had unfavourable practice score regarding eye donation. The favourable practice score towards eye donation was significantly associated with age of the study participant ($\chi^2 = 8.77$, $p = 0.003$), course of the study participant ($\chi^2 = 14.65$, $p = 0.002$), type of family of the study participant ($\chi^2 = 7.03$, $p = 0.008$) and socioeconomic status of the study participant ($\chi^2 = 13.22$, $p = 0.01$).

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ANNEXURE I

ETHICAL CLEARANCE LETTER

K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed to be University)
Accredited 'A++' Grade by NAAC in (3rd Cycle) Placed in Category 'A' by MHRD (Govt)
JNMC INSTITUTIONAL ETHICS COMMITTEE
JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)
Website: http://www.jnmc.edu
E-Mail : jnmc@rnmc.edu
Phone: (+ 91-(0)831 Office : 2472550
Principal: 2471701
Fax No. +91 (0)831 – 2470759

Ref No.MDC/JNMCIEC/ 79 **Date: 27/09/2022**

To,
BD0121010
PG Student in Community Medicine,
J. N. Medical College,
BELAGAVI.

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled **"KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EYE DONATION AMONG DEGREE COLLEGE STUDENTS OF BELAGAVI CITY."** is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee.

(Dr. Smita Sonoli)
Member Secretary
JNMC Institutional Ethics Committee
J.N.Medical College, Belagavi.

(Dr. Harsha Hegde)
Chairman,
JNMC Institutional Ethics Committee
J.N.Medical College, Belagavi

ANNEXURE II

INFORMED CONSENT FORM

"Knowledge, Attitude and Practice regarding Eye Donation among degree college students of Belagavi City''.

Objective:

You are being invited to participate in this study to assess the Knowledge, Attitude and Practice regarding Eye Donation among degree college students of Belagavi city.

Introduction:

As per the National blindness and impairment survey report 2015 – 2019, the prevalence of blindness in India in all age groups is 0.36% and 1.99% in age group 50 & above. In the age group 0 – 49 years corneal opacity is the leading cause of blindness and accounts to 37.5% of total blindness and is the second leading cause accounting to 8.2% in age group 50 and above. In India 68 lakh people are corneal blind in at least one eye and 10 lakh people are corneal blind in both eyes. In most of these cases loss of sight can be corrected through a surgical procedure named corneal transplantation following eye donation. By donating eyes after death, a person can gift back sight to a corneal blind individual when the cornea of the healthy donor is transplanted into the corneal blind recipient.

Explanation of procedure:

I will personally interview every student using a pre-designed and pre-tested questionnaire. The questionnaire includes; 1. Socio-demographic factors,

2. Knowledge, Attitude and Practice regarding eye donation. The interview will take not more than 20 minutes per participant.

Withdrawal from participation in the study: Participation in this study is voluntary. You will be free to decide whether to participate in this study or continue participation once enrolled. In case you decide to withdraw your participation, you are free to do so. However, please convey the decision to the principal investigator.

Possible benefits from participating in the study: You will not have nor get any benefits by participating in this study. The data gathered will help the population at large.

Possible risks from participating in the study: There are no risks involved in participating in this study.

Privacy and confidentiality: The information collected from you will be coded, to prevent any person from identifying you. Your identity will never be revealed. The data collected from you will be kept confidential and only processed or aggregated data will be used for publication.

Financial incentives: You will not receive any payment for participating in this study.

Authorization for publication of aggregated data: Results obtained after processing of the aggregated data will be published for scientific purposes and or presented to scientific groups. However, your identity will never be revealed.

Legal rights: By signing this consent form, we are not waving any of your legal rights.

CONSENT STATEMENT

I am making a voluntary decision to participate in the study "**"Knowledge, Attitude and Practice regarding Eye Donation among degree college students of Belagavi City''.** My signature below indicates that I have decided to participate and I have read the information provided above or the information provided above has been read to me in the language that I understand best. I was given the opportunity to ask questions and that they have been answered to my satisfaction.

Name of the participant:

Signature of the participant:

Name of the witness:

Signature of the witness:

Name of the investigator:

Signature of the investigator:

Date:

ANNEXURE III

PROFORMA

TITLE: -"Knowledge, Attitude and Practice regarding Eye Donation among degree college students of Belagavi city''

COLLEGE NAME: Sl. No: _____

A. Socio demographic details:

1] Name : _____

2] Age : ____ years

3] Course : i) B.Com ii) B.A iii) B.Sc.

4] Year of study : i) I ii) II iii) III

5] Sex : i) Male ii) Female

6] Religion : i) Hindu ii) Muslim iii) Christian iv) Jain

7] Type of the family : i) Nuclear ii) Joint

8] Educational qualification of Father : i) Illiterate ii) Primary (1^{st} to 7^{th}) iii) High School (8^{th} to 10^{th}) iv) PUC v) Diploma vi) Degree vii) Post graduate

9] Educational qualification of Mother : i) Illiterate ii) Primary (1^{st} to 7^{th}) iii) High School (8^{th} to 10^{th}) iv) PUC v) Diploma vi) Degree vii) Post graduate

10] Occupation of Father : i) Farmer ii) Laborer iii) Self-employed iv) Govt. employee v) Pvt. Employee vi) Unemployed

11] Occupation of Mother : i) Farmer ii) Laborer iii) Self-employed iv) Govt. employee ' v) Pvt. Employee vi) Home maker

12] Total monthly income : Rs _____

13] Number of family members : ____

14] Per capita income : Rs _____/ month

B. Knowledge, Attitude & Practice questionnaire:

Knowledge questions

1. Have you heard of Eye Donation?

1) Yes 2) No

2. From where did you hear about eye donation? (Multiple responses allowed)

1) Newspaper 2) Television 3) Radio 4) Internet 5) Medical Personnel

6) Teaching Institute 7) Family 8) Relative 9) Friends 10) others, specify.....

3. Eye donation involves transplantation of

1) Entire eyeball 2) Cornea 3) Lens 4) Don't know

4. Can a living person donate his / her eyes?

1) Yes 2) No 3) Don't know

5. When is the ideal time to collect donated eyes?

1) 1-6 hours after death 2) 7-12 hours after death 3) 13-24 hours after death 4) Don't know

6. Can eye donation cure all types of blindness?

1) Yes 2) No 3) Don't know

7. Can a person suffering from diabetes mellitus donate his / her eyes after death?

1) Yes 2) No 3) Don't know

8. Can a person suffering from hypertension donate his / her eyes after death?

1) Yes 2) No 3) Don't know

9. Can a person with history of previous cataract surgery donate his / her eyes after death?

1) Yes 2) No 3) Don't know

10. Can a person with spectacles / contact lens donate his / her eyes after death?

1) Yes 2) No 3) Don't know

11. Can a person with history of injury / trauma to the eyes donate his / her eyes after death?

1) Yes 2) No 3) Don't know

12. Do you know the presence of eye bank in your surrounding?

1) Yes 2) No 3) Don't know

If yes, where.....

13. Is there any age limit for eye donation?

1) Yes 2) No 3) Don't know

14. Where does removal of eye for transplantation take place after death?

1) Home 2) Hospital 3) Home / Hospital 4) Don't know

15. Is consent of family member required for eye donation after death, if not pledged the eyes?

1) Yes 2) No 3) Don't Know

16. Can eyes be preserved in eye banks?

1) Yes 2) No 3) Don't know

17. Person's suffering from the following communicable diseases **CANNOT** donate eyes

HIV / AIDS	Yes / No
Hepatitis B	Yes / No
Hepatitis C	Yes / No
Rabies	Yes / No
Tuberculosis	Yes / No
Dengue	Yes / No

18. Does the Government of India have a centralized Toll free number for eye donation?

1) Yes 2) No 3) Don't know

19. How many people can be benefitted by one donor eye donation?

1) one 2) two 3) three 4) four

20. Can the recipients of the eye be told who donated the eyes for him / her?

1) Yes 2) No 3) Don't know

Attitude questions

Question	Agree	Neutral	Disagree
Pledging and donating one's eyes, can be a noble act of bringing in vision into a fellow human deprived of vision			
What limits you on your decision to pledge your eyes: Religious beliefs			
Disfigurement of face			
Family hindrance			
Fear of eye donation			
Belief of being born as blind in the next life, if you donate eyes			

Practice questions

1. Have you pledged your eyes?

1) Yes 2) No

If yes, do you have Eye Donor Card.....

2. Have you been anytime involved in eye donation awareness activities / programs?

1) Yes 2) No

3. Have you guided or assisted people to eye banks?

1) Yes 2) No

4. Have you motivated people to pledge their eyes?

1) Yes 2) No

5. Have any of your family members pledged their eyes?

1) Yes 2) No

6. Have any of your family members donated their eyes after death?

1) Yes 2) No

7. Have any of your family member been a recipient of donated eyes?

1) Yes 2) No

ANNEXURE IV

KEY TO MASTER CHART

A] Age in years

B] Course

1.B.Com

2. B.A

3. B. Sc

C] Year of study

1. I

2. II

3. III

D] Sex

1. Male

2. Female

E] Religion

1. Hindu

2. Muslim

3. Christian

4. Jain

F] Type of the family

1. Nuclear

2. Joint

G] Educational qualification of father

1. Illiterate
2. Primary
3. Secondary
4. PUC
5. Diploma
6. Degree
7. Post graduate

H] Educational qualification of Mother

1. Illiterate
2. Primary
3. Secondary
4. PUC
5. Diploma
6. Degree
7. Post graduate

I] Occupation of Father

1. Farmer
2. Labourer
3. Self-employed
4. Govt. employee
5. Private Employee
6. Unemployed

J] Occupation of Mother

1. Farmer

2.Labourer

3.Self-employed

4. Govt. employee

5. Private Employee

6. Home maker

K] Total monthly income in Rupees

L] Number of family members

M] Per capita income in Rupees

N] Socioeconomic status (Modified BG Prasad classification)

O] Have you heard of Eye Donation

1) Yes

2) No

P] From where did you hear about eye donation? (Multiple responses allowed) - Newspaper

0)No

1)Yes

Q] Television

0)No

1)Yes

R] Radio

0)No

1)Yes

S] Internet

0)No

1)Yes

T] Medical Personnel

0)No

1)Yes

U] Teaching Institute

0)No

1)Yes

V] Family

0)No

1)Yes

W] Relative

0)No

1)Yes

X] Friends

0)No

1)Yes

y] Eye donation involves transplantation of

1) Entire eyeball

2) Cornea

3) Lens

4) Don’t know

Z] Can a living person donate his / her eyes

1) Yes

2) No

3) Don't know

AA] When is the ideal time to collect donated eyes

1) 6-8 hours after death

2) 9-12 hours after death

3) 13-24 hours after death

4) Don't know

AB] Can eye donation cure all types of blindness

1) Yes

2) No

3) Don't know

AC] Can eyes of a person with diabetes donate his / her eyes after death?

1) Yes

2) No

3) Don't know

AD] Can eyes of a person with hypertension donate his / her eyes after death?

1) Yes

2) No

3) Don't know

AE] Can eyes of a person with history of previous cataract surgery donate his / her eyes after death?

1) Yes

2) No

3) Don't know

AF] Can eyes of a person with glasses / spectacles / contact lens donate his / her eyes after death?

1) Yes

2) No

3) Don't know

AG] Can eyes of a person with injury / trauma to the eyes donate his / her eyes after death?

1) Yes

2) No

3) Don't know

AH] Do you know the presence of eye bank in your surrounding?

1) Yes

2) No

AI] If yes, where .....

AJ] Is there any age limit for eye donation?

1) Yes

2) No

3) Don't know

AK] Where does removal of eye for transplantation take place after death?

1) Home

2) Hospital

3) Home or Hospital

4) Don't know

AL] Is consent of family member required for eye donation after death, if not pledged the eyes?

1) Yes

2) No

3) Don't Know

AM] Can eyes be preserved in eye banks

1) Yes

2) No

3) Don't know

AN] Person's suffering from the following communicable diseases cannot donate eyes

HIV / AIDS

0)No

1)Yes

AO] Hepatitis B

0)No

1)Yes

AP] Hepatitis C

0)No

1)Yes

AQ] Rabies

0)No

1)Yes

AR] Tuberculosis

0)No

1)Yes

AS] Dengue

0)No

1)Yes

AT] Does the Government of India have a centralized Toll free number for eye donation

1) Yes

2) No

3) Don’t know

AU] How many persons can be benefitted by one donor eye donation

1) one

2) two

3) three

4) four

AV] Can the recipients of the eye be told who donated the eyes for him / her

1) Yes

2) No

3) Don’t know

AW] pledging and donating one's eyes, can be a source of a noble act of bringing in vision into a fellow human deprived of vision

1)Disagree

2)Neutral

3)Agree

AX] What limits you on your decision to pledge your eyes – Religious beliefs

1)Agree

2)Neutral

3)Disagree

AY] What limits you on your decision to pledge your eyes – Disfigurement of face

1)Agree

2)Neutral

3)Disagree

AZ] What limits you on your decision to pledge your eyes – Family hindrance

1)Agree

2)Neutral

3)Disagree

BA] What limits you on your decision to pledge your eyes – Fear of eye donation

1)Agree

2)Neutral

3)Disagree

BB] What limits you on your decision to pledge your eyes – Belief of being born as blind in the next life

1)Agree

2)Neutral

3)Disagree

BC] Have you pledged your eyes

1) Yes

2) No

BD] If yes, do you have Eye Donor Card

0) No

1) Yes

BE] Have you been anytime involved in eye donation awareness activities / programs

1) Yes

2) No

BF] Have you guided or assisted people to eye banks

1) Yes

2) No

BG] Have you motivated people to pledge their eyes

1) Yes

2) No

BH] Have any of your family members pledged their eyes

1) Yes

2) No

BI] Have any of your family members donated their eyes after death

1) Yes

2) No

BJ] Have any of your family members been a recipient of donated eyes?

1)Yes

2) No

Serial Number	Age	Course	Year of study	Sex	Religion	Type of family	Educational qualification of father	Educational qualification of mother	Occupation of father	Occupation of mother	Monthly Income(Rs.)	No of family members	Per capital income	SES	Have you heard of eye donation?	1.Newspaper	2.TV	3.Radio	4.Internet	5.Medical personnel
1	18	1	1	2	1	2	1	3	1	6	20000	11	1818	4	1	0	1	0	0	0
2	19	1	2	2	1	1	3	7	3	6	20000	5	4000	3	1	0	1	0	1	0
3	18	1	1	2	1	2	1	1	1	6	20000	15	1333	4	1	0	1	0	0	0
4	20	1	1	2	1	1	6	3	1	6	10000	6	1667	4	1	0	1	0	0	0
5	18	1	1	2	1	1	3	3	5	6	15000	3	5000	2	1	0	1	0	0	0
6	19	1	1	2	1	1	3	2	1	6	15000	5	3000	3	1	0	1	0	0	0
7	18	1	1	2	1	2	2	1	3	6	5000	3	1667	4	1	0	0	0	0	1
8	18	1	1	2	2	2	4	3	4	6	60000	5	12000	5	1	1	0	0	1	1
9	19	1	1	2	2	1	4	3	1	6	10000	4	2500	4	2	0	0	0	0	0
10	19	1	1	2	1	2	3	3	1	6	20000	10	2000	4	2	0	0	0	0	0
11	19	1	1	2	1	2	4	4	4	6	35000	5	7000	2	1	0	1	0	0	0
12	19	1	1	2	1	2	3	3	4	6	55000	7	7857	2	1	0	1	0	0	0
13	19	1	1	2	1	2	3	3	5	6	7000	5	1400	4	1	1	0	0	0	0
14	19	1	1	2	1	2	2	3	1	6	8000	5	1600	4	1	0	0	0	0	0
15	18	1	1	2	1	2	2	3	1	6	30000	6	5000	2	1	1	1	0	1	0
16	19	1	1	2	4	1	6	6	1	6	30000	5	6000	2	1	1	1	0	1	0
17	18	1	1	2	1	1	3	1	5	6	30000	4	7500	2	1	0	1	0	1	0
18	19	1	1	2	1	2	2	3	5	6	6000	10	600	5	1	0	1	0	0	0
19	18	1	1	2	1	1	2	2	1	6	6000	6	1000	5	1	0	1	0	0	0
20	19	1	1	2	2	1	5	3	4	6	30000	4	7500	2	1	1	1	0	0	0
21	19	1	1	2	4	2	2	2	2	6	10000	3	3333	3	1	0	0	0	0	0
22	19	1	1	2	1	1	6	3	5	3	25000	4	6250	2	1	0	0	0	1	0
23	18	1	1	2	2	1	2	2	5	3	50000	5	10000	1	1	0	0	0	1	0
24	18	1	1	1	4	1	5	3	1	6	14000	4	3500	3	1	0	0	0	0	0
25	18	1	1	1	1	1	3	3	1	6	30000	4	7500	2	1	1	0	0	1	0
26	22	1	1	1	1	1	5	6	5	5	30000	4	7500	2	1	1	0	0	0	0
27	20	1	1	2	1	2	4	4	4	6	40000	5	8000	2	1	0	1	0	0	0
28	18	1	1	2	1	2	3	3	4	6	16000	3	5333	2	1	0	1	0	0	0
29	19	1	1	2	1	2	5	4	5	6	20000	4	5000	2	1	0	1	0	0	0
30	18	1	1	2	1	1	6	3	4	6	40000	4	10000	1	1	0	1	0	0	0
31	19	1	1	2	1	1	6	6	5	6	50000	5	10000	1	1	0	1	0	0	0
32	18	1	1	2	1	1	3	2	5	6	20000	4	5000	2	1	0	0	0	1	1
33	18	1	1	2	1	1	4	3	4	6	30000	6	5000	2	1	0	0	0	1	0
34	21	1	2	1	2	1	3	3	5	6	25000	5	5000	2	1	0	1	0	0	0
35	20	1	2	1	2	1	4	2	3	6	20000	5	4000	3	1	0	1	0	1	0
36	20	1	2	1	2	2	4	3	2	6	22000	10	2200	4	1	0	1	0	1	1
37	19	1	2	1	2	1	2	2	3	6	18000	4	4500	2	2	0	0	0	0	0