

Fascination towards Cosmetic Treatments among College Students

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ABSTRACT

Cosmetic surgery is a voluntary or elective surgery that is performed on normal parts of the body with the only purpose of improving a person's appearance or removing signs of ageing. It is popular among college students, but most of the population are unaware of the risks associated with cosmetic treatment. Obsession to cosmetic treatment is because of the influence of the media and body dysmorphic disorder. This study involves college students in the age group of 18-25 years. A well structured questionnaire was prepared comprising 12 questions covering socio-demographic information, knowledge, attitude, perceptions was framed and administered to the participants through an online google forms link. Of the total participants 39.6% of them are male and 60.4% of them are female. 52.5% of people had undergone cosmetic treatment and 47.5% of people did not undergo cosmetic treatment. 55% of people think of undergoing cosmetic treatment whereas 45% of people don't think of undergoing cosmetic treatment. It may be concluded that the level of awareness about cosmetic procedures is inadequate. With the progressive increase in the number of people who undergo cosmetic treatments, there is a need in understanding the requirement, assessing the risks of cosmetic procedures both surgical and nonsurgical by the college students.

KEYWORDS: Attitudes, Cosmetic procedures, Cosmetic treatment, Body Dysmorphic disorder, Students, Survey

INTRODUCTION

Cosmetic treatment is an aspect of plastic surgery that deals with maintenance, restoration or enhancement of one's physical appearance through surgical techniques. Physical appearance and its attractiveness has an influence in our everyday lives. (Furnham and Levitas, 2012) During world war I thousands of soldier's facial structures were damaged, so to restore their structures and for the reconstruction of the facial features, methods to restore the facial features as well as body features and those processes rapidly gained popularity. (Bradbury, 1994) In the modern era, people undertake those surgeries due to their mental state and lack of confidence in their own bodies. Something getting changed about themselves via surgery reduces body dysmorphia.

Body dysmorphia is an imagined defect in physical appearance and leads to disruption in daily function. This disorder is mostly common in those who seek cosmetic surgery. Previous studies suggests that persons with body dysmorphia do not benefit from any of the cosmetic treatments and they often experience worsening of body dysmorphic disorder symptoms. (von Soest *et al.*, 2006) Important part of determining patients is the identification of body dysmorphic disorder symptoms for cosmetic procedures. Body dysmorphic disorder occurs in 1% of the general population but more prevalent among cosmetic patients. In some of its sufferers it can even lead to suicide. (Glaser and Kaminer, 2005) The procedures do not treat body dysmorphic disorder and it can worsen the problem ultimately. The psychological root is unidentified in this problem, therefore the treatment becomes even more difficult. Some studies say that fixation in an area could be because of sub disorders such as muscle dysmorphia or anorexia. (Miller, 2005)

Cosmetic surgery is a voluntary surgery that is done in normal body parts with the only purpose of improving the appearance of a person or removing aging signs.(Honigman and Castle, 2006) It is both surgical and non surgical. Many procedures are done to meet the society's definition of beauty. The most popular procedures done are nose reshaping, eyelid surgery. These surgeries are still expensive and they are being covered by health insurances.

In today's world most college students are getting addicted to cosmetic treatment because of the influence of the media. The three factors that play a role in it is media, medical advancement and characteristics of a patient.(Kim, Chae and Kim, 2017) Media has a large impact in determining the appearance of a person and also one's decision to select cosmetic surgery. Media influence affects the body image satisfaction and self esteem.(Champion and Furnham, 1999)(Swami, 2009) It is important to know that psychological processes are the only thing that leads a person to undergo cosmetic surgery.(Sarwer *et al.*, 1998; Mühlan, Eisenmann-Klein and Schmidt, 2007) Factors such as low self-esteem, low life satisfaction, low self-rated attractiveness and little religious beliefs leads to cosmetic surgery.(Furnham and Levitas, 2012)

All surgeries have risks and in cosmetic surgery the risk include nerve damage, infection, organ damage and scarring. Researchers believe that cosmetic surgery treatments are linked with psychological disorders like body dysmorphic disorder.(Ribeiro, 2017) There always exists some correlation between people suffering from body dysmorphic disorder and their obsession in cosmetic treatment in order to correct their defective appearance.(Veale, 2008)

The anterior maxillary teeth and mandibular teeth primarily satisfy aesthetics.(Ariga *et al.*, 2018a)(Jain, Ranganathan and Ganapathy, 2017) Temporary partial dentures affect the aesthetic(Jyothi *et al.*, 2017) of the face. Implants increase the aesthetic of the face.(Duraisamy *et al.*, 2019)(Vijayalakshmi and Ganapathy, 2016) Methicillin-resistant Staphylococcus aureus causes infection in skin and soft tissues.This reduces the aesthetic of the face.(Ganapathy, 2016; Selvan and Ganapathy, 2016) Aloe vera is used for aesthetic purposes.(Subasree, Murthykumar and Dhanraj, 2016) Cellulitis causes swelling.(Vijayalakshmi and Ganapathy, 2016) Restorations maintain the aesthetic of the face.(Vijayalakshmi and Ganapathy, 2016)(Ajay *et al.*, 2017) Replacing the lip contour is one of the cosmetic procedure.(Ashok *et al.*, 2014)(Kannan and Venugopalan, 2018a) The acquired facial deformity due to trauma and tumor can cause severe disfigurement and facial impairment and also such individuals even reported to have depression.(Venugopalan *et al.*, 2014) Maintaining oral hygiene helps to maintain aesthetic of face.(Basha, Ganapathy and Venugopalan, 2018a)

In recent years it became popular among younger people with the influence of the western media.(Ashok and Suvitha, 2016) Therefore with the reconstruction of facial features, one can enhance their attitude, self - esteem, confidence and psychological well being and it is imperative that one should contemplate the risk factors associated with cosmetic surgeries(Rohrich and Steintraesser, 2013)investigate their level of understanding regarding the risks and benefits of such procedures.

Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Ariga *et al.*, 2018b; Basha, Ganapathy and Venugopalan, 2018b; Hannah *et al.*, 2018; Hussainy *et al.*, 2018; Jeevanandan and Govindaraju, 2018; Kannan and Venugopalan, 2018b; Kumar and Antony, 2018; Manohar and Sharma, 2018; Menon *et al.*, 2018; Nandakumar and Nasim, 2018; Nandhini, Babu and Mohanraj, 2018; Ravinthar and

Jayalakshmi, 2018; Seppanet *et al.*, 2018; Teja, Ramesh and Priya, 2018; Duraisamyet *et al.*, 2019; Gheena and Ezhilarasan, 2019; Hema Shree *et al.*, 2019; Rajakeerthi and Ms, 2019; Rajendran *et al.*, 2019; Sekaret *et al.*, 2019; Sharma *et al.*, 2019; Siddique *et al.*, 2019; Janani, Palanivelu and Sandhya, 2020; Johnson *et al.*, 2020; Jose, Ajitha and Subbaiyan, 2020).

The aim of the study is to assess the fascination towards the cosmetic treatment among college students, by investigating their level of understanding regarding the risks and benefits of such procedures

MATERIALS AND METHODS

Study setting

It is a prospective observational study. The study was approved by the scientific review board of the institute. The sample size is 100 college students.

Sampling for survey

The population of the study was based on simple random sampling. The sampling size selected was based on reviewing the existing literature related to cosmetic procedures among youth, where the study sample size was 1500 students, with population having cosmetic surgery experience among 559 participants.(Ng *et al.*, 2014)(Sarweret *et al.*, 2005)(Ganapathy, Kannan and Venugopalan, 2017) The sampling method was a simple random sampling. The measures taken to minimize the sample bias are to check validity (ie) internal and external validity, to minimize errors in questions and to avoid errors in questions.

Data collection

A self structured questionnaire was prepared. The set of questions were validated. The survey was circulated through an online survey google forms link. Data was collected and tabulated in Excel sheets. Output variables include demographic information, cosmetic treatment, risks and knowledge. Age, sex, lifestyle and family are the list of independent variables. Awareness, interaction, knowledge, attitude, perception are lists of dependent variables.

Analysis

The data from the google forms is analysed and then put into the excel sheet and then tabulation of the data finally and the question comparison is done. The representation of the data is through the pie chart or bar graph. The statistical software IBM SPSS V22 was used. The statistical test used was the student T test. Types of analytics used were descriptive analysis, demographic data. The independent variables of the present study is the gender and educational qualification.

RESULTS AND DISCUSSION

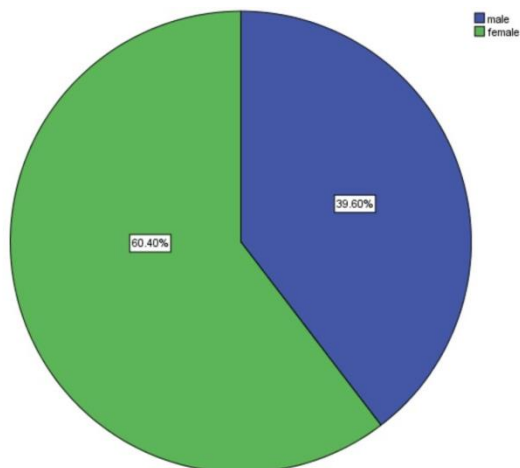


Fig : 1 The pie chart represents the gender distribution of the participants. 39.6%(blue colour) are male and 60.4%(green colour) are female.

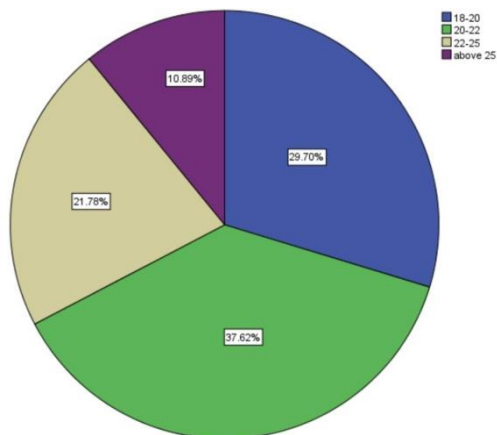


Fig: 2 The above pie chart represents age distribution of the study population. 10.89%(purple color) of people belong to the age of above 25 years, 21.78%(sand color) of people belong to 22-25 years, 29.7%(blue color) of people belong to 18-20 years and 37.62%(green color) of people belong to 20-22 years.

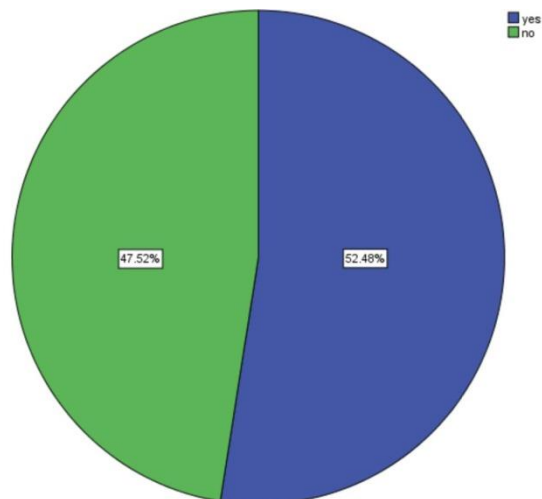


Fig: 3 The above pie chart represents percentage distribution of the study population who underwent cosmetic treatments. 47.52%(green color) of people who did not undergo any cosmetic treatment and 52.48%(blue color) of people who have undergone cosmetic treatment.

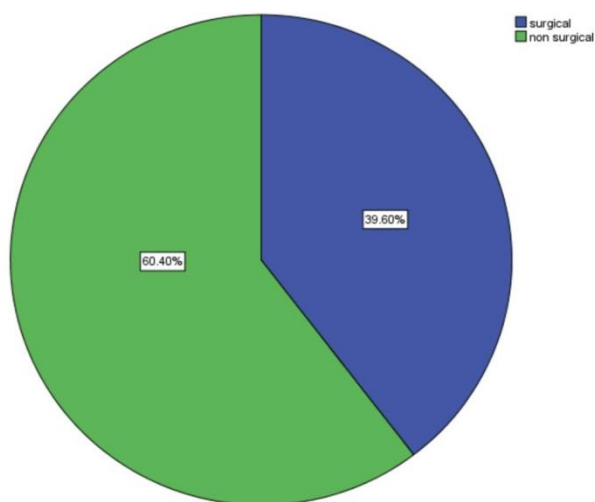


Fig: 4 The above pie chart represents distribution of the study population who have undergone cosmetic treatment surgically and non-surgically. 60.40%(green color) of people who have undergone cosmetic treatment non-surgically and 39.60%(blue color) of people who have undergone surgery.

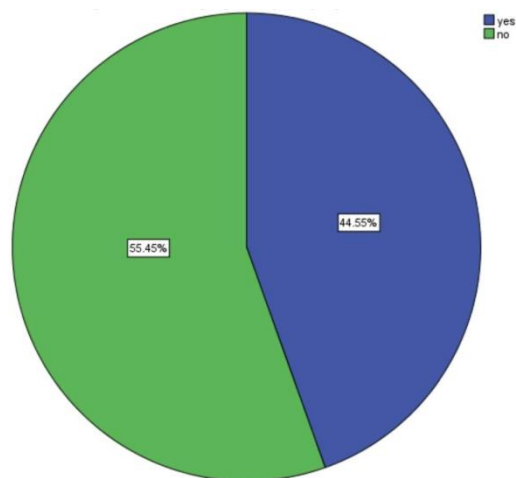


Fig: 5 The above pie chart shows distribution of the study population representing awareness on cosmetic treatment for dysmorphia, 44.55%(blue color) of people who have responded that body dysmorphia plays a role in cosmetic treatment and 55.45%(green color) of people responded that body dysmorphia does not play a role in cosmetic treatment.

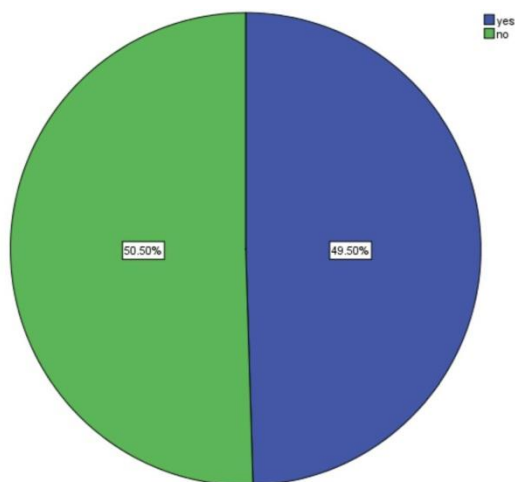


Fig: 6 The above pie chart shows distribution of the study population who think that cosmetic treatment enhances socio-economic position, 49.50%(blue color) of people who have responded that cosmetic treatment enhances socio-economic position and 50.50%(green color) of people responded that cosmetic treatment does not enhance socio economic position.

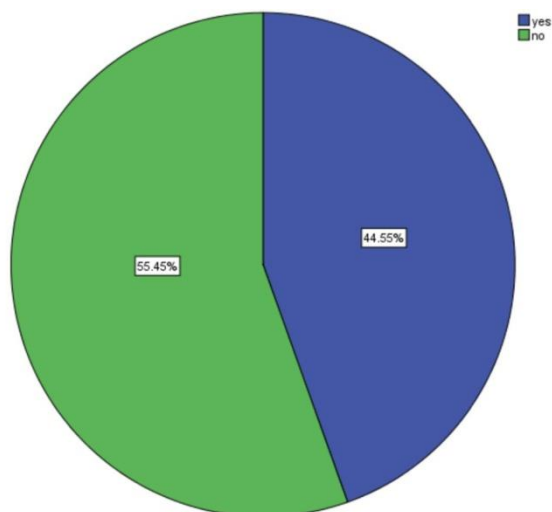


Fig: 7 The above pie chart shows distribution of the study population who think of undergoing cosmetic treatment, 44.55%(blue color) of people think of undergoing cosmetic treatment whereas 55.45% of people do not think of it.

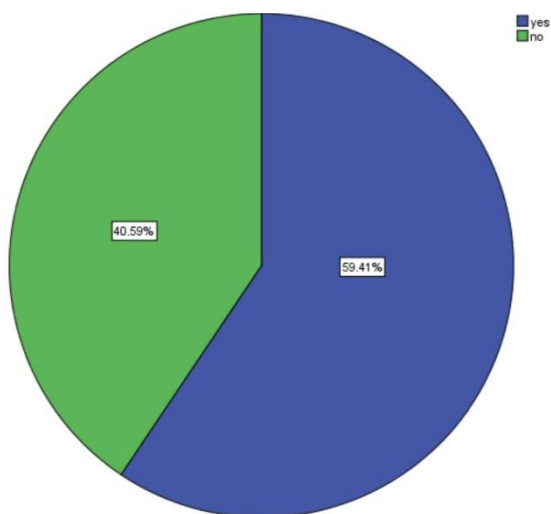


Fig: 8 The above pie chart shows distribution of the study population representing awareness of the risk associated with cosmetic treatment, 59.41%(blue color) of people are aware of the risk associated with cosmetic treatment, 40.59% (green color)of people are not aware of it.

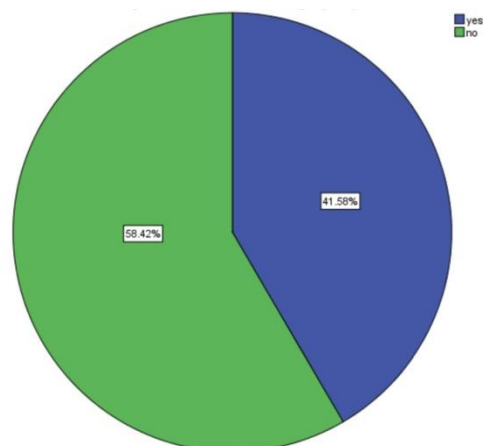


Fig: 9 The above pie chart shows distribution of the study population who think cosmetic treatment improves self esteem, 41.58%(blue color) of people who have responded that cosmetic treatment improves self esteem and 58.42%(green color) have responded that it does not improve.

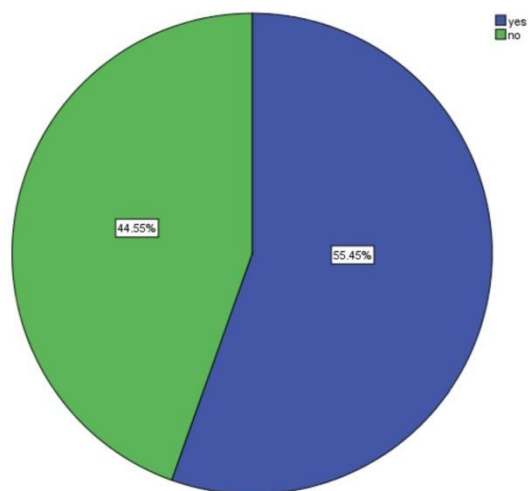


Fig: 10 The above pie chart shows distribution of the study population representing awareness of the procedures done on cosmetic treatment, 55.45%(blue color) of people who have responded that Cosmetic treatment is safe and complication free, whereas 44.55%(green color) of people have responded that it is not safe.

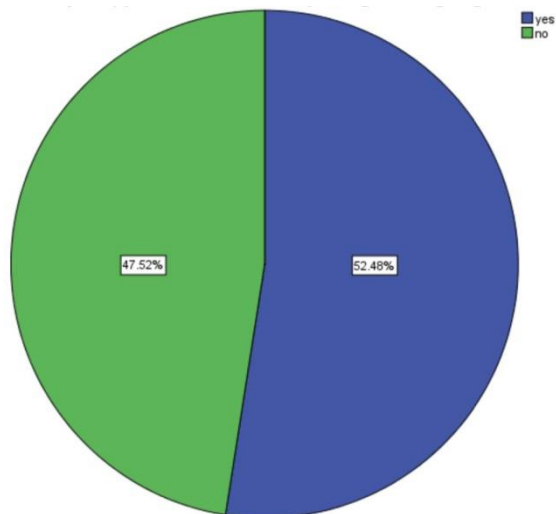


Fig: 11 The above pie chart shows distribution of the study population who approve of people undergoing cosmetic treatment, 52.48%(blue color) representing people who approve of students their age undergoing cosmetic treatment and 47.52%(green color) of people do not approve.

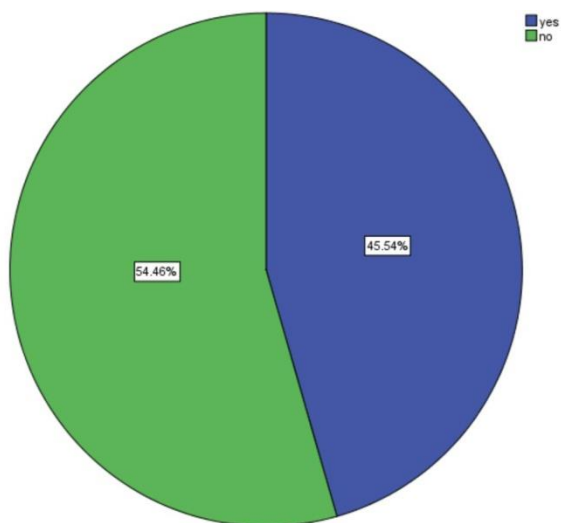


Fig: 12 The above pie chart shows distribution of the study population representing embarrassment on cosmetic treatment, 45.54%(blue color) of people who are embarrassed about cosmetic treatment and 54.46%(green color) are not embarrassed about it.

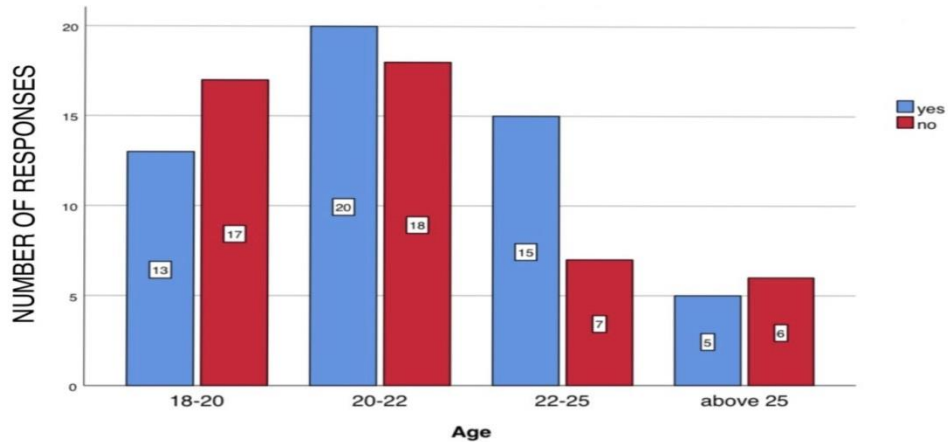


Fig 13: Bar chart represents the association between age and cosmetic treatment. X axis represents the age and Y axis represents the participants who have undergone cosmetic treatment. Blue colour represents participants who have undergone cosmetic treatment and red colour represents the participants who have not undergone any cosmetic treatment. Pearson Chi square value = 3.3, $p=0.33$ (>0.05) indicating statistically not significant. Though statistically not significant, this implies the majority of students within the age group 20-22 years have undergone cosmetic treatment.

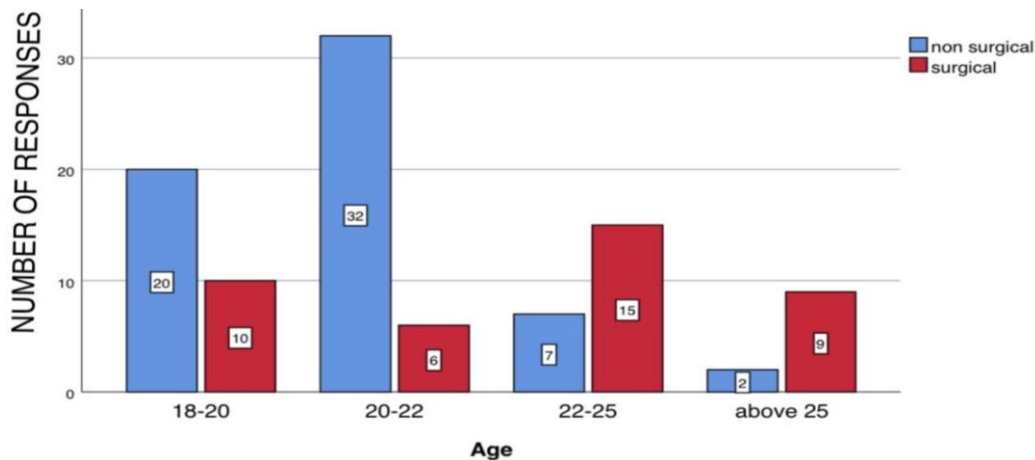


Fig 14: Bar chart represents the association between age and the type of cosmetic treatment. X axis represents the age and Y axis represents the treatment undergone by the participants whether surgical or non surgical. Blue color represents non surgical treatment undergone by the participants. Red colour represents surgical treatment undergone by the participants. Majority of the participants of age 20-22 have undergone non surgical methods of cosmetic treatment. Pearson Chi square value = 25.21, $p= 0.00$ (< 0.05 indicating statistically significant). This proves that the participants between the age groups of 20-22 have undergone more nonsurgical treatments.

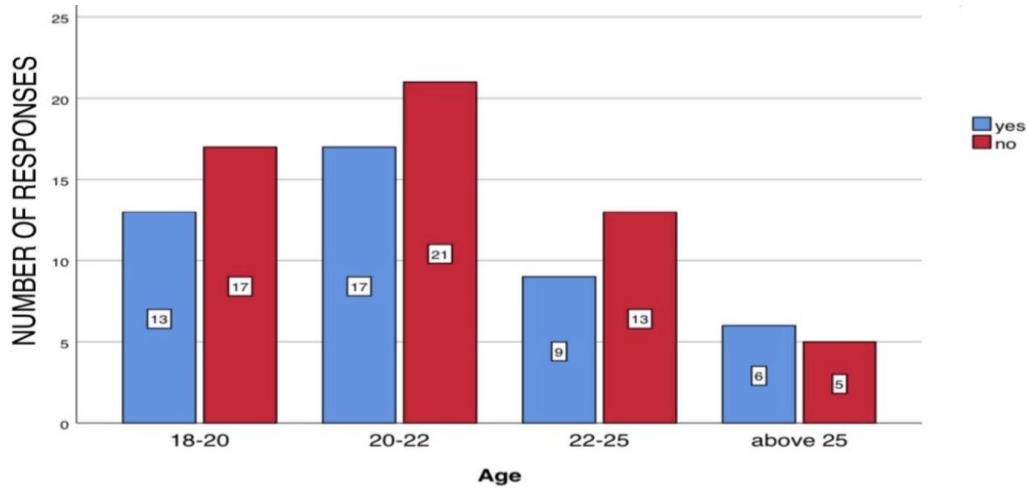


Fig 15: Bar chart represents the association between age and awareness on the role of body dysmorphia. X axis represents the age and Y axis represents the number of the responses. Blue colour represents participants who think body dysmorphia plays a role in cosmetic treatment. Red colour represents participants who do not. Majority of the participants of age 20-22 are unaware that body dysmorphia plays a role in cosmetic treatment. Pearson Chi square value= $p=0.90 (>0.05)$ indicating statistically not significant. Though statistically not significant, this implies the majority of the participants within the age group of 20-22 are aware regarding cosmetic treatment for body dysmorphia.

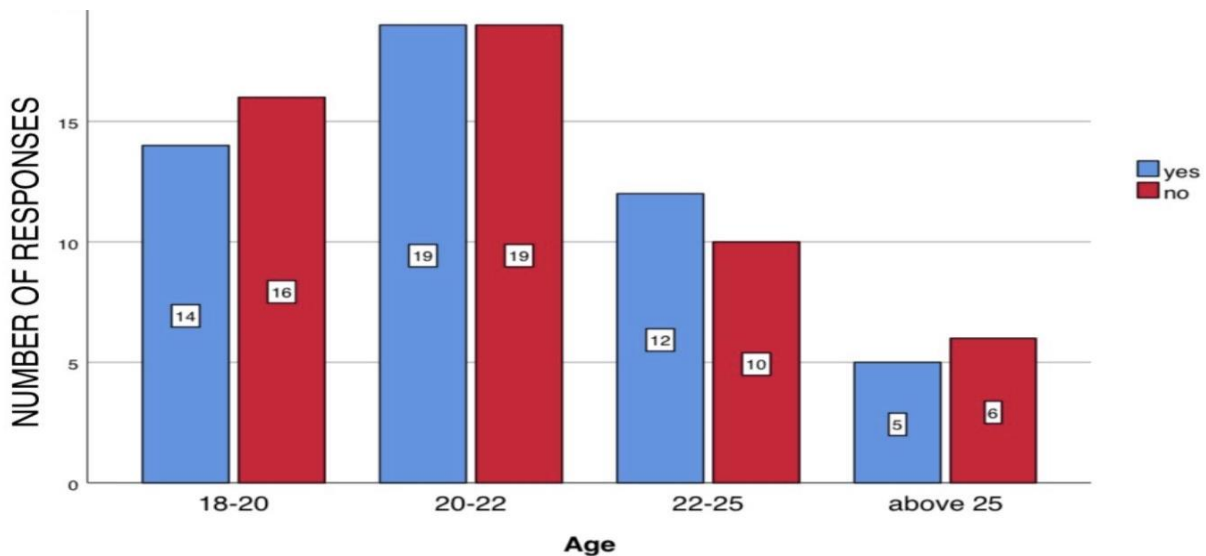


Fig 16: Bar chart represents the association between age and socio economic position. X axis represents the age and Y axis represents responses on whether cosmetic treatment enhances socioeconomic position. Blue colour represents participants who think cosmetic treatment enhances socioeconomic position. Red colour represents participants who do not think cosmetic treatment enhances socioeconomic position. Majority of the participants of age 20-22 think that it enhances their socioeconomic position. Chi square test shows $p=0.94 (>0.05)$ indicating statistically not significant. Though statistically not significant, this implies that the majority of

the students within the age group of 20-22 are aware regarding cosmetic treatments and its influence in socio economic position.

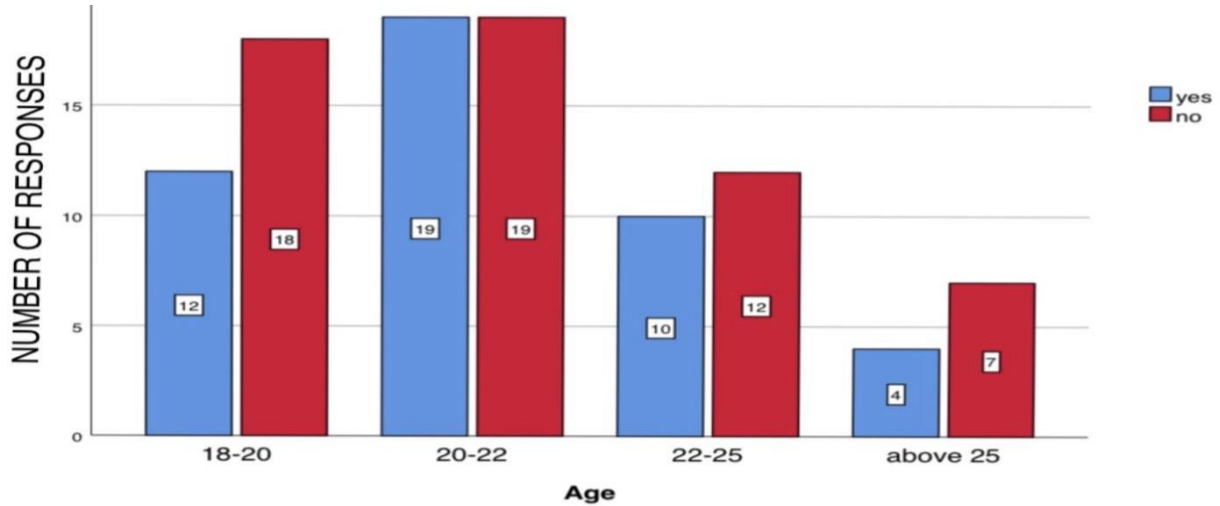


Fig 17: Bar chart represents the association between age and cosmetic treatment. X axis represents the age and Y axis represents the participants who think of undergoing cosmetic treatment in future. Blue colour represents participants who think of undergoing cosmetic treatment. Red colour represents participants who do not. Majority of the people of age 20-22 think of undergoing cosmetic treatment in future. Chi square test shows $p=0.79$ (>0.05) indicating statistically not significant. Though statistically not significant, this implies the majority of the participants within the age group of 20-22 years show their willingness to undergo cosmetic treatments.

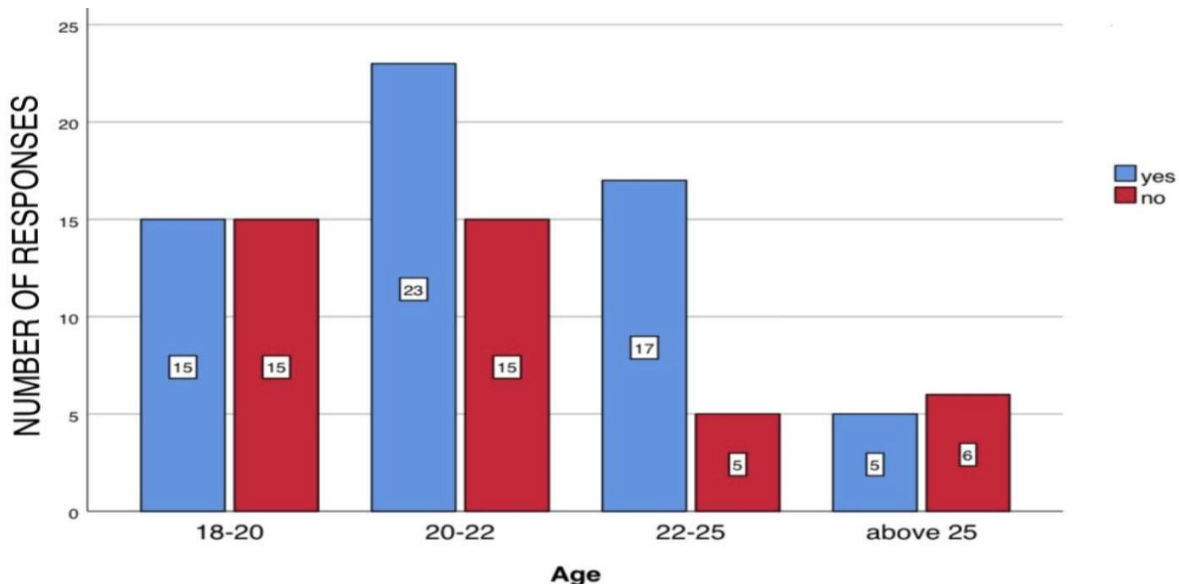


Fig 18: Bar chart represents the association between age and risks associated with cosmetic treatment. X axis represents the age and Y axis represents the number of responses related to

awareness of the risks associated with cosmetic treatment. Blue colour represents participants who are aware of the risks associated with cosmetic treatment. Red colour represents participants who are not aware of the risks associated with cosmetic treatment. Majority of the participants of age 20-22 are aware of the risks associated with cosmetic treatment. Chi square test shows $p=0.17$ (>0.05) indicating statistically not significant. Though statistically not significant, this implies the majority of the students within the age group of 20-22 years were aware about the risks associated with cosmetic treatments.

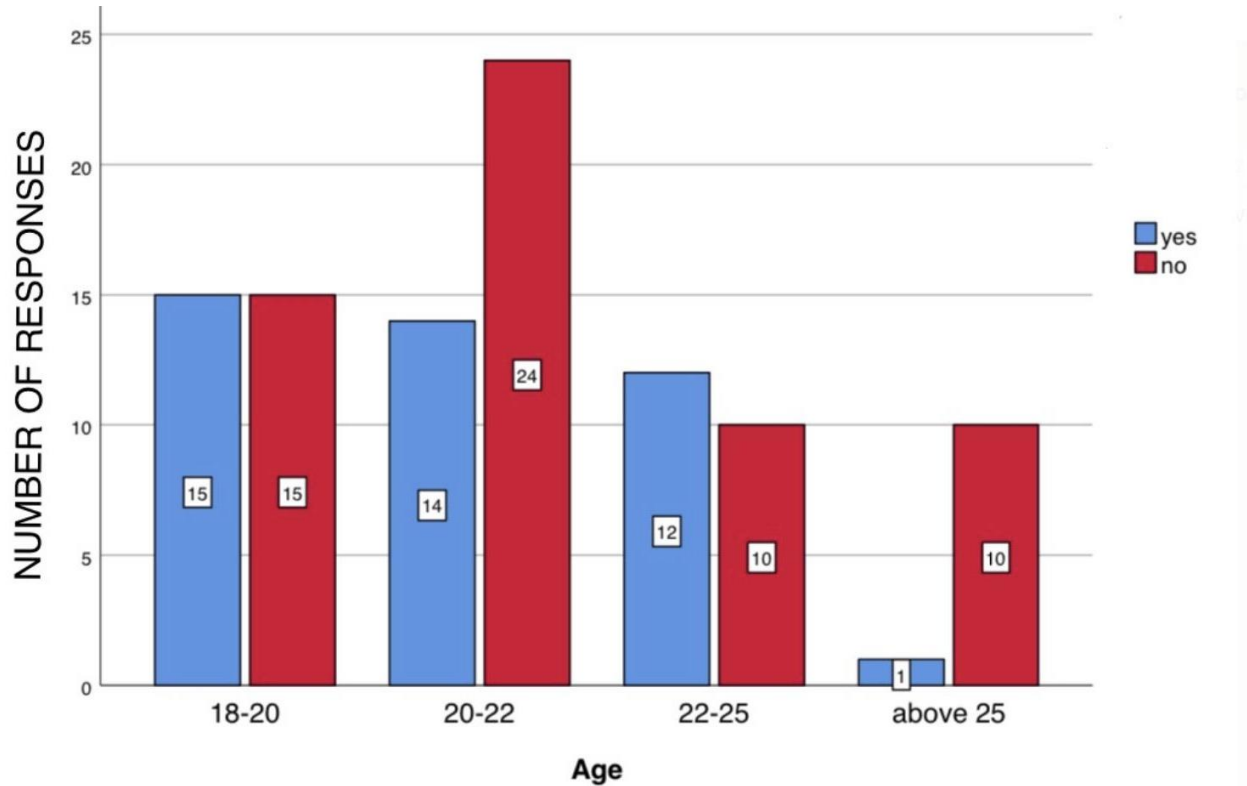


Fig 19: Bar chart represents the association between age and self esteem. X axis represents the age and Y axis represents the number of responses related to the role of self esteem in cosmetic treatment. Blue colour represents participants who think that cosmetic treatment improves self esteem and Red colour represents participants who do not think that cosmetic treatment improves self esteem. Majority of the participants of age 20-22 think that cosmetic treatment does not improve self esteem. Chi square test shows $p=0.06$ (>0.05 indicating statistically not significant) Though statistically not significant, this implies that the majority of the students within the age group of 18-20 years agree cosmetic treatments elevates the self esteem of the individual.

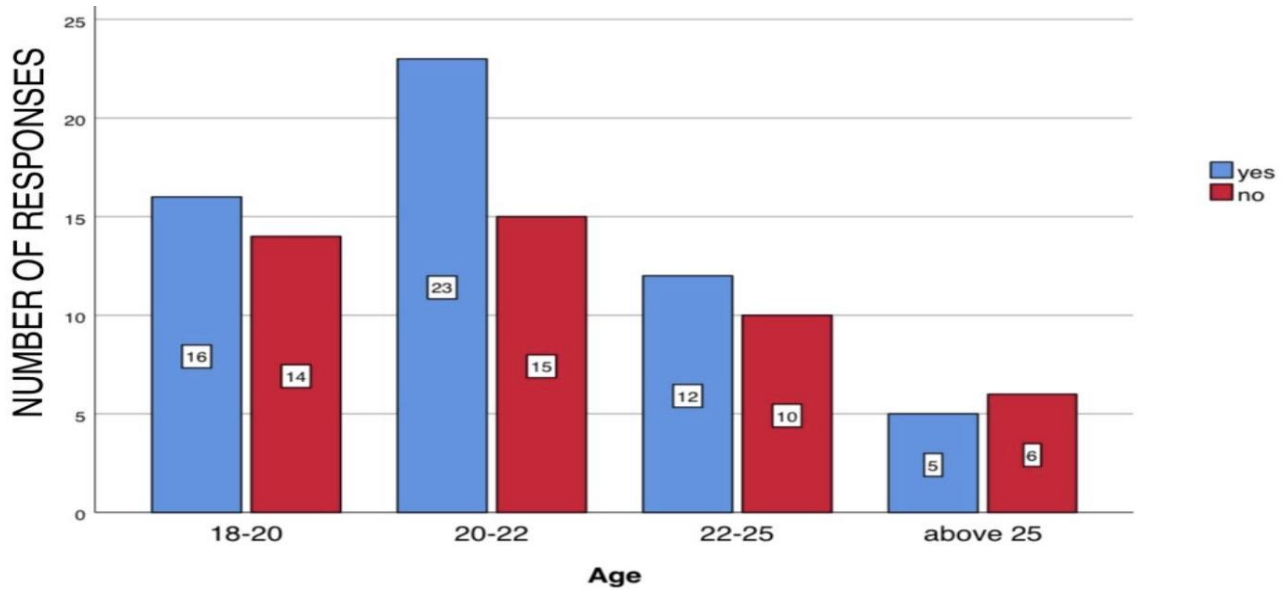


Fig 20: Bar chart represents the association between age and cosmetic procedures. X axis represents the age and Y axis represents the number of responses related to awareness that the procedures done in cosmetic treatment are safe and complication free. Blue colour represents the participants who think the procedures done in cosmetic treatment are safe and complications free. Red colour represents the participants who do not think the procedures done in cosmetic treatment are safe and complication free. Chi square test shows $p=0.82$ (>0.05 indicating statistically not significant). Though statistically not significant, this implies that the majority of the participants within the age group of 20-22 years are aware of the procedures done in cosmetic treatment.

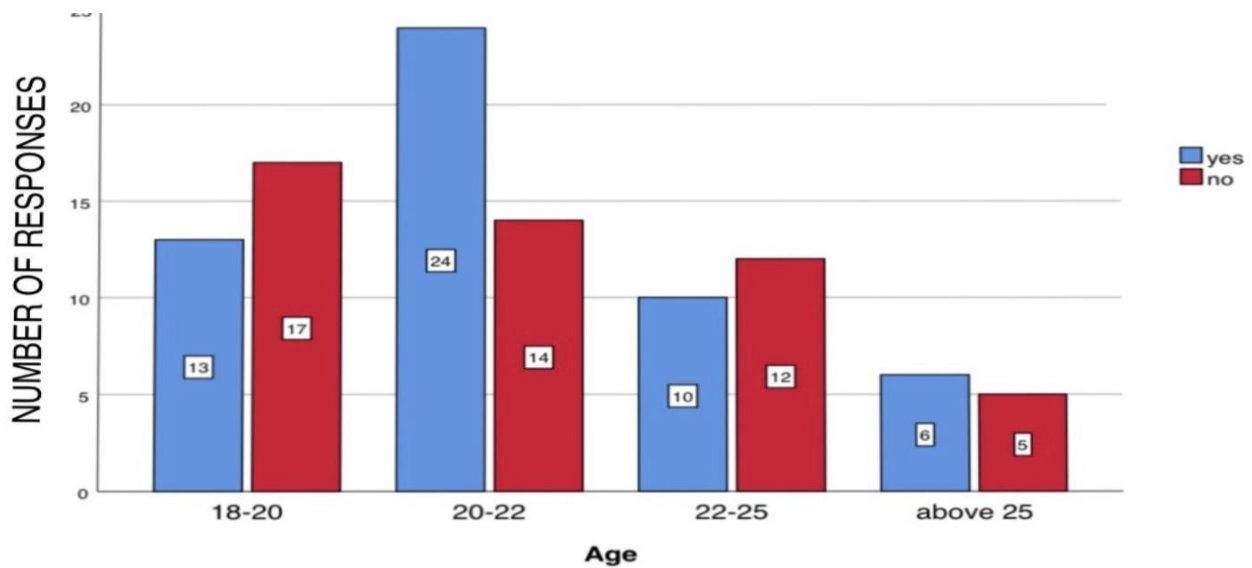


Fig 21: Bar chart represents the association between age and whether the participants support that students of their age undergoing cosmetic treatment. X axis represents the age and Y axis represents the participants who approve the students of their age undergoing cosmetic

treatment. Blue colour represents the participants who approve students of their age undergoing cosmetic treatment. Red colour represents the participants who do not approve students of their age undergoing cosmetic treatment. Majority of the participants of age 20-22 approve of students their age undergoing cosmetic treatment. Chi square test shows $p=0.36$ (>0.05 indicating statistically not significant). Though statistically not significant, this implies that the majority of the participants within the age group of 20-22 years support students of their age undergoing cosmetic treatments.

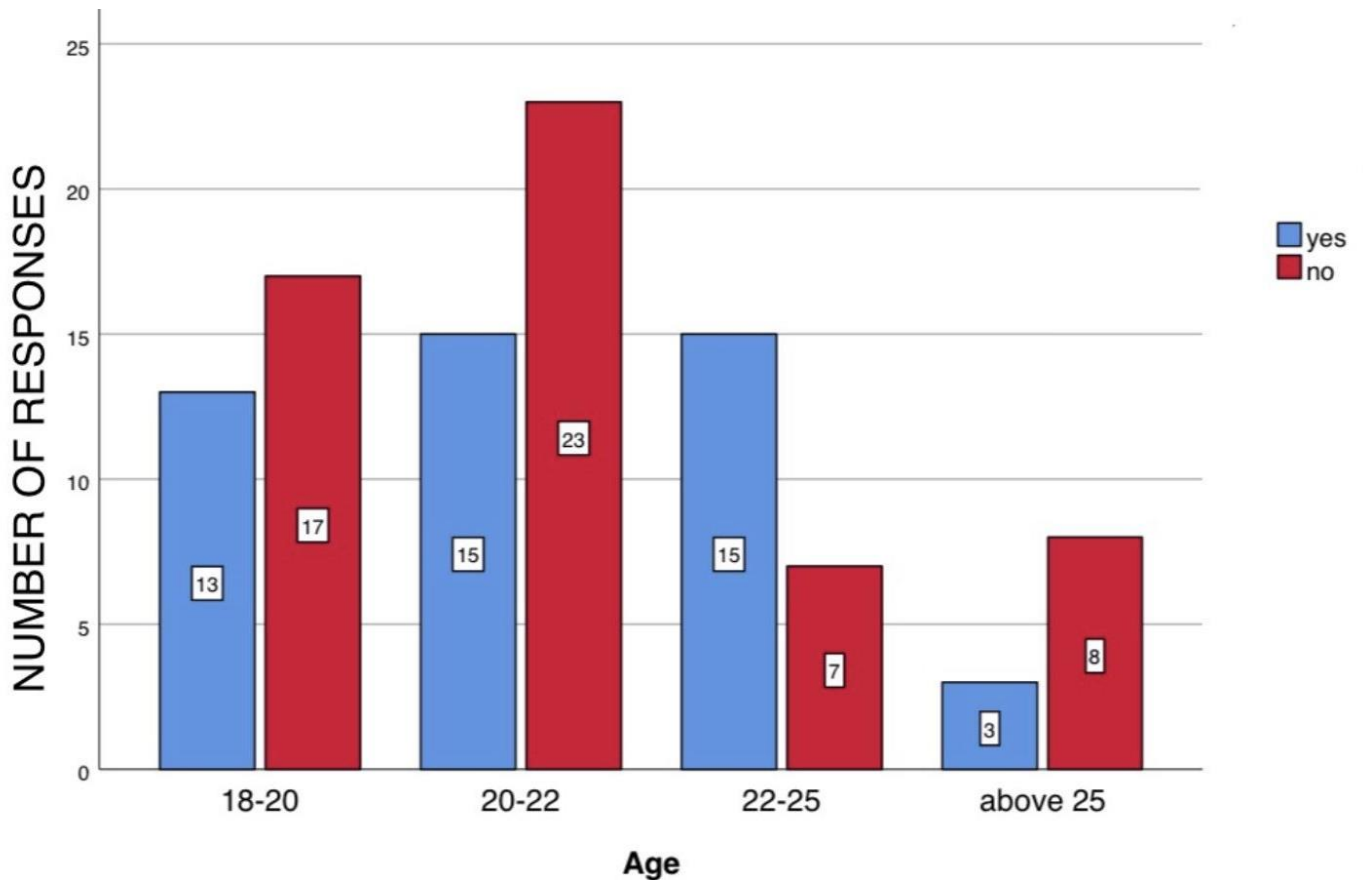


Fig 22: Bar chart represents the association between age and embarrassment in undergoing cosmetic treatment. X axis represents the age and Y axis represents the participants who will be embarrassed about undergoing a cosmetic treatment. Blue colour represents the participants who are embarrassed about undergoing cosmetic treatment and Red colour represents the participants who are not embarrassed about undergoing cosmetic treatment. Chi square test shows $p=0.08$ (>0.05 indicating statistically not significant) Though statistically not significant, this implies that the majority of the participants within the age group of 20-22 years are also embarrassed about undergoing cosmetic treatment

Fig: 1 shows 39.6% of them are male and 60.4% of them are female. Fig: 2 shows 10.9% of people belong to the age of above 25 years, 21.8% of people belong to 22-25 years, 29.7% of people belong to 18-20 years and 37.6% of people belong to 20-22 years. Fig: 3 shows 47.5% of people did not undergo any cosmetic treatment and 52.5% of people have undergone cosmetic treatment. Fig: 4 shows 61% of people have undergone non-surgically and 39% of people have undergone surgery. Fig: 5 shows 44.6% of people have responded that body dysmorphia has a role in cosmetic treatment and 55.4% does not have a role in it. Fig: 6 shows 49.5% of people have responded that cosmetic treatment enhances socio-economic position and 50.5% of people responded it does not enhance. Fig: 7 shows 55% of people think of undergoing cosmetic treatment whereas 45% of people do not think of it. Fig: 8 shows 40.6% of people are aware of the risk associated with cosmetic treatment, 59.4% of people are not aware of it. Fig: 9 shows 41.6% of people have responded that cosmetic treatment improves self esteem and 58.4% have responded that it does not improve. Fig: 10 shows 45% of people have responded that Cosmetic treatment is safe and complication free, whereas 55% of people have responded that it is not safe. Fig: 11 shows 47.5% of people do not approve of students of their age undergoing cosmetic treatment and 52.5% approved it. Fig: 12 shows 45.5% of people are embarrassed about cosmetic treatment and 54.5% are not embarrassed about it. We have seen association using chi square analysis between age and people who have undergone cosmetic treatment (Fig 13), method of cosmetic treatment undergone by the participants (Fig 14), awareness on the role of body dysmorphia in cosmetic treatment (Fig 15), enhancement of socioeconomic position (Fig 16), participants who think of undergoing cosmetic treatment (Fig 17), awareness on the risks associated with cosmetic treatment (Fig 18), role of self esteem in cosmetic treatment (Fig 19), awareness on the procedures done in cosmetic treatment (Fig 20), participants suggestion on cosmetic treatment to the students of their age (Fig 21), participants behaviour towards cosmetic treatment (Fig 22). Comparing the variabilities (Chi square analysis) between age and the method of cosmetic treatment undergone by the participants $p=.00$ and is statistically significant ($p<0.05$) (Fig 14). Comparing the variabilities between between age and people who have undergone cosmetic treatment (Fig 13), awareness on the role of body dysmorphia in cosmetic treatment (Fig 15), enhancement of socioeconomic position (Fig 16), participants who think of undergoing cosmetic treatment (Fig 17), awareness on the risks associated with cosmetic treatment (Fig 18), role of self esteem in cosmetic treatment (Fig 19), awareness on the procedures done in cosmetic treatment (Fig 20), participants suggestion on cosmetic treatment to the students of their age (Fig 21), participants behaviour towards cosmetic treatment (Fig 22) are statistically not significant ($p>0.05$). Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; VijayashreePriyadharsini, SmilineGirija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; VijayashreePriyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel, 2021)

A previous study conducted by Sarwer DB *et al*, in which 30% of people have undergone cosmetic treatment which is slightly similar to the result of present study (fig: 3) (Sarwer *et al.*, 2005). A previous study conducted by Crerand CE *et al* stated that 7-15% of people suffer from body dysmorphia (Crerand, Franklin and Sarwer, 2006) which is compared with the awareness of body dysmorphia in the present study (fig: 5). A previous study conducted by Yeak S *et al*, 44% of people considered undergoing cosmetic treatment (Ng *et al.*, 2014) which is compared with the present study (fig: 7). a previous study conducted by Yeak S *et al* , 51.8% are not aware of the

risks(Ng *et al.*, 2014) and this is compared with the present study (fig: 8). A study conducted by Yeak S et al, 35% of students approve students of their age undergoing cosmetic treatment(Ng *et al.*, 2014) which is compared with the results of the present study (fig:11).From a previous study conducted by Yeak S et al, 28.5% and 31.5% of people Junior college and medical students are embarrassed about cosmetic treatment (Ng *et al.*, 2014)which is compared with the present study(fig: 12). The limitation of the study is inclusion of more criteria and increase in sample size. The future scope is to get awareness of the risks and complications of cosmetic treatment.

CONCLUSION

Within the limitations of this study the following conclusion can be drawn, It may be concluded that the level of awareness about cosmetic procedures is inadequate, there is more fascination towards the cosmetic treatments in the students below the age 22 years age groups. With the progressive increase in the number of people who undergo cosmetic treatments, there is a need in understanding the requirement, assessing the risks of cosmetic procedures both surgical and nonsurgical by the college students.

REFERENCES

1. Ajay, R. *et al.* (2017) 'Effect of surface modifications on the retention of cement-retained implant crowns under fatigue loads: An In vitro study', *Journal of Pharmacy And Bioallied Sciences*, p. 154. doi: 10.4103/jpbs.jpbs_146_17.
2. Ariga, P. *et al.* (2018a) 'Determination of Correlation of Width of Maxillary Anterior Teeth using Extraoral and Intraoral Factors in Indian Population: A Systematic Review', *World Journal of Dentistry*, pp. 68–75. doi: 10.5005/jp-journals-10015-1509.
3. Ariga, P. *et al.* (2018b) 'Determination of correlation of width of Maxillary Anterior Teeth using Extraoral and Intraoral Factors in Indian Population: A systematic review', *World journal of dentistry*, 9(1), pp. 68–75.
4. Ashok, V. *et al.* (2014) 'Lip Bumper Prosthesis for an Acromegaly Patient: A Clinical Report', *The Journal of Indian Prosthodontic Society*, pp. 279–282. doi: 10.1007/s13191-013-0339-6.
5. Ashok, V. and Suvitha, S. (2016) 'Awareness of all ceramic restoration in rural population', *Research Journal of Pharmacy and Technology*, p. 1691. doi: 10.5958/0974-360x.2016.00340.1.
6. Basha, F. Y. S., Ganapathy, D. and Venugopalan, S. (2018a) 'Oral Hygiene Status among Pregnant Women', *Research Journal of Pharmacy and Technology*, p. 3099. doi: 10.5958/0974-360x.2018.00569.3.
7. Basha, F. Y. S., Ganapathy, D. and Venugopalan, S. (2018b) 'Oral hygiene status among pregnant women', *Journal of advanced pharmaceutical technology & research*, 11(7), p. 3099.
8. Bradbury, E. (1994) 'The psychology of aesthetic plastic surgery', *Aesthetic plastic surgery*, 18(3), pp. 301–305.
9. Champion, H. and Furnham, A. (1999) 'The effect of the media on body satisfaction in adolescent girls', *European Eating Disorders Review*, pp. 213–228. doi: 10.1002/(sici)1099-0968(199906)7:3<213::aid-erv229>3.0.co;2-w
10. Chandrasekar, R. *et al.* (2020) 'Development and validation of a formula for objective assessment of cervical vertebral bone age', *Progress in orthodontics*, 21(1), p. 38.

11. Crerand, C. E., Franklin, M. E. and Sarwer, D. B. (2006) 'Body dysmorphic disorder and cosmetic surgery', *Plastic and reconstructive surgery*, 118(7), p. 167e–80e.
12. Duraisamy, R. *et al.* (2019) 'Compatibility of Nonoriginal Abutments With Implants: Evaluation of Microgap at the Implant-Abutment Interface, With Original and Nonoriginal Abutments', *Implant dentistry*, 28(3), pp. 289–295.
13. Ezhilarasan, D., Apoorva, V. S. and Ashok Vardhan, N. (2019) 'Syzygiumcumini extract induced reactive oxygen species-mediated apoptosis in human oral squamous carcinoma cells', *Journal of oral pathology & medicine: official publication of the International Association of Oral Pathologists and the American Academy of Oral Pathology*, 48(2), pp. 115–121.
14. Furnham, A. and Levitas, J. (2012) 'Factors that motivate people to undergo cosmetic surgery', *The Canadian journal of plastic surgery = Journal canadien de chirurgie plastique*, 20(4), pp. e47–50.
15. Ganapathy, D. (2016) 'Effect of Resin Bonded Luting Agents Influencing Marginal Discrepancy in All Ceramic Complete Veneer Crowns', *JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH*. doi: 10.7860/jcdr/2016/21447.9028.
16. Ganapathy, D. M., Kannan, A. and Venugopalan, S. (2017) 'Effect of Coated Surfaces influencing Screw Loosening in Implants: A Systematic Review and Meta-analysis', *World Journal of Dentistry*, pp. 496–502. doi: 10.5005/jp-journals-10015-1493.
17. Gheena, S. and Ezhilarasan, D. (2019) 'Syringic acid triggers reactive oxygen species-mediated cytotoxicity in HepG2 cells', *Human & experimental toxicology*, 38(6), pp. 694–702.
18. Glaser, D. A. and Kaminer, M. S. (2005) 'Body Dysmorphic Disorder and the Liposuction Patient', *Dermatologic Surgery*, pp. 559–561. doi: 10.1097/00042728-200505000-00012.
19. Hannah, R. *et al.* (2018) 'Awareness about the use, ethics and scope of dental photography among undergraduate dental students dentist behind the lens', *Journal of advanced pharmaceutical technology & research*, 11(3), p. 1012.
20. Hema Shree, K. *et al.* (2019) 'Saliva as a Diagnostic Tool in Oral Squamous Cell Carcinoma - a Systematic Review with Meta Analysis', *Pathology oncology research: POR*, 25(2), pp. 447–453.
21. Honigman, R. and Castle, D. J. (2006) 'Aging and cosmetic enhancement', *Clinical Interventions in Aging*, pp. 115–119. doi: 10.2147/ciia.2006.1.2.115.
22. Hussainy, S. N. *et al.* (2018) 'Clinical performance of resin-modified glass ionomer cement, flowable composite, and polyacid-modified resin composite in noncarious cervical lesions: One-year follow-up', *Journal of conservative dentistry: JCD*, 21(5), pp. 510–515.
23. Jain, A., Ranganathan, H. and Ganapathy, D. (2017) 'Cervical and incisal marginal discrepancy in ceramic laminate veneering materials: A SEM analysis', *Contemporary Clinical Dentistry*, p. 272. doi: 10.4103/ccd.ccd_156_17.
24. Janani, K., Palanivelu, A. and Sandhya, R. (2020) 'Diagnostic accuracy of dental pulse oximeter with customized sensor holder, thermal test and electric pulp test for the evaluation of pulp vitality: an in vivo study', *Brazilian dental science*, 23(1). doi: 10.14295/bds.2020.v23i1.1805.
25. Jeevanandan, G. and Govindaraju, L. (2018) 'Clinical comparison of Kedo-S paediatric rotary files vs manual instrumentation for root canal preparation in primary molars: a

- double blinded randomised clinical trial’, *European archives of paediatric dentistry: official journal of the European Academy of Paediatric Dentistry*, 19(4), pp. 273–278.
26. Johnson, J. *et al.* (2020) ‘Computational identification of MiRNA-7110 from pulmonary arterial hypertension (PAH) ESTs: a new microRNA that links diabetes and PAH’, *Hypertension research: official journal of the Japanese Society of Hypertension*, 43(4), pp. 360–362.
 27. Jose, J., Ajitha and Subbaiyan, H. (2020) ‘Different treatment modalities followed by dental practitioners for Ellis class 2 fracture – A questionnaire-based survey’, *The open dentistry journal*, 14(1), pp. 59–65.
 28. Haque, M., McKimm, J., Sartelli, M., Samad, N., Haque, S.Z., Bakar, M.A. A narrative review of the effects of sugar-sweetened beverages on human health: A key global health issue(2020) *Journal of Population Therapeutics and Clinical Pharmacology*, 27 (1), pp. e76-e103.
 29. Kannan, A. and Venugopalan, S. (2018a) ‘A systematic review on the effect of use of impregnated retraction cords on gingiva’, *Research Journal of Pharmacy and Technology*, p. 2121. doi: 10.5958/0974-360x.2018.00393.1.
 30. Kannan, A. and Venugopalan, S. (2018b) ‘A systematic review on the effect of use of impregnated retraction cords on gingiva’, *Journal of advanced pharmaceutical technology & research*, 11(5), p. 2121.
 31. Kim, Y. A., Chae, D. and Kim, H. (2017) ‘Factors Affecting Acceptance of Cosmetic Surgery Among Undergraduate Students’, *The Journal of the Korea Contents Association*, pp. 455–464. doi: 10.5392/jkca.2017.17.01.455.
 32. Kumar, D. and Antony, S. D. P. (2018) ‘Calcified canal and negotiation-A review’, *Journal of advanced pharmaceutical technology & research*, 11(8), p. 3727.
 33. Manohar, M. P. and Sharma, S. (2018) ‘A survey of the knowledge, attitude, and awareness about the principal choice of intracanal medicaments among the general dental practitioners and nonendodontic specialists’, *Indian journal of dental research: official publication of Indian Society for Dental Research*, 29(6), pp. 716–720.
 34. Mathew, M. G. *et al.* (2020) ‘Evaluation of adhesion of Streptococcus mutans, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: Randomized controlled trial’, *Clinical oral investigations*, pp. 1–6.
 35. Menon, S. *et al.* (2018) ‘Selenium nanoparticles: A potent chemotherapeutic agent and an elucidation of its mechanism’, *Colloids and surfaces. B, Biointerfaces*, 170, pp. 280–292.
 36. Miller, M. C. (2005) ‘What is body dysmorphic disorder?’, *The Harvard mental health letter / from Harvard Medical School*, 22(1), p. 8.
 37. Mühlhan, H., Eisenmann-Klein, M. and Schmidt, S. (2007) ‘Psychological Features in a German Sample of Female Cosmetic Surgery Candidates’, *Aesthetic Plastic Surgery*, pp. 746–751. doi: 10.1007/s00266-006-0211-8.
 38. Nandakumar, M. and Nasim, I. (2018) ‘Comparative evaluation of grape seed and cranberry extracts in preventing enamel erosion: An optical emission spectrometric analysis’, *Journal of conservative dentistry: JCD*, 21(5), pp. 516–520.
 39. Nandhini, J. S. T., Babu, K. Y. and Mohanraj, K. G. (2018) ‘Size, shape, prominence and localization of gerdy’s tubercle in dry human tibial bones’, *Journal of advanced pharmaceutical technology & research*, 11(8), p. 3604.
 40. Ng, J. H. *et al.* (2014) ‘Cosmetic procedures among youths: a survey of junior college

- and medical students in Singapore’, *Singapore medical journal*, 55(8), pp. 422–426.
41. Pc, J., Marimuthu, T. and Devadoss, P. (2018) ‘Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study’, *Clinical implant dentistry and related research*. Available at: <https://europepmc.org/article/med/29624863>.
 42. Rajakeerthi and Ms, N. (2019) ‘Natural Product as the Storage medium for an avulsed tooth – A Systematic Review’, *Cumhuriyet Üniversitesi Diş Hekimliği Fakültesi Dergisi*, 22(2), pp. 249–256.
 43. Rajendran, R. *et al.* (2019) ‘Comparative evaluation of remineralizing potential of a paste containing bioactive glass and a topical cream containing casein phosphopeptide-amorphous calcium phosphate: An in vitro study’, *Pesquisabrasileira em Odontopediatria e Clínica Integrada*, 19(1), pp. 1–10.
 44. Ramadurai, N. *et al.* (2019) ‘Effectiveness of 2% Articaine as an anesthetic agent in children: randomized controlled trial’, *Clinical oral investigations*, 23(9), pp. 3543–3550.
 45. Ramesh, A. *et al.* (2018) ‘Comparative estimation of sulfiredoxin levels between chronic periodontitis and healthy patients - A case-control study’, *Journal of periodontology*, 89(10), pp. 1241–1248.
 46. Ravinthar, K. and Jayalakshmi (2018) ‘Recent advancements in laminates and veneers in dentistry’, *Journal of advanced pharmaceutical technology & research*, 11(2), p. 785.
 47. R, H. *et al.* (2020) ‘CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene’, *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*, pp. 306–312. doi: 10.1016/j.oooo.2020.06.021.
 48. Ribeiro, R. V. E. (2017) ‘Prevalence of Body Dysmorphic Disorder in Plastic Surgery and Dermatology Patients: A Systematic Review with Meta-Analysis’, *Aesthetic plastic surgery*, 41(4), pp. 964–970.
 49. Rohrich, R. J. and Steinstraesser, L. (2013) ‘Plastic and Reconstructive Surgery’, *Plastic and Reconstructive Surgery*, pp. 1439–1440. doi: 10.1097/prs.0b013e31828b37a9.
 50. Samuel, S. R. (2021) ‘Can 5-year-olds sensibly self-report the impact of developmental enamel defects on their quality of life?’, *International journal of paediatric dentistry / the British Paedodontic Society [and] the International Association of Dentistry for Children*, 31(2), pp. 285–286.
 51. Sarwer, D. B. *et al.* (1998) ‘THE PSYCHOLOGY OF COSMETIC SURGERY: A REVIEW AND RECONCEPTUALIZATION’, *Clinical Psychology Review*, pp. 1–22. doi: 10.1016/s0272-7358(97)00047-0.
 52. Sarwer, D. B. *et al.* (2005) ‘Female college students and cosmetic surgery: an investigation of experiences, attitudes, and body image’, *Plastic and reconstructive surgery*, 115(3), pp. 931–938.
 53. Sekar, D. *et al.* (2019) ‘Methylation-dependent circulating microRNA 510 in preeclampsia patients’, *Hypertension research: official journal of the Japanese Society of Hypertension*, 42(10), pp. 1647–1648.
 54. Selvan, S. R. and Ganapathy, D. (2016) ‘Efficacy of fifth generation cephalosporins against methicillin-resistant *Staphylococcus aureus*-A review’, *Research Journal of Pharmacy and Technology*, p. 1815. doi: 10.5958/0974-360x.2016.00369.3.
 55. Seppan, P. *et al.* (2018) ‘Therapeutic potential of *Mucuna pruriens* (Linn.) on ageing induced damage in dorsal nerve of the penis and its implication on erectile function: an

- experimental study using albino rats’, *The aging male: the official journal of the International Society for the Study of the Aging Male*, pp. 1–14.
56. Sharma, P. *et al.* (2019) ‘Emerging trends in the novel drug delivery approaches for the treatment of lung cancer’, *Chemico-biological interactions*, 309, p. 108720.
57. Siddique, R. *et al.* (2019) ‘Qualitative and quantitative analysis of precipitate formation following interaction of chlorhexidine with sodium hypochlorite, neem, and tulsi’, *Journal of conservative dentistry: JCD*, 22(1), pp. 40–47.
58. von Soest, T. *et al.* (2006) ‘Psychosocial factors predicting the motivation to undergo cosmetic surgery’, *Plastic and reconstructive surgery*, 117(1), pp. 51–62; discussion 63–4.
59. Sridharan, G. *et al.* (2019) ‘Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma’, *Journal of oral pathology & medicine: official publication of the International Association of Oral Pathologists and the American Academy of Oral Pathology*, 48(4), pp. 299–306.
60. Subasree, S., Murthykumar, K. and Dhanraj (2016) ‘Effect of Aloe Vera in Oral Health- A Review’, *Research Journal of Pharmacy and Technology*, p. 609. doi: 10.5958/0974-360x.2016.00116.5.
61. Swami, V. (2009) ‘Body appreciation, media influence, and weight status predict consideration of cosmetic surgery among female undergraduates’, *Body image*, 6(4), pp. 315–317.
62. Teja, K. V., Ramesh, S. and Priya, V. (2018) ‘Regulation of matrix metalloproteinase-3 gene expression in inflammation: A molecular study’, *Journal of conservative dentistry: JCD*, 21(6), pp. 592–596.
63. Veale, D. (2008) ‘Body Dysmorphic Disorder’, *Oxford Handbooks Online*. doi: 10.1093/oxfordhb/9780195307030.013.0041.
64. Venugopalan, S. *et al.* (2014) ‘Magnetically retained silicone facial prosthesis’, *Nigerian journal of clinical practice*, 17(2), pp. 260–264.
65. Vijayalakshmi, B. and Ganapathy, D. (2016) ‘Medical management of cellulitis’, *Research Journal of Pharmacy and Technology*, p. 2067. doi: 10.5958/0974-360x.2016.00422.4.
66. VijayashreePriyadharsini, J. (2019) ‘In silico validation of the non-antibiotic drugs acetaminophen and ibuprofen as antibacterial agents against red complex pathogens’, *Journal of periodontology*, 90(12), pp. 1441–1448.
67. VijayashreePriyadharsini, J., SmilineGirija, A. S. and Paramasivam, A. (2018) ‘In silico analysis of virulence genes in an emerging dental pathogen *A. baumannii* and related species’, *Archives of oral biology*, 94, pp. 93–98.