

**KNOWLEDGE, ATTITUDE AND AWARENESS ON USE OF OPTRADAM AMONG
DENTAL STUDENT**

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Author Contribution

Data collection, collection of reviews, manuscript proofing was done by Lekha dhanasekaran. Structuring study designs, manuscript revisions, Drafting, revising manuscript and final manuscript approval was done by Dr. Adimulapu Hima Sandeep

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Abstract

Objective : Optra dam is a three-dimensional rubber dam that is flexible and has the anatomical shape of the mouth. It is used for complete isolation to control the spread of diseases in practice and help in reduction of the infection during practice. Some of the advantages of Optra dam is that it doesn't need a frame thereby making the patient feel more comfortable during the entire duration of the procedure. It improves contrast and isolation when performing restorative procedures. Also provides safety and protection for patients by preventing accidental aspiration of the instruments.

Materials and methods: Questionnaire was designed to evaluate knowledge, attitude and awareness towards the use of the optra dam amid dental students. The questions were distributed through the google forms. Responses were then tabulated and statistically analysed.

Results: This is a survey based on knowledge, attitude and awareness on opradam among dental students in which 66% of the population think opradam is superior compared to other rubber dams in which 45% are female and 21 % are male. Pearson chi square test present p value as 0.752, (p value > 0.05) So, it is substantive to be statistically not significant.

Conclusion : The present day dental students are very much aware about the importance of using opradam in clinics. But in order to enhance their knowledge in this particular topic we can organise various dental education programs and lectures which would provide an update on the modern improvements in this particular field.

Keywords : Awareness , Attitude , Innovative technology , Knowledge , Opradam , Rubber dam

Introduction

For every operating procedure it is crucial that there should be proper moisture control and also good quality of visibility for the instrument around the working area ^[1]. The main focus of isolation is moisture control , retraction and also prevention of mishaps. Isolation from moisture can be done by direct and indirect method. Direct methods include rubber dams , cotton rolls, gauze pieces and suction devices indirect methods include local anaesthesia and drugs like muscle relaxant and anti anxiety drugs ^[2]. The main advantages of isolation is to obtain a clean operative field, improved access, improved properties of the dental material and it also prevents aspiration of small instruments or perhaps debris which are associated with the operative procedures. ^[3]There are also some disadvantages such as its time consuming, patients' objection for placement, the minor damages that occur on the marginal gingiva during clam placement and also ceramic crowns could be fractured owing to improper clam selection^[4]. The soft tissue isolated as a result of dam placement include the retraction of the cheek, lip and tongue ^[5]

There are various types of rubber dam sheet. It is available in different sizes and colours, 5x5 inch and 6x6 inches sheets are commercially available. The rubber dam is segregated into green , black and blue based on its properties ^[6]. There are 2 sides of a rubber dam which is a shining and dull side in which the dull side is less light reflective when it is placed in a way facing the operator where the thicker dam is more effective in retracting the tissue and has more resistance to tear resistance whereas the thinner materials have the advantage of passing into the contacts easier which is helpful for tight contacts ^[7] . There are three types of rubber dams which are commercially available now which are latex rubber dam , non latex rubber dam and optra dam ^[8]. The latex rubber dam is the rubber dam which is normally used in restorative procedures and for people with latex allergy, non latex rubber dams are used . Opra dam is a three dimensional dam which is used among dental practitioners^[9] . There are some conditions in which rubber dams cannot be used , such conditions are teeth which does not have sufficient

to support the retain, some third molars, extremely malpositioned teeth, patient suffering from asthma, upper respiratory tract infection, presence of orthodontic appliance, psychological reasons etc^[10]

Optra dam is a three-dimensional rubber dam that is flexible and has the anatomical shape of the mouth. It is used for complete isolation to control the spread of effects of diseases in practice and help in reduction of the infection during practice^{[11], [12]}. It is available in both regular and small sizes^[13]. The soft material allowed invention to make only the mobility of the jaw along with comfort throughout the procedure. It help in optimum isolation as well as a comfort for patients^[14]. Our research and knowledge have resulted in high-quality publications from our team^[15-29] The aim of the study is to determine the knowledge, attitude and awareness on optradam among dental students

Materials and methods

This study setting includes an online survey involving undergraduates of age between 18 - 23 from different locations. Ethical approval and informed consent from the participants is required. This is a cross sectional descriptive Survey that was conducted among 100 dental students. Convenience sampling was done. The study was approved by the scientific review board. The measure taken to minimize the sampling bias is stratification and matching independent variables in a selected sample. The internal validity is the usage of a pretested questionnaire. The external validity is homogenization and replication of the experiment.

Data was collected. A questionnaire contained a set of 15 questions with a validity checking. Data collection software was used. Data manipulation/ clean up in excel spreadsheet. The list of output variables that are to be assessed are the effect of knowledge, awareness of optra dam among dental students. The method of representation of each output variable is depicted in the form of a pie chart.

The statistical software used is a SPSS version 21. The list of independent variables are knowledge, awareness and practice. The list of dependent variables is Rubber dam. The type of analysis used is the correlation and association in chi square. The steps followed in software analysis.

Results

Based on the present study when the students were asked on their preference on the use of rubber dam 94% of the population responded sometimes there are 6% of the population responded all times [Figure 1]

When participants were asked if they are aware of the types of rubber dam that are commercially available, 65% of the population responded yes whereas 35 % of the population responded no. [Figure 2].

When the total population asks about if they ever heard about “optradam” 65% of the population has said yes and 35% of the population have said no [Figure 3].

When the participants were asked if they knew optradam can be used in both upper and lower jaw at the same time and about 78% of the participants responded yes whereas the remaining 22% of the participants responded no [Figure 4].

When the participants were asked about whether they were aware that optradam is used in absolute isolation to control the spread of infectious disease in dental practice, about 64% of the population said yes whereas 36% of the population answered no [Figure 5] .

When the participants were asked if they knew that optradam is especially preferred in treatment of anterior teeth 47% of the population said yes whereas 53% of the population answered no [Figure 6].

When the participants were asked which isolation method they prefer where 63% of the population use rubber dams as the main isolation method, 13% constitute 1st year, 11% constitute 2nd year ,12% constitute 3rd year, 15% constitute 4th year and 12% constitute 5th year. [Figure7].

When the participants were asked if they think optra dam is superior compared to other rubber dams, 66% of the population think optradam is superior compared to other rubber dams in which 13% constitutes 1st year, 11% constitute 2nd year ,12% constitutes 3rd year ,15% constitute 4th year and 12% constitute 5th year. [Figure 8]

Discussion

Isolating the working area also includes isolation done from moisture like saliva, blood and GCF (gingival crevicular fluid) and isolation done from the soft tissues like lips, cheeks, gingiva and tongue .^[30] Rubber dams are one of the isolation methods widely used among dental practitioners and it also helps reduce aerosols and prevent the patient from swallowing any debris associated with the operating procedure. ^[31]

Recently introduced optra dam have attracted the attention of many dental practitioners where opera dams are much easier and conventional to use than the normal rubber dams and the patient can be comfortable. ^[32]. Some of the advantages of Optra dam is easy to use, better patient compliance, safety and protection for patients, dentists and the people around it , it reduces the speed and spread of the aerosol and infectious disease in the practice and also it doesn't need a frame in which patients feel more comfort compared to the traditional rubber dam ^[33] ^[34] Opera dam represents the next generation of rubber dam with which it has the benefits of cheek retractor with total isolation seen in a normal rubber dam ^[35]. It is highly flexible and the inner ring pattern helps it to be placed without the need of clumps and also

less time consumption as there is no need for separation of rubber dam frame making it even more time and cost efficient.^[36] The and there are clamps the in the normal rubber dam which may affect the marginal gingiva of the patient whereas optra dams acts without clubs which helps in prevention of affecting which affecting the margins gingiva^{[37], [38]}

There may be some limitations for this study. Foremost, the sample size is lower in number, has response bias and survey fatigue and also it is a homogenous population which may mislead the results .

Future scope of this study is to do a another complete study on opradam in restorative procedures in a larger population and a larger scale

Conclusion

According to this survey we can conclude that the present day dental students are very much aware about the way of using opradam in various scenarios. This study has shown an increase in the awareness of opradam mainly among female dental students. This study shows the importance of creating awareness on different types of rubber dams that can be used in regular clinical use for better enhancement of different dental procedures. More awareness programs and lectures should be conducted on various types of rubber dams in order to gain more knowledge.

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Figures:

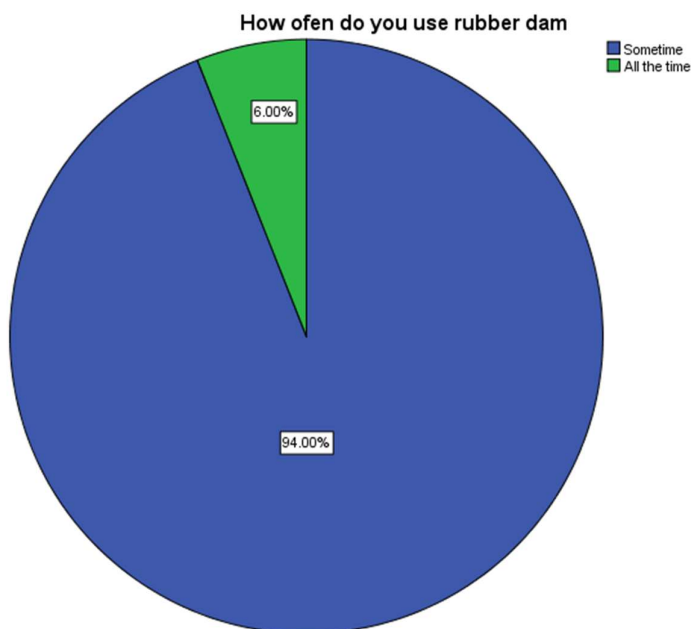


Figure 1: Among total population, about 94 % of the population agree that they would use rubber dams often compared to the other isolation methods

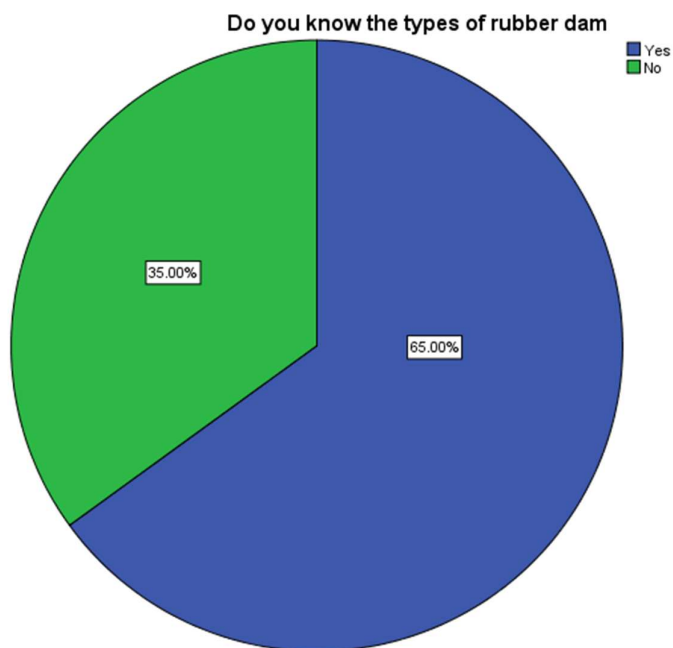


Figure 2: Among total population, 65% percentage of the population agree that they have knowledge regarding the types of rubber dam that are commercially available

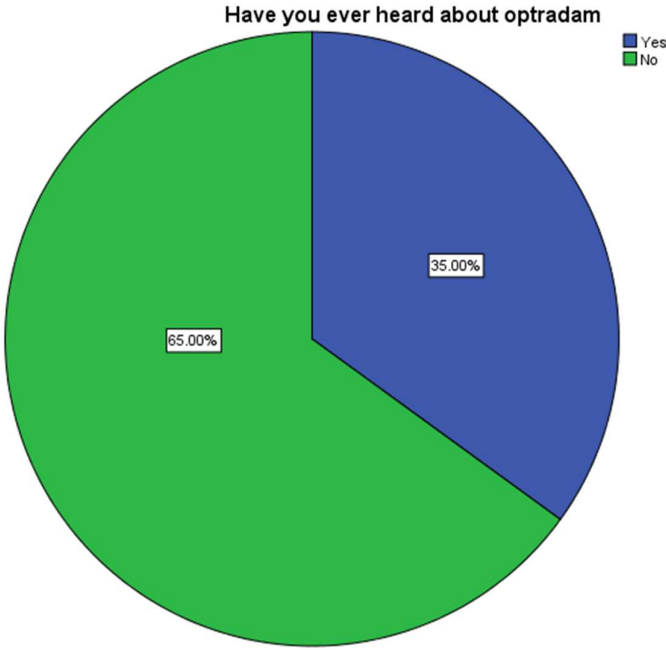


Figure 3 : Among the total population 65 percentage of the population are aware of the term “optra dam” and it's used in isolation

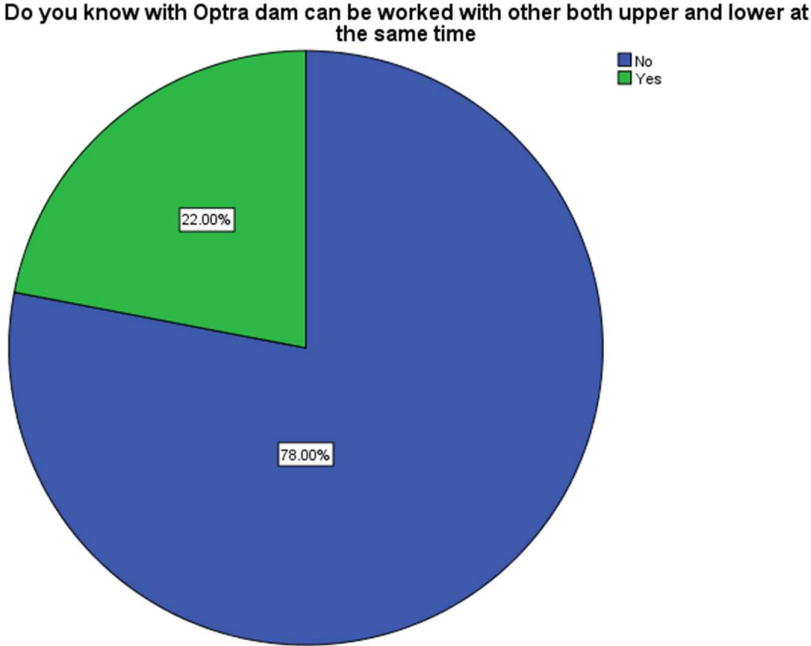


Figure 4 : Among the total population only 22 % of the population is aware that opradam can be work on both upper and lower jaw at the same time whereas the rest 78% are not aware

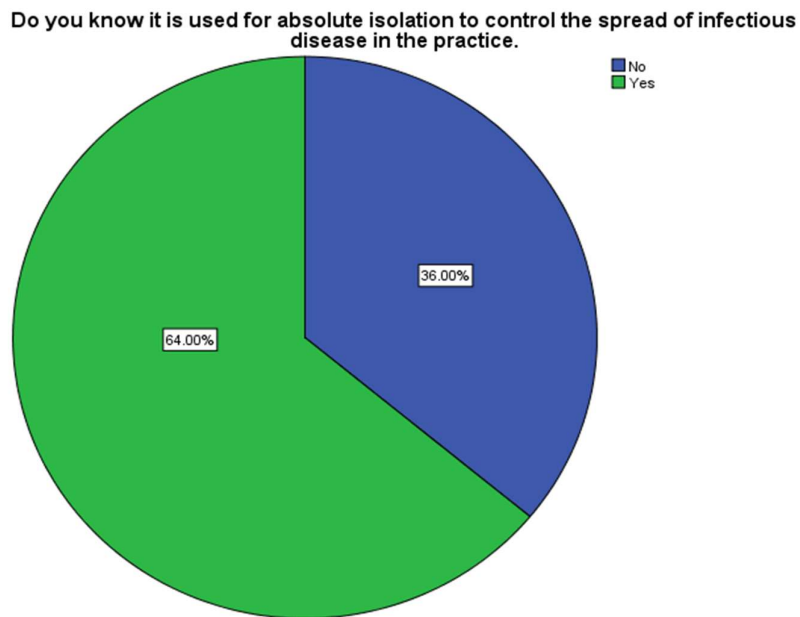


Figure 5 : Among the total population about 64 % of the population is aware that it optra dams is used in absolute isolation to control the spread of infectious disease during dental practice

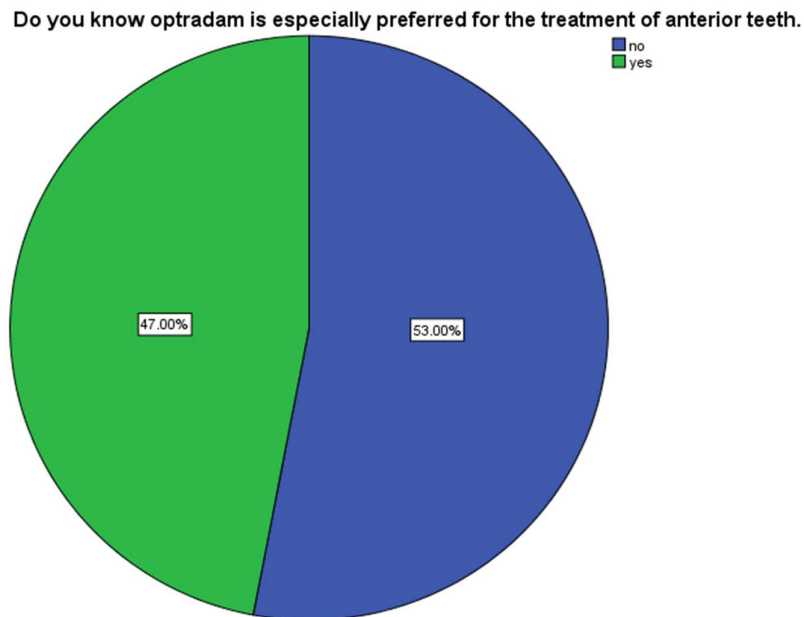


Figure 6 : Among the total population only 47 % of the population are aware that optra dam is especially preferred for the treatment in anterior teeth .

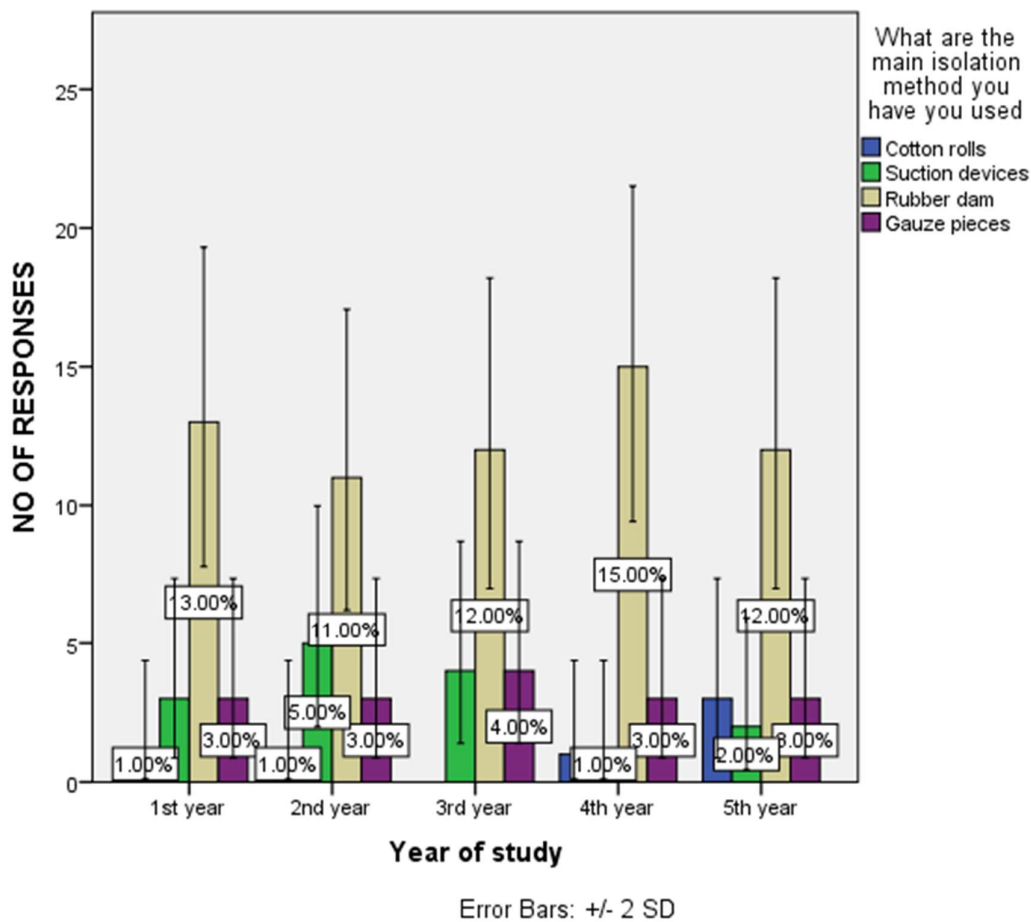


Figure 7: The bar graph represents the association between year of study and no of response. X axis represents the gender of the study participant and Y axis represents the frequency of responses in relation to the preferred isolation method used. Out of 63% of the population who use rubber dams as main isolation method, 13% constitutes 1st year, 11% constitute 2nd year, 12% constitutes 3rd year, 15% constitute 4th year and 12% constitute 5th year. Hence, most students prefer rubber dams over other dams. Blue denotes brackets, green denotes retainers and grey colour denotes teeth whitening. Pearson chi square test presents p value as 0.548, (p value > 0.05) so, it is concluded that it is statistically not significant.

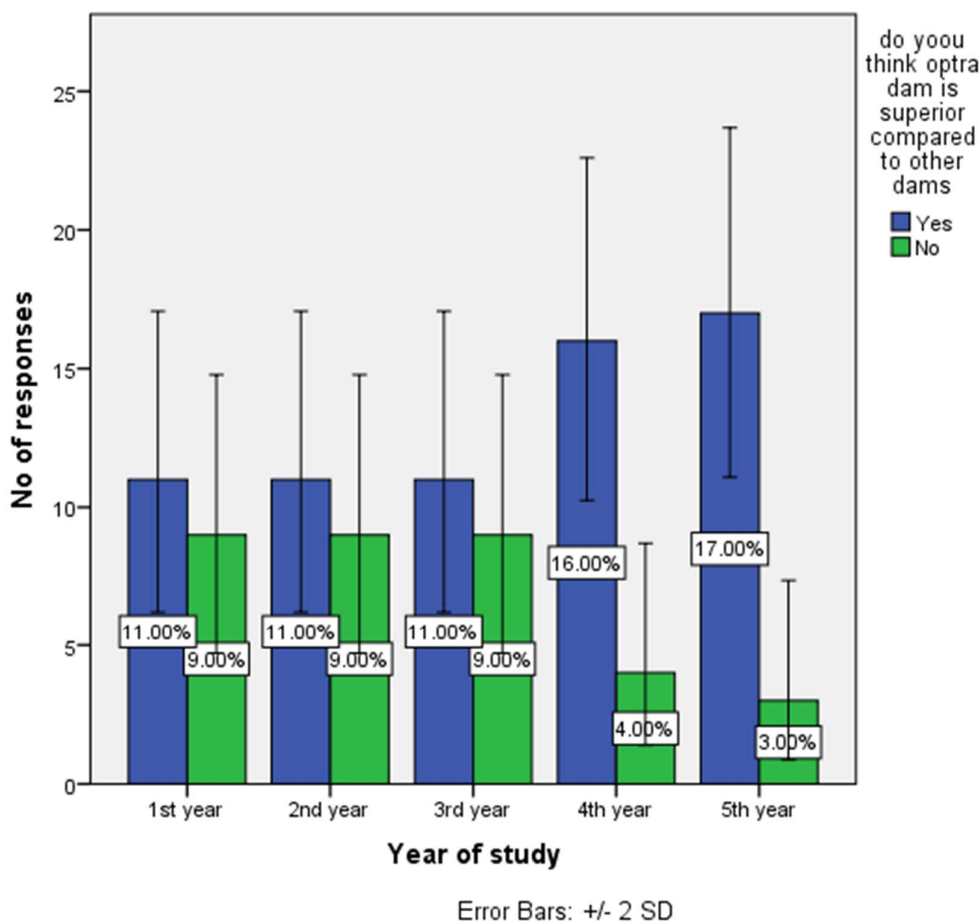


Figure 8: The bar graph represents the association between year of study and no of response. X axis represents the year of study of the study participant and Y axis represents the frequency of responses in relation with opinion of the participants if they think optra dam is superior compared to other rubber dams .Out of 66% of the population who are thinks optradam is superior compared to other rubber dams ,13% constitutes 1st year, 11% constitute 2nd year ,12% constitutes 3rd year ,15% constitute 4th year and 12% constitute 5th year. Hence, more 5th year students think optra dams are superior compared to other rubber dams than males . Blue denotes awareness among dental students , green denotes no awareness among dental students.Pearson chi square test present p value as 0.752, (p value > 0.05) So, it is substantive to be statistically not significant.