KNOWLEDGE AND AWARENESS REGARDING AUTISM AMONG UNDERGRADUATE DENTAL STUDENTS IN CHENNAI- A QUESTIONNAIRE SURVEY

Sabaritha,[1] Dr.L.Keerthi sasanka,[2] Dr. Sridevi.[3] Dr. Dhanraj Ganapathy[4]

[1]*Saveetha dental college and hospitals, Saveetha institute of medical and technical science, Saveetha university, 162, Poonamalle high road, Velapanchavadi, Chennai- 600077*
[2]*Department of Prosthodontics, Senior Lecturer, Saveetha dental college and hospitals,Saveetha institute of medical and technical science, Saveetha university,162, Poonamalle high road, Velapanchavadi, Chennai- 600077*
[3]*Associate Professor, Department of Physiology Saveetha dental college and hospitals,Saveetha institute of medical and technical science, Saveetha university,162, Poonamalle high road, Velapanchavadi, Chennai- 600077*
[1] 151901011 .sdc@saveetha.com
[2]keerthis.sdc@saveetha.com
[3] Sridevig.sdc@saveetha.com

ABSTRACT

Autism is a neurological developmental disorder characterized by impaired social interaction, speech, and limited, repetitive behaviour . The cause of autism is not known . Autism risk factors include gender, males are three to four times more likely than females to get autism, family history, age of parents, and other disorders such as fragile, tuberous syndrome. Most of the autism work is conducted in high income countries. Therefore this study was conducted to check the knowledge of dental students regarding autism. This is a cross sectional survey was conducted among dental students through a self administrated questionnaire through an online survey link (I.e.) google forms . The responses were collected and statistically analysed. Chi square test was used to analyze and compare the education level of students and their knowledge on toothbrushes and it's replacement .The data was represented as pie Charts and bar graphs **.** The survey was conducted among dental students within the age group of 17 to 23 years. This survey was responded by 56.4 percent of females and 42.9 percent of males among them 91.7 percent of the people were aware of autism and only a few people were not aware of it. In this study we conclude that most of the dental students are aware of autism and they have sufficient knowledge about it.

Keywords: autism, behaviour, children, neurological

INTRODUCTION:

Autism is a lifelong, developmental disability that affects how a person communicates with and relates to other people, and how they experience the world around them (Ashworth and Tully, 2017)(Angell and Solomon, 2018).Autism is a neurological developmental disorder characterized by impaired social interaction, speech, and limited, repetitive behaviour (Hatton, 2018)(Arif *e t al.*, 2013). It begins at birth or during the

first two-and-a-half years of life(Arif e t al., 2013; Roberts-Collins e t al., 2018) . The children affected tend to be perfectly average, but they spend their time engaged in confusing and upsetting activities that vary significantly from those of typical children (Arif e t al., 2013). The cause of autism is not known (Arif e t al., 2013).Research indicates a clear genetic origin, but it can not be attributed to a Mendelian

(multi-gene) mutation or a multi chromosome anomaly (Arif e t al., 2013)(심규남 and 심규남, 2013).

Autism risk factors include gender, males are three to four times more likely than females to get autism, family history, age of parents, and other disorders such as fragile, tuberous syndrome(Arif et al ., 2013). (Al-Sharbati et al ., 2015)

In the previous studies they have shown that the sensitivity of teachers of autism is not equal to that of practitioners in mental health (Helps et al., 1999) (Al-Sharbati e t al., 2015). Lee Mendoza suggested that while children with autism are typically enrolled in normal or special educational institutions in the developed world, those opportunities have yet to be identified in the developing world (Mendoza, 2010) (Al-Sharbati e t al., 2015). Individuals with high functioning autism and Asperger syndrome (hereafter HFA / AS) frequently find it difficult to assign mental states to others, such as views, interests, or motives (see Frith, 2004, for review) (Silani e t al., 2008). The neurophysiological basis of this capacity can be demonstrated in a network of regions, which shows reduced activation in this group (see Frith & Frith, 2006, for a review) (Silani e t al., 2008). children with autism are tested with emotion-evoking vign- ettes and asked if they would feel angry, happy, sad or scared (Meerum Terwogt et al., 1986; Wintre & Val- lance, 1994 (Rieffe, Terwogt and Kotronopoulou, 2007)

The aim of this study is to create awareness about autism among undergraduate dental students.While most autism work is conducted in high-income countries (WHO, 2013), there is growing interest in how autism is expressed and understood in developed and underserved communities, such as Nepal (Bernier et al., 2010; Grinker et al., 2012) (Heys e t al., 2017). This expertise is crucial to raising awareness and capacity building in LICs (Hahler and Elsabbagh, 2015) to help autistic people and their families (Heys et al ., 2017).

MATERIALS AND METHODS
Study design
A cross sectional study was conducted from April to May 2020 through an online survey among Undergraduate dental college students of a private dental institution.
 Study subjects
A convenient random sample of 180 undergraduate dental college students were chosen from 1st year to 4th year and the survey was done to test their knowledge and awareness on autism among dental students.

Eligibility criteria:
Inclusion criteria:
All undergraduate dental college students of private dental institutions who were willing to participate were included.

Exclusion Criteria:
Students who did not respond even after three reminders were excluded Survey forms with incomplete entry was excluded from analysis

Ethical considerations :

Returning the filled questionnaire was considered as implicit consent with no need for signing a written consent. Ethical approval for the study is obtained from the Institutional Review Board (IRB) .

Study methods:

Self administered questionnaire of 11 close ended questions was prepared and it was distributed among undergraduate dental college students of private dental institutions through online survey forms "GOOGLE FORMS". Demographic details were also included in the questionnaire.

Data quality assurance:

The collected data were checked regularly for clarity, competence,consistency, accuracy and validity. The necessary correction was made on questionnaires that need correction accordingly and invalid questionnaires were removed before the actual data collection**.**

Statistical analysis:

Data was analysed with SPSS version (22.0). Descriptive statistics as number and percent were calculated to summarise qualitative data. Chi square test was used to analyze and compare the education level of students and their knowledge on salivary biomarkers in oral cancer detection . The confidence level was 95% and of statistical significance $P < 0.05$. Finally, the result was presented by using bar charts and frequency tables.

RESULTS AND DISCUSSION

The survey was conducted among dental students in an age group of 17 to 23. The survey was responded by 56.4% female and 42.9% Male, among them 12% of the people where in 1st years

35% of the people from 2nd year 21.8% of the people from 3rd year and 17.4% of people from 4th year 14.2% of the interns has participated in the survey. 9[Table -1]The results summarise that most of the dental students have a good knowledge about autism. 91.7% of the study population are aware about autism and 7.7% of the people were not aware of it (figure 1) . 84.6% of the study population accept that autism impairs the ability to communicate and interact and 14.7% of the people disagree with it (figure 2). 84.6% of them responded that autism also means autism spectrum disorder and 14.7% of the population disagreed with it (figure 3). 73.7% of the study population still believe that autism can be cured with treatment and 25.6% of the population disagree with it (figure 4). 77.6% of the population believe that autism may lead to abnormalities in the structure and function of the brain and 21.8% of the people disagree with it (figure 5). 76.9% of the study population responded that there are several genes involved in autism and 22.4% disagreed with it (figure 6). 60.9% of the population thought that autism occurs due to genetic disorder, 20% assume that autism occurs due to hormonal imbalance

18.6% of the population felt that autism occurs due to genetic disorder and hormonal imbalance (figure 7). 76.3% responded that prenatal exposure to rubella activates autism and 23.2% disagreed with it (figure 8). 60.9% of them believe that UTI causes autism and 38.7% disagreed with it (figure 9). 77.6% of them responded that children with an aged parent have a higher risk of autism and 21.8% of the people disagree with it (figure 10). 43.6% of the students responded that people with autism live till the age of 70 years, 45.2% of the people believe that people with autism die in the age of 50 years and 11% of the population felt that people with autism live onl upto 30 years (figure 11). 57.7% of the study population believe that symptoms of autism are shown in the age of 18 months. 36.8% of the study population believe that symptoms of autism are shown at the age of 24 to 36 months (figure 12). 82.7% of them recommend that intake of

vitamin and good parental care would prevent a mother having an autism child and 16.7% of the people disagree with it (figure 13). 42.7% of The study population believe that people prefer anger management theory for autism, 16.8% of the people believe that they would prefer behaviour therapy for the treatment of autism and 20.5% of the study population prefer both above given options (figure 14). 85.9% of the study population assume that autism children smile when someone smiles at them and have concern to cry too and 13.5% of the population disagree with it (figure 15).

In the present study the number Of people who are aware of autism is 91.7%. Students(no of students 31) of age 21 are more aware of autism when compared to others. Pearson chi square test was done and P value 0.75>0.05 (figure 16) was found to be statistically insignificant. This present study was being compared with a similar study published by Mohammed Mustafa Arif (2013) There are no opposing articles for this.The present research study has initiated by reviewing from previous studies, where investigations were done based on surveys (Ganapathy,

2016; Ganapathy e t al., 2016; Ajay, Suma, S. A. Ali, e t al., 2017; Ajay, Suma, S. Ali, e t al.,

2017; Ganapathy, Kannan and Venugopalan, 2017; Ranganathan, Ganapathy and Jain, 2017; Duraisamy e t al. , 2019)(Ashok and Suvitha, 2016)c linical reports, interventional studies (Ariga et al., 2018)(Ashok e t al., 2014)(Venugopalan e t al., 2014)(Jyothi e t al., 2017) in vitro studies

(Duraisamy e t al., 2019)(Ganapathy, 2016)(Ajay, Suma, S. Ali, e t al., 2017)(Ranganathan,

Ganapathy and Jain, 2017) and systematic reviews (Venugopalan e t al., 2014)(Selvan and Ganapathy, 2016)(Subasree, Murthykumar and Dhanraj, 2016)(Vijayalakshmi and Ganapathy,

2016)(Ganapathy, Kannan and Venugopalan, 2017)(Kannan and Venugopalan, 2018)(Basha, Ganapathy and Venugopalan, 2018).

In the present study 84.6% of the students are aware that autism will affect communication and interactions . students(no of students 29) of age 21 answered perfectly and are aware that autism will affect communication and interaction. Pearson chi square test was done and showed a P value 0.951>0.05 (figure 17) which is statistically insignificant. The present study is compared with a similar study published by Marrean M.Ac sharbeti et al (2015) There are no opposing articles regarding this.

In the present study the number of people who say autism is otherwise called a spectrum disorder is 73.7%. Students(no of students 28) who are in the age of 20 have good knowledge about autism. Pearson chi square test is done , p value is 0.370 >0.05 (figure 18) and the result is statistically insignificant. The present article was compared with a similar study published by Muhammad Mustafa (2013)(Mustafa, Arshad and Zaman, 2013) There are no opposing articles regarding this.

In the present study 73.7% of the students believe they have good knowledge about various treatments involved in autism.Students(no of students 18) who are in the age group of 21are more aware of it . Pearson chi square test is done which has a p value of 0.416 > 0.05 (figure 19) and the result is statistically insignificant . The present study was compared with a similar study published by Michelle Heys et al (2016) .There is no opposing finding regarding this article.

In the present study 77.4% of the people are aware that autism is involving different genes.

Students(no of students 25) with an age of 20 are more aware about autism. Pearson chi square test was done p value 0.764>0.05 (figure 20) was recorded as statistically insignificant. The present study was compared with a similar study published by Michelle Heys (2016). There are No opposing articles regarding this.

LIMITATIONS

There are certain limitations in this study, where a reduced sample size and geographic limitations to overcome this limitation respondents can be included from various regions.

FUTURE SCOPE

The study can be expanded to more number of participants making them aware of autism.

CONCLUSION

The study concludes that most of the participants are aware of autism among dental students. Programs should be conducted to increase the awareness about autism and parents or guardians of autistic children should be educated about proper handling of autistic children.

AUTHOR CONTRIBUTIONS

Author 1 (Sabaritha A), carried out the study by collecting data and drafted the manuscript after performing the necessary statistical analysis. Author 2 (Dr. L. Keerthi Sasanka) aided in conception of the topic, has participated in the study design, statistical analysis and has supervised in preparation of the manuscript. Author 3 (Dr. Sridevi) has participated in the study design and has coordinated in developing the manuscript. All the authors have discussed the results among themselves and contributed to the final manuscript. Author 4 (Dr Dhanraj Ganapathi)has participated in the study design, statistical analysis and has coordinated in developing the manuscript.

ACKNOWLEDGEMENT

CONFLICTS OF INTEREST

None declared

REFERENCE

[1] Ajay, R., Suma, K., Ali, S., 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] Ajay, R., Suma, K., Ali, S. A., et al. (2017) 'Effect of Surface Modifications on the Retention of Cement-retained Implant Crowns under Fatigue Loads: An Study', Journal of pharmacy & bioallied sciences, 9(Suppl 1), pp. S154–S160.

[3] Al-Sharbati, M. M. et al. (2015) 'Awareness about autism among school teachers in Oman: a cross-sectional study', Autism: the international journal of research and practice, 19(1), pp. 6–13.

Angell, A. M. and Solomon, O. (2018) 'Understanding parents' concerns about their children with autism taking public school transportation in Los Angeles County', Autism, pp. 401–413. doi: 1 0.1177/1362361316680182.

[4]   Arif, M. M. et al. (2013) 'Awareness of autism in primary school teachers', Autism research and treatment, 2013, p. 961595.

[5]   Ariga, P. et al. (2018) '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.

[6]   Ashok, V. et al. (2014) 'Lip Bumper Prosthesis for an Acromegaly Patient: A Clinical Report', Journal of Indian Prosthodontic Society, 14(Suppl 1), pp. 279–282.

[7]   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.

[8]   Ashworth, S. and Tully, R. J. (2017) 'Autism awareness training for youth offending team staff members', Advances in Autism, pp. 240–249. doi: 1 0.1108/aia-04-2017-0010.

[9]   Basha, F. Y. S., Ganapathy, D. and Venugopalan, S. (2018) 'Oral Hygiene Status among Pregnant Women', Research Journal of Pharmacy and Technology, p. 3099. doi: 10.5958/0974-360x.2018.00569.3.

[10]   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.

[11]   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.

[12]   Ganapathy, D. et al. (2016) 'Effect of Resin Bonded Luting Agents Influencing Marginal Discrepancy in All Ceramic Complete Veneer Crowns', Journal of clinical and diagnostic research: JCDR, 10(12), pp. ZC67–ZC70.

[13]   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, 8(6), pp. 496–502.

[14]   Hatton, V. A. (2018) 'Staff awareness training: improving knowledge and confidence of autism spectrum disorders and intellectual disabilities in a locked rehabilitation unit', Advances in Autism, pp. 95–108. doi: 10.1108/aia-04-2018-001 2.

[15]   Heys, M. et al. (2017) 'Understanding parents' and professionals' knowledge and awareness of autism in Nepal', Autism, pp. 436–449. doi: 1 0.1177/1362361316646558.

[16]   Jyothi, S. et al. (2017) 'Periodontal Health Status of Three Different Groups Wearing Temporary Partial Denture', Research Journal of Pharmacy and Technology, p. 4339. doi: 10.5958/0974-360x.2017.00795.8.

[17]   Kannan, A. and Venugopalan, S. (2018) 'A systematic review on the effect of use of impregnated retraction cords on gingiva', Research Journal of Pharmacy and Technology, p. 2121. doi: 1 0.5958/0974-360x.2018.00393.1.

[18] Mustafa, M., Arshad, H. and Zaman, H. B. (2013) 'Framework Methodology of the Autism Children -- Vibratory Haptic Interface (AC-VHI)', 2013 International Conference on Advanced Computer Science Applications and Technologies. doi: 1 0.1109/acsat.2013.47.

[19]   Ranganathan, H., Ganapathy, D. M. and Jain, A. R. (2017) 'Cervical and Incisal Marginal Discrepancy in Ceramic Laminate Veneering Materials: A SEM Analysis', Contemporary clinical dentistry, 8(2), pp. 272–278.

[20]   Rieffe, C., Terwogt, M. M. and Kotronopoulou, K. (2007) 'Awareness of Single and Multiple Emotions in High-functioning Children with Autism', Journal of Autism and Developmental Disorders, pp. 455–465. doi: 10.1007/s10803-006-0171- 5.

[21]   Roberts-Collins, C. et al. (2018) 'Emotion awareness and cognitive behavioural therapy in young people with autism spectrum disorder', Autism, pp. 837–844. doi: 10.1177/136236131771021 5.

[22]   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.

[23]   Silani, G. et al. (2008) 'Levels of emotional awareness and autism: An fMRI study', Social Neuroscience, pp. 97–112. doi: 1 0.1080/17470910701577020.

[24]   Subasree, S., Murthykumar, K. and Dhanraj (2016) 'Effect of Aloe Vera in Oral Health-AReview', Research   Journal   of Pharmacy and Technology, p. 609. doi:

10.5958/0974-360x.2016.00116.5.

[25]   Venugopalan, S. et al. (2014) 'Magnetically retained silicone facial prosthesis', Nigerian journal of clinical practice, 17(2), pp. 260–264.

[26]   Vijayalakshmi, B. and Ganapathy, D. (2016) 'Medical management of cellulitis', Research Journal of Pharmacy and Technology, p. 2067. doi: 1 0.5958/0974-360x.2016.00422.4.

[27]   심규남 and 심규남 (2013) 'An Investigation into Primary School English Teachers' Awareness of Critical Classroom-based Assessment', Studies in Linguistics, pp. 145–169. doi: 10.17002/sil..28.201307.145.

GRAPHS
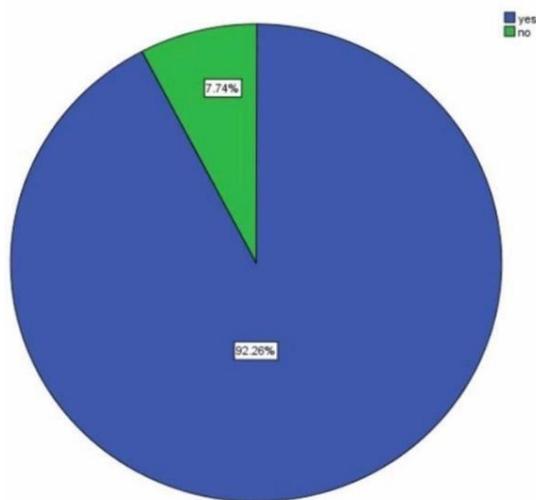
Figure 1: Pie chart representing the source of knowledge on awareness of autism. 92.26% (blue) of them were aware of autism whereas 7.4% (green) were not aware of autism. Majority of the students (92.26%) were aware of autism.
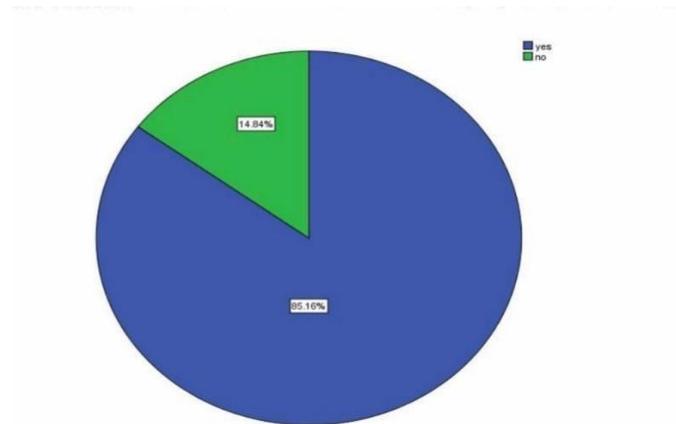

Figure 2: Pie chart representing the source of knowledge on impairment of autism to communicate and interact. 85.16% (blue) were aware that autism(green) impairs the ability to communicate and interact whereas the remaining 14.84% had a negative opinion on the statement. Majority of the students (85.16%) had awareness that autism impairs the ability to communicate and interact.
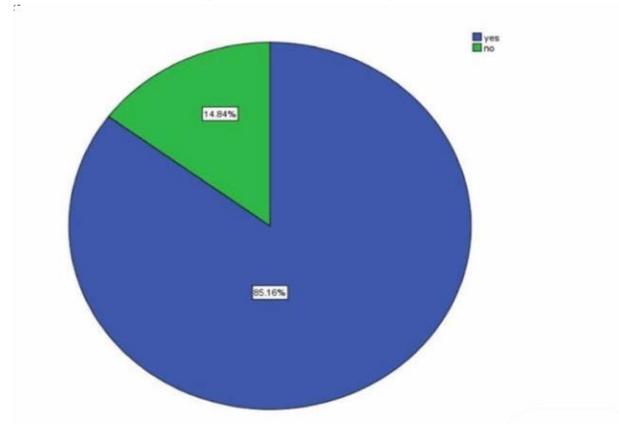
Figure 3: Pie chart representing the source of knowledge on autism spectrum disorder. 85.16% (blue) were aware that autism can also be referred to as autism spectrum disorder. 14.84% (green) felt the term varies from each other. Majority of the participants (85.16%)were aware that autism is also referred to as autism spectrum disorder.
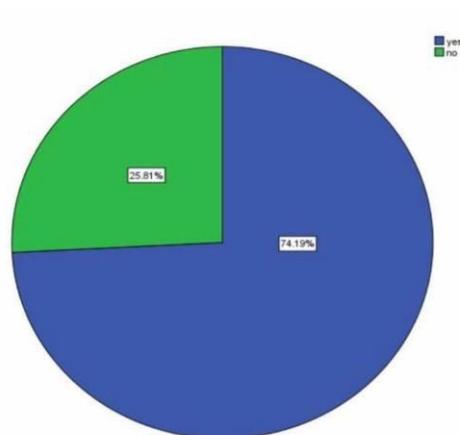
Figure 4: Pie chart represents the source of knowledge on treatment that is associated with autism. 74.19% (blue) felt autism can be treated with treatment. 25.81% (green) felt autism cannot be treated with treatment. Majority of the participants (74.19%) were aware that autism could be treated .
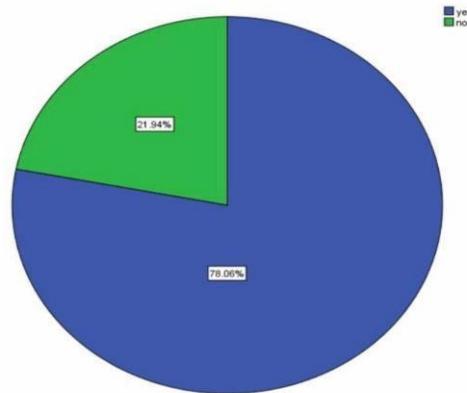
Figure 5: Pie chart representing the source of knowledge on abnormalities caused due to autism. 78.06% (blue) were aware that autism would lead to abnormalities in the structure and functions of the brain. 21.94% (green) felt autism would not lead to any abnormalities. Majority of the students (78.06%) were aware that autism would lead to abnormalities in the structure and function of the brain.
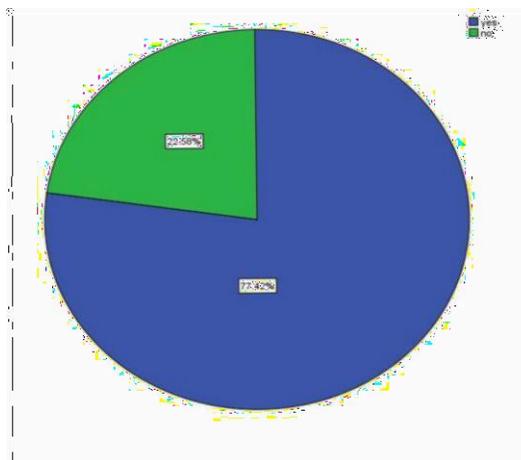
Figure 6: Pie chart representing the source of knowledge on involvement of several different genes involved in autism. 77.42% (blue) felt several genes are involved in autism whereas 22.58% (green) disagreed with the statement. Majority of the students (77.42%) were aware that autism occurs due to involvement of different genes.
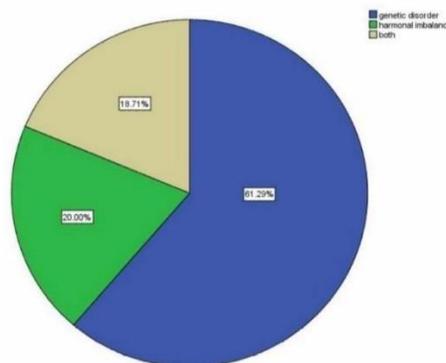
Figure 7: Pie chart represents the source of knowledge on occurance of autism. 61.29% (blue)were aware autism could be due to genetic disorder. 20% (green) felt that it's due to hormonal imbalance. 18.71% (sandel) felt that autism is caused due to both disorders. Majority of the students (61.29%) were aware that autism could be due to genetic disorder.
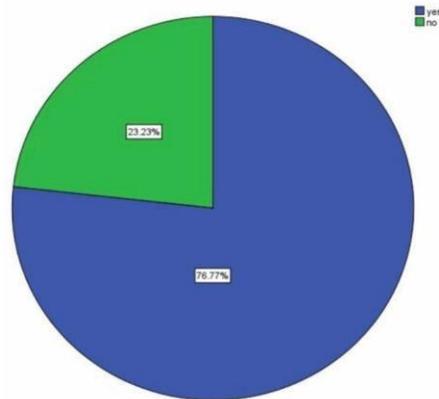

Figure 8: Pie chart represents the source of knowledge on parental exposure to rubella that activates autism.76.77% (blue) were aware that prenatal exposure to rubella activates autism and 23.23% (green) were not aware of it. Majority of the students (76.77%) had knowledge that prenatal exposure to rubella will activate autism.
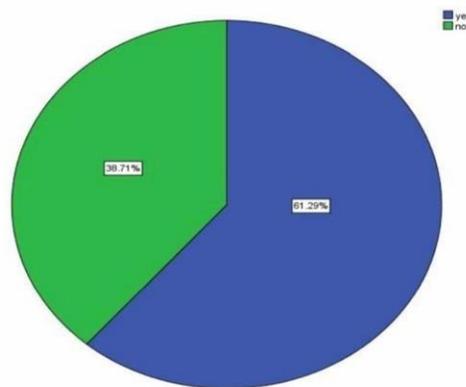
Figure 9: Pie chart represents the source of knowledge on UTI that causes autism. 61.29% (blue)felt the UTI could cause autism. 38.71% (red) felt UTI would not cause autism. Majority of the students (61.29%) felt that UTI could cause autism.
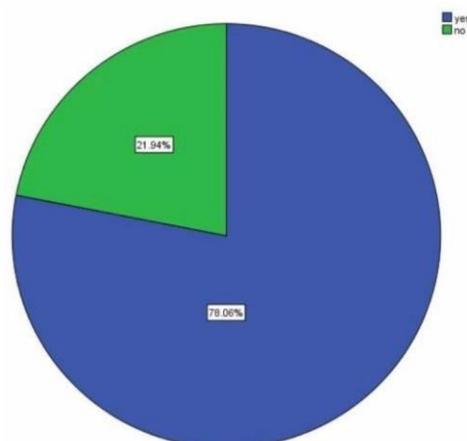
Figure 10: Pie chart represents the source of knowledge on risks of autism. 78.06% (blue) were aware that children with an aged parent have a higher risk of autism. 21.94% (green) disagreed with the statement. Majority of the participants (78.06%) were aware that children with age parents have a higher risk of autism.
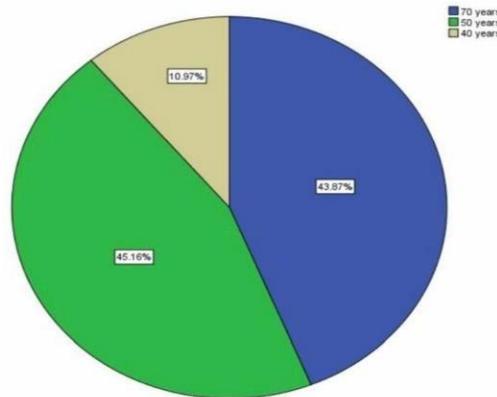

Figure 11: Pie chart represents the source of knowledge on lifespan of people with autism. 43.87% (blue) felt that people with autism could live up to 70 years. 45.16% (green) felt that people with autism could survive up to 50 years. 11% (sandel) felt that they would survive up to 40 years. Majority of the students (45.16 %) felt that people with autism live upto 50 years
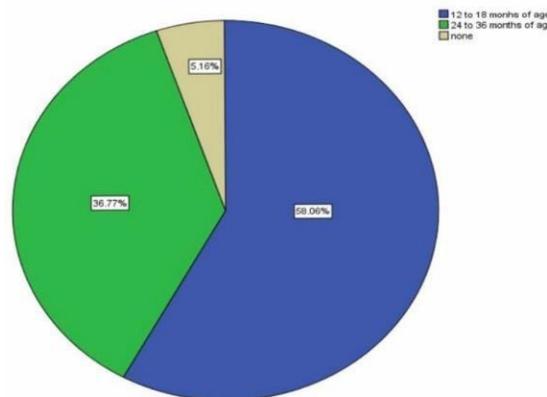
Figure 12: Pie chart represents the source of knowledge on symptoms of autism occurring In a particularperiod . 58.06% (blue)felt that symptoms are shown at 12 to 18 months of age, 36.77% (green)felt that symptoms are shown during 24 to 36 months of age, 5.16% (sandel) felt that symptoms are not shown at both the age groups.Majority of the students (55.06%) were aware that sometimes are shown at 12 to 18 months of age.
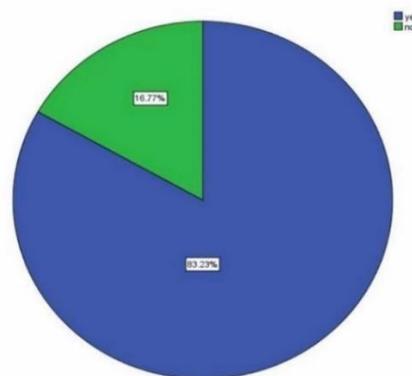
Figure 13: Pie chart representing the source of knowledge on recommendation of vitamins and good parental care for autism. 83.23% (blue)of them felt vitamins and good parental care would prevent autistic child.16.77% (green) felt it has no benefits to deal with autism. Majority of the students (83.23%) wherever that usage of vitamins and prenatal care of autistic patients will prevent
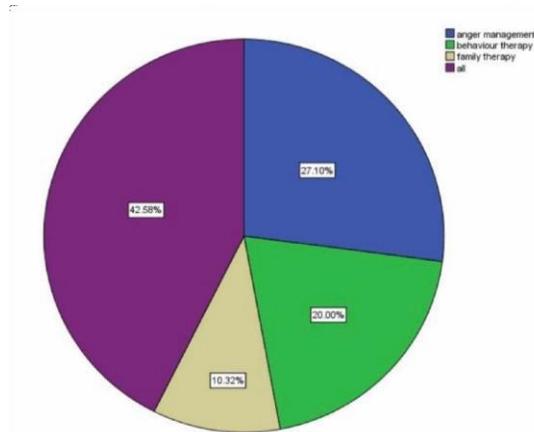

Figure 14: Pie chart representing the therapies that are used in the treatment of autism. 42.58% (violet) of the participants preferred all the therapies, 27.10% (blue) of participants Referred anger management, 20.00% (green) of the participants preferred behaviour management, 10.32% (sandel) of the participants preferred family therapy.Majority of the participants (42.58%) preferred all the therapies
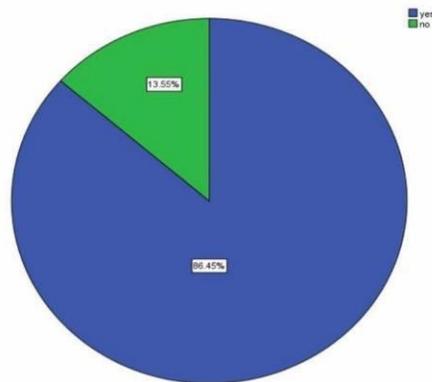

Figure 15: Pie chart representing that autistic people smile back when we smile and have concern to cry . 86.45% (blue) of the participants agreed to the above statement and 13.55% (green) of the participants disagreed with it. Majority of the students (86.54%) wherever those autistic children knew to cry and smile.
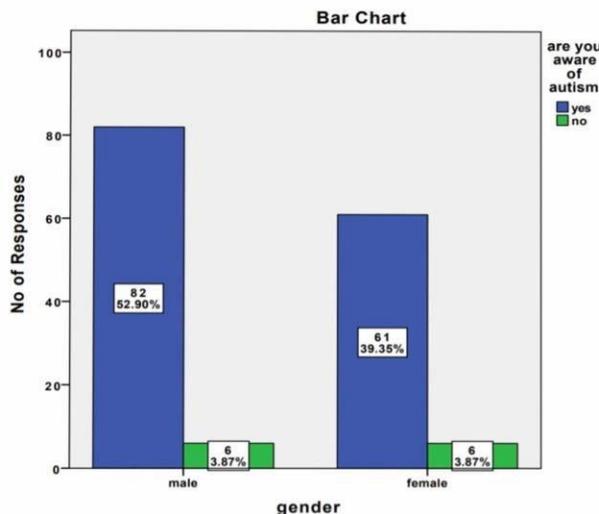
Figure 16: The bar graph represents the association between the awareness of dental students on autism and the gender of the dental students. X axis represents the gender and the Y axis represents the number of responses obtained for yes(blue) and no(green). Out of 92.26% dental students who were aware of autism , 53.90% students were male, 39.35% students were female. Association was done using Chi Square test, (Chi square value: 0.234 ;DF: 1 , P value: 0.752(>0.05) , hence it was statistically not significant). This proves that the level of awareness was similar between both the genders regarding awareness on autism .
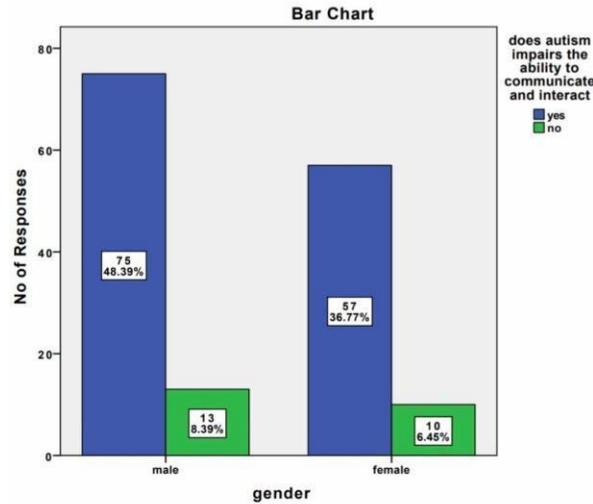

Figure 17: The bar graph represents the association between the awareness of autism impairing the function of interaction and speech and the gender of the dental students. X axis represents the gender and the Y axis represents the number of responses obtained for yes(blue) and no(green). Out of 81.16% dental students who were aware of autism which impairs the function of interaction and speech , 48.39% students were male, 36.77% students were female. Chi Square test was done, (Chi square value: 0.001; DF: 1, P value: 0.951(>0.05), hence it was statistically not significant). This proves that the level of awareness was similar between both the genders regarding impairing function caused due to autism .
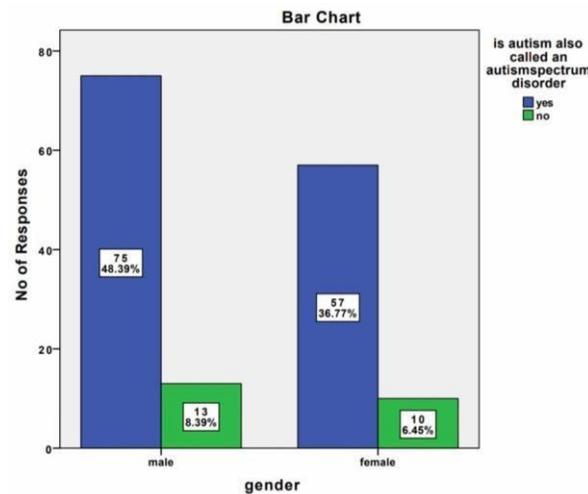

Figure 18: The bar graph represents the association between the awareness of dental students on autism also called autism spectrum disorder and the gender of the dental students. X axis represents the gender and the Y axis represents the number of responses obtained for yes(blue) and no(green). Out of 85.16% dental students who were aware of autism is otherwise known as autism spectrum disorder.49.39% students were male, 36.77% students were female. Association was done using Chi Square test, (Chi square value: 0.001 ;DF: 1 , P

value: 0.370(>0.05) , hence it was statistically not significant). This proves that the level of awareness was similar between both the genders regarding autism also called autism spectrum disorder
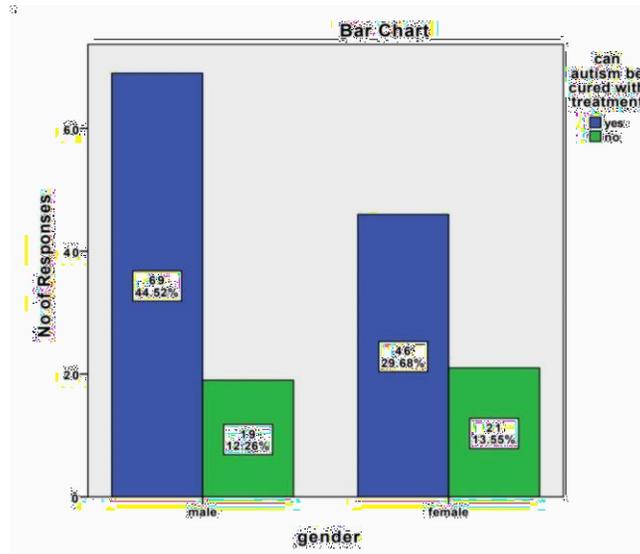

Figure 19: The bar graph represents the association between the awareness of dental students on treatment used for autism and the gender of the dental students. X axis represents the gender and the Y axis represents the number of responses obtained for yes(blue) and no(green). Out of 74.19% dental students who were aware of treatment used for autism 44.52% students were male, 29.68% students were female. Association was done using Chi Square test, (Chi square value:1.890 ;DF: 1 , P value: 0.194(>0.05) , hence it was statistically not significant). This proves that the level of awareness was similar between both the genders regarding autism can be cured with treatment .
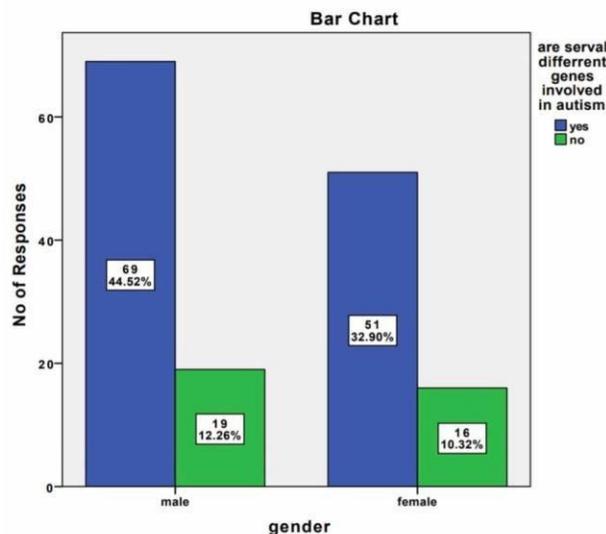

Figure 20: The bar graph represents the association between the awareness of dental students on several different genes involved in autism and the gender of the dental students. X axis represents the gender and the Y axis represents the number of responses obtained for yes(blue) and no(green). Out of 77.42% dental students who were aware of autism involving several different genes, 44.52% students were male, 35.90% students were female. Association was done using Chi Square test, (Chi square value: 0.261 ;DF: 1 , P value: 0.764(>0.05) , hence it was statistically not significant). This proves that the level of awareness was similar between both the genders regarding several different genes involved in autism.