

# “Role Of Prosthodontists In Geriatric Dental Care”- A Survey Among Undergraduate Dental Students

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**Running Title:** Role Of Prosthodontists In Geriatric Dental Care

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## **ABSTRACT**

**AIM**The objective of the study is to assess the role of prosthodontists in geriatric dental care among internship dental students.

**INTRODUCTION** Prosthodontist mainly focuses on dental prosthesis, involving the diagnosis, treatment planning, rehabilitation of oral problems. Prosthodontist deals with replacement of lost teeth using dental prosthesis like porcelain veneers, grounds, dental implants, dentures etc.... Geriatric dentistry is associated with providing dental care for older adults. Maintaining oral health in Older adults has become a challenge and has a major impact on geriatric life . Basic geriatric knowledge is indispensable for prosthodontists. Unlike the young adults, Management of Oral health among elderly people is quite dissimilar as there exists a lot of physical and mental health changes.

## **MATERIALS AND METHODS**

**150 subjects participated in this survey.12 questionnaires were framed and distributed through an online Google form link. Responses were collected and transferred to IBM SPSS software and analysed statistically.**

## **RESULTS**

**Collected data was statistically analysed, validated and verified. Results were plotted in the form of bar graphs.**

## **CONCLUSION**

**Moderate level of knowledge regarding the role of prosthodontist and geriatric dental care is prevalent from this study among internship dental students. Furthermore, Awareness is needed to improvise the prosthodontic knowledge among them.**

## **KEYWORDS**

**Awareness; Dental care; Knowledge; Geriatrics; Internship dental students; Prosthodontist; survey.**

### **1. INTRODUCTION**

Prosthodontist mainly focuses on dental prosthesis, involving the diagnosis, treatment planning, rehabilitation of oral problems[1][2][3]. Prosthodontists deal with replacement of lost teeth using substitutes like porcelain veneers, grounds, dental implants, dentures etc[4]. They check the biocompatibility of the processes before furnishing any treatment. Geriatric dentistry is associated in providing treatment and dental care for older adults[5]. There are several challenges and complications in treating elderly people. Oral health has a major impact on geriatric life and has become a great challenge nowadays[6][7]. Unlike the young adults, Management of Oral health among elderly people is quite dissimilar as there exists a lot of physical and mental health changes[8].

Before finalising any treatment plan for older people, it is indispensable for prosthodontics to analyse the Socio economic, physical and psychological issues thoroughly[9][10]. In densely populated countries like India, Japan, China, the number of senior citizens seems to be very high [11,12], which constitutes about 100 million. Altered oral health is quite common in older people due to natural ageing along with deterioration of systemic health. Edentulism , dental caries, periodontal diseases, Xerostomia (Drymouth), oral malignancies are some of the general oral problems faced by the senior citizens[13]. The customary oral change that one can encounter among geriatric people is the inability to chew food properly, Receding gums, diminished salivary secretion, Gradual loss of taste sensation and smell detection while the bodily variations involve incapable of absorbing nutrients, declined Immunity, slow metabolism[14].

Poor oral health in geriatric population is a risk factor which is inter-related to systemic health problems[15]. Management of oral diseases in an older adult demands proper knowledge of dentistry, medicine, psychology and pharmacology. General health is also compromised due to lack of proper health. Edentulous condition in elderly people is indirectly in relation with various Malnutrition Issues. This survey aims at providing insight to understand the basic geriatric dental care by prosthodontists among the category of internship dental students. Several oral health related studies were performed earlier in the areas of prosthodontics to spread awareness [16][17–20]. Many studies were carried out in fields of periodontics [7] and implantology [21,22]. Earlier, A lot of studies were conducted regarding dental prostheses like veneer crowns [10,23–28]. This particular study arises in order to create awareness about the role of prosthodontists in geriatric dentistry among the internship dental students.

## **2. MATERIALS AND METHODS**

The date of present survey consisted of 150 internship dental students. An online survey in Google forms was carried out to investigate the role of prosthodontists in geriatric a dental care among the Internship dental students. Ethical approval is obtained from the research department of an esteemed institutional board before conducting the survey, via SRM form. Self-administered set of 14 questionnaires (including demographic details like age, gender) were framed and distributed among the internship dental students. The participants were advised to read the questionnaire completely and then begin to respond accordingly.

The data collected in Google sheets was transferred to SPSS software. The data was validated and verified by the primary investigator and guide. Chi square analysis was done.. The results were statistically analysed.

## **3. RESULTS**

In figure 1 depicts that 50.6% of the participants were male and 49.3% of the participants were females. Figure 2 shows that 93% of the participants responded that prosthodontists improve the quality of geriatric life. In Figure 3, 86% of the population agree that Prosthodontists are actively involved in research for enhancing geriatric dental care. 94% of the participants stated that prosthodontists examine the masticatory performance of older people which is provided in figure 4. 93% of the population agreed that the rate of salivary flow in older people is analysed by prosthodontists which is shown in figure 5. In figure 6, 93% of the population stated that Prosthodontists fulfil the functional and aesthetic needs of edentulous patients. 93% of the participants agreed that edentulous condition is related to malnutrition which is shown in figure 7. 2.6% of the participants treat dentures stomatitis by topical therapy, followed by 5.3% participants apply antifungal agents, 84.6% of the population treat denture stomatitis using the two methods topical therapy and application of antifungal agents and 7.3% of the participants operate through surgery (Fig 8). Figure 9 shows 90% of the participants conduct healthcare programmes for geriatric people. In figure

10, 94% of the population noticed increased cavities and periodontal problems in the old age people. Figure 11 depicts that 9.3% of the population responded to treat denture stomatitis by giving oral moisturisers, 5.3% by using lozenges and 85.3% of the population opted for both methods. In figure 12, 92% of the participants agree that prosthodontists treat geriatric people with more care and patience.

By observing the results, it is evident clearly that most of the internship dental students are quite aware of the role of prosthodontics in geriatric dental care. Applying statistical analysis tool SPSS software, the collected responses were listed separately and bar charts depicted the results precisely.

#### **4. DISCUSSION**

It has been observed that only few studies are available for comparing the present research regarding geriatric dental care. R Ravichandran (2006) states that Edentulism is the major challenge faced by the older population and Denshaw therapies in high demand for geriatric patients[29]. Abhijeet R.Sandy 2014 et al. reviewed that geriatric dentistry in India. He found that the special training needs to be pursued for geriatric dental care as a part of dental curriculum and analysed the risk factors in poor oral health contributing to the systematic health related complications[30]. Vigils M et al (1987) estimated the realistic need of prosthodontics treatment among elderly in Denmark and found that 67% of the elder people are in need of dentures which is normative, and 33% of them have a realistic need[31]. Koshino H et al.(1997) evaluated the Tongue motor skills and Masticatory performance in Older population and the Relationship between them by ultrasound observations and sieving methods[32]. A study conducted by Greska or LP et al.1995, tested the Null hypothesis that there are no differences in dietary patterns or adequacy between edentulous patients and individuals with nearly complete dentition[33]. Douglass et al (1998) evaluated the need and effective demand for prosthodontics treatment and the unmet need for prosthodontics services will remain high[34]. Arcuri MR et al. (1994) Analyse the implant supported prosthesis for treatment of adults with cleft palate[35]. Findings of the present study are more or less, similar to the findings of the earlier studies and this survey encloses all the parameters mentioned in the previous articles. Although strict protocols were followed during this study there are certain limitations, they include Less sample size, Conducted via online means, Only one dental institute was involved. In future studies can be done by increasing the participation and inclusion of more criteria.

#### **5. CONCLUSION**

This study concludes that there is a moderate level of awareness among the internship dental students regarding the role of prosthodontics in geriatric dental care. It signifies that the assessment of oral health of the geriatric people properly will act as a keystone for satisfying outcomes. In future, this study can act as a baseline data for carrying out the geriatric oriented prosthodontic research.

### *ACKNOWLEDGEMENT*

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### *AUTHORS CONTRIBUTION*

Author 1 (Janani K), 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. R. Abilasha) 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. subabratamaiti) aided in, methodology and statistical analysis and has supervised in preparation of the manuscript

### *CONFLICT OF INTEREST*

None declared.

### **REFERENCES**

- [ 1] Razak PA, Richard KMJ, Thankachan RP, Hafiz KAA, Kumar KN, Sameer KM. Geriatric oral health: a review article. *J Int Oral Health*. 2014 Nov;6(6):110–6.
- [ 2] Öwall B, Käyser AF, Carlsson GE. *Prosthodontics: principles and management strategies*. Mosby-Wolfe; 1996. 256 p.
- [ 3] Shillingburg HT, Hobo S, Whitsett LD, Jacobi R, Brackett SE. *Fundamentals of fixed prosthodontics*. Vol. 194. Quintessence Publishing Company; 1997.
- [ 4] Goodacre CJ, Bernal G, Rungcharassaeng K, Kan JYK. Clinical complications in fixed prosthodontics. *J Prosthet Dent*. 2003 Jul;90(1):31–41.
- [ 5] Soratur SH. *Prosthodontics [Internet]. Essentials of Prosthodontics*. 2006. p. 19–19. Available from: [http://dx.doi.org/10.5005/jp/books/10295\\_2](http://dx.doi.org/10.5005/jp/books/10295_2)
- [ 6] Nikolovska J, Korunoska-Stevkovska V, Mijoska A, Popovska L. *Prosthodontics Status and Treatment Needs among the Elderly in the Republic of Macedonia [Internet]*. Vol. 6, Open Access Macedonian Journal of Medical Sciences. 2018. p. 874–8. Available from: <http://dx.doi.org/10.3889/oamjms.2018.190>
- [ 7] Jyothi S, Robin PK, Ganapathy D, Anandiselvaraj. Periodontal Health Status of Three Different Groups Wearing Temporary Partial Denture [Internet]. Vol. 10, *Research Journal of Pharmacy and Technology*. 2017. p. 4339. Available from: <http://dx.doi.org/10.5958/0974-360x.2017.00795.8>
- [ 8] Wei Y-JJ, Solberg L, Chen C, Fillingim RB, Pahor M, DeKosky S, et al. Agreement of Minimum Data Set 3.0 depression and behavioral symptoms with clinical diagnosis in a nursing home. *Aging Ment Health*. 2020 May 25;1–6.
- [ 9] Manchery N, Subbiah G, Nagappan N, Premnath P. Are oral health education for carers effective in the oral hygiene management of elderly with dementia? A

- systematic review [Internet]. Vol. 17, Dental Research Journal. 2020. p. 1. Available from: <http://dx.doi.org/10.4103/1735-3327.276232>
- [ 10] Ranganathan H, Ganapathy DM, Jain AR. Cervical and Incisal Marginal Discrepancy in Ceramic Laminate Veneering Materials: A SEM Analysis. *Contemp Clin Dent*. 2017 Apr;8(2):272–8.
- [ 11] Sha SK, Khan A, Eswara K, Venkata Suvarna DLP, Kannaiyan K, Pottem N. Assessment of Periodontal Health and Necessity of Dental Treatment in the Institutionalized Elderly Population of East Godavari District, Andhra Pradesh. *J Pharm Bioallied Sci*. 2019 May;11(Suppl 2):S188–93.
- [ 12] Holm-Pedersen P, Walls AWG, Ship JA. *Textbook of Geriatric Dentistry*. John Wiley & Sons; 2015. 392 p.
- [ 13] Yadav NR, Jain M, Sharma A, Yadav R, Pahuja M, Jain V. Distribution and prevalence of oral mucosal lesions in residents of old age homes in Delhi, India. *Nepal J Epidemiol*. 2018 Jun;8(2):727–34.
- [ 14] Nikolovska J, Gjorgievska E, Grcev A. A preliminary study of the oral health status of the geriatric patients in the Republic of Macedonia. *Macedonian Dental Review*. 2010;34(1-2):49–55.
- [ 15] Locker D, Slade G. Association between clinical and subjective indicators of oral health status in an older adult population. *Gerodontology*. 1994 Dec;11(2):108–14.
- [ 16] Jain AR, Nallaswamy D, Ariga P, Ganapathy DM. Determination of correlation of width of maxillary anterior teeth using extraoral and intraoral factors in Indian population: A systematic review. *World J Dent*. 2018;9:68–75.
- [ 17] Selvan SR, Ganapathy D. Efficacy of fifth generation cephalosporins against methicillin-resistant *Staphylococcus aureus*-A review [Internet]. Vol. 9, *Research Journal of Pharmacy and Technology*. 2016. p. 1815. Available from: <http://dx.doi.org/10.5958/0974-360x.2016.00369.3>
- [ 18] Subasree S, Murthykumar K, Others. Effect of Aloe Vera in Oral Health-A Review. *Research Journal of Pharmacy and Technology*. 2016;9(5):609–12.
- [ 19] Vijayalakshmi B, Ganapathy D. Medical management of cellulitis. *Research Journal of Pharmacy and Technology*. 2016;9(11):2067–70.
- [ 20] Basha FYS, Ganapathy D, Venugopalan S. Oral Hygiene Status among Pregnant Women [Internet]. Vol. 11, *Research Journal of Pharmacy and Technology*. 2018. p. 3099. Available from: <http://dx.doi.org/10.5958/0974-360x.2018.00569.3>
- [ 21] Duraisamy R, Krishnan CS, Ramasubramanian H, Sampathkumar J, Mariappan S, Navarasampatti Sivaprakasam A. Compatibility of Nonoriginal Abutments With Implants: Evaluation of Microgap at the Implant–Abutment Interface, With Original and Nonoriginal Abutments. *Implant Dent*. 2019 Jun;28(3):289.
- [ 22] Ganapathy DM, Kannan A, Venugopalan S. Effect of Coated Surfaces influencing Screw Loosening in Implants: A Systematic Review and Meta-analysis [Internet]. Vol. 8, *World Journal of Dentistry*. 2017. p. 496–502. Available from: <http://dx.doi.org/10.5005/jp-journals-10015-1493>

- [ 23] Ganapathy D, Sathyamoorthy A, Ranganathan H, Murthykumar K. Effect of Resin Bonded Luting Agents Influencing Marginal Discrepancy in All Ceramic Complete Veneer Crowns. *J Clin Diagn Res.* 2016 Dec;10(12):ZC67–70.
- [ 24] Ashok V, Suvitha S. Awareness of all ceramic restoration in rural population [Internet]. Vol. 9, *Research Journal of Pharmacy and Technology.* 2016. p. 1691. Available from: <http://dx.doi.org/10.5958/0974-360x.2016.00340.1>
- [ 25] Ashok V, Nallaswamy D, Benazir Begum S, Nesappan T. Lip Bumper Prosthesis for an Acromegaly Patient: A Clinical Report [Internet]. Vol. 14, *The Journal of Indian Prosthodontic Society.* 2014. p. 279–82. Available from: <http://dx.doi.org/10.1007/s13191-013-0339-6>
- [ 26] Venugopalan S, Ariga P, Aggarwal P, Viswanath A. Magnetically retained silicone facial prosthesis. *Niger J Clin Pract.* 2014 Mar;17(2):260–4.
- [ 27] Kannan A, Venugopalan S. A systematic review on the effect of use of impregnated retraction cords on gingiva [Internet]. Vol. 11, *Research Journal of Pharmacy and Technology.* 2018. p. 2121. Available from: <http://dx.doi.org/10.5958/0974-360x.2018.00393.1>
- [ 28] Ajay R, Suma K, Ali S, Sivakumar JK, Rakshagan V, Devaki V, et al. Effect of surface modifications on the retention of cement-retained implant crowns under fatigue loads: An In vitro study [Internet]. Vol. 9, *Journal of Pharmacy And Bioallied Sciences.* 2017. p. 154. Available from: [http://dx.doi.org/10.4103/jpbs.jpbs\\_146\\_17](http://dx.doi.org/10.4103/jpbs.jpbs_146_17)
- [ 29] Ravichandran R. Prosthodontic treatment protocol for a geriatric dental patient [Internet]. Vol. 6, *The Journal of Indian Prosthodontic Society.* 2006. p. 60. Available from: <http://dx.doi.org/10.4103/0972-4052.27775>
- [ 30] Sande A, Suragimath A, Bijjaragi S, Mathur A. Geriatric dentistry in India: An oral medicine perspective [Internet]. Vol. 26, *Journal of Indian Academy of Oral Medicine and Radiology.* 2014. p. 298. Available from: <http://dx.doi.org/10.4103/0972-1363.145010>
- [ 31] Vigild M. Denture status and need for prosthodontic treatment among institutionalized elderly in Denmark. *Community Dent Oral Epidemiol.* 1987 Jun;15(3):128–33.
- [ 32] Koshino H, Hirai T, Ishijima T, Ikeda Y. Tongue motor skills and masticatory performance in adult dentates, elderly dentates, and complete denture wearers. *J Prosthet Dent.* 1997 Feb;77(2):147–52.
- [ 33] Greksa LP, Parraga IM, Clark CA. The dietary adequacy of edentulous older adults [Internet]. Vol. 73, *The Journal of Prosthetic Dentistry.* 1995. p. 142–5. Available from: [http://dx.doi.org/10.1016/s0022-3913\(05\)80153-2](http://dx.doi.org/10.1016/s0022-3913(05)80153-2)
- [ 34] Douglass CW, Gammon MD, Atwood DA. Need and effective demand for prosthodontic treatment [Internet]. Vol. 59, *The Journal of Prosthetic Dentistry.* 1988. p. 94–104. Available from: [http://dx.doi.org/10.1016/0022-3913\(88\)90117-5](http://dx.doi.org/10.1016/0022-3913(88)90117-5)
- [ 35] Arcuri MR, LaVelle WE, Higuchi KW, Svec BR. Implant-supported prostheses for treatment of adults with cleft palate [Internet]. Vol. 71, *The Journal of Prosthetic Dentistry.* 1994. p. 375–8. Available from: [http://dx.doi.org/10.1016/0022-3913\(94\)90097-3](http://dx.doi.org/10.1016/0022-3913(94)90097-3).

## **FIGURE LEGENDS**

**Figure 1** - Bar chart showing Gender Wise Distribution of the Study Population with a Male prediction of 49.3% out of 100%.

**Figure 2** - Bar chart showing the Role of prosthodontists in improving the geriatric population.

**Figure 3** - Bar chart depicting the contribution of prosthodontists in researches for enhancing geriatric dental care.

**Figure 4** - Bar chart showing that the masticatory performance of older people is analysed by prosthodontists.

**Figure 5** - Bar chart depicting that the rate of salivary flow in older adults is analysed by prosthodontists.

**Figure 6** - Bar chart showing functional and esthetic needs of edentulous patients being fulfilled by prosthodontists.

**Figure 7** - Bar chart showing that the edentulous condition is related to malnutrition.

**Figure 8** - Bar chart representing the treatment for denture stomatitis.

**Figure 9** - Bar chart showing the healthcare programmes for geriatric population.

**Figure 10** - Bar chart showing the increased cavities and periodontal problems in the old age population.

**Figure 11** - Bar Chart depicting the treatment for xerostomia.

**Figure 12** - Bar chart showing the patience and care of prosthodontists among the geriatric population.



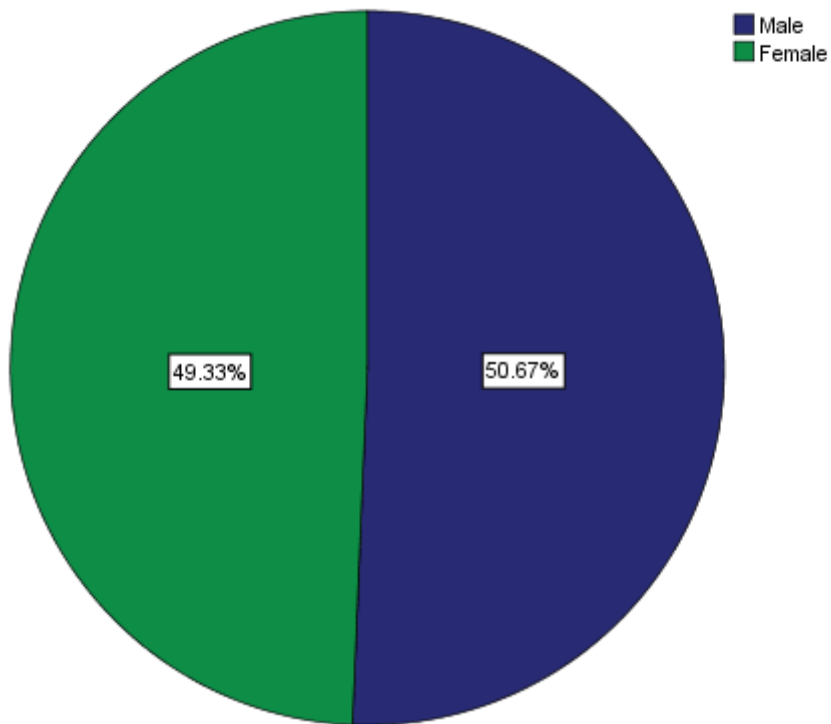


Figure 1: The pie chart depicts the percentage distribution regarding the gender of the study population. 50.67% of the participants were male (Blue) and 49.33% of the participants were female (Green).

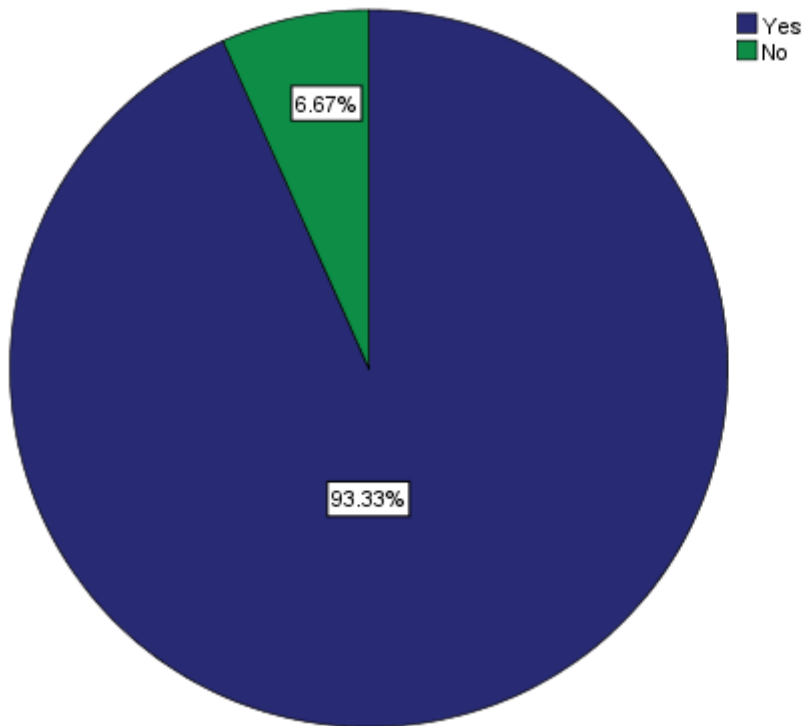


Figure 2: The pie chart depicts the percentage distribution of awareness regarding the role of prosthodontists in enhancing geriatric life. 93.3% of the participants reported yes (Blue) and 6.67% of the participants reported no (Green).

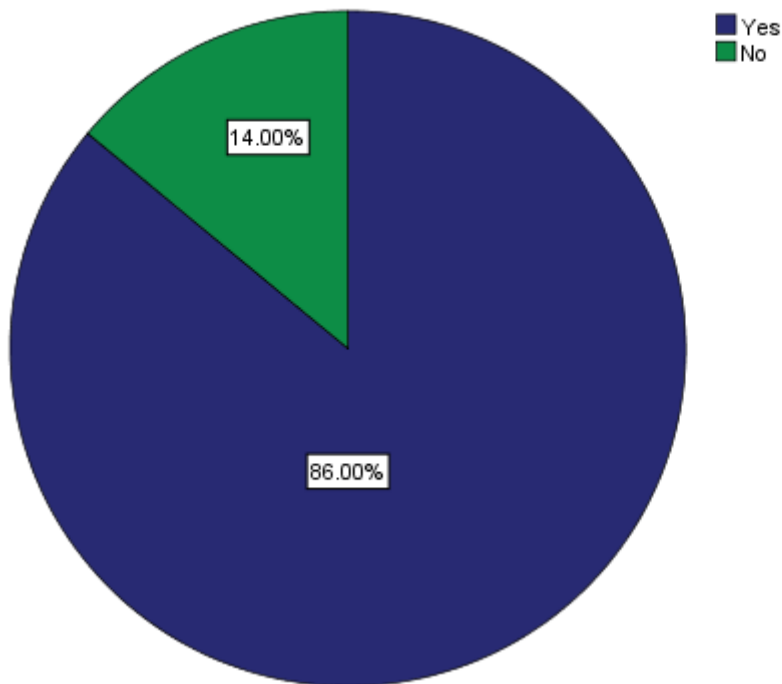


Figure 3: The pie chart depicts the percentage distribution of awareness regarding the active involvement of prosthodontists in geriatric researches. 86% of the participants reported yes (Blue) and 14% of the participants reported no (Green)

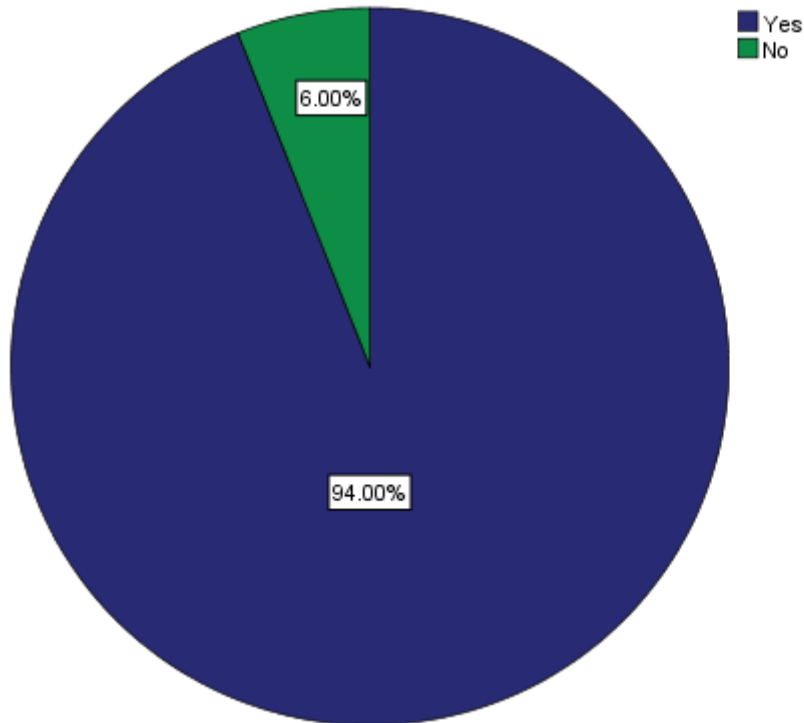


Figure 4: The pie chart depicts the percentage distribution of awareness regarding the masticatory performance of geriatric people being analysed by prosthodontists. 94% of the participants reported yes (Blue) and 6% of the participants reported no (Green).

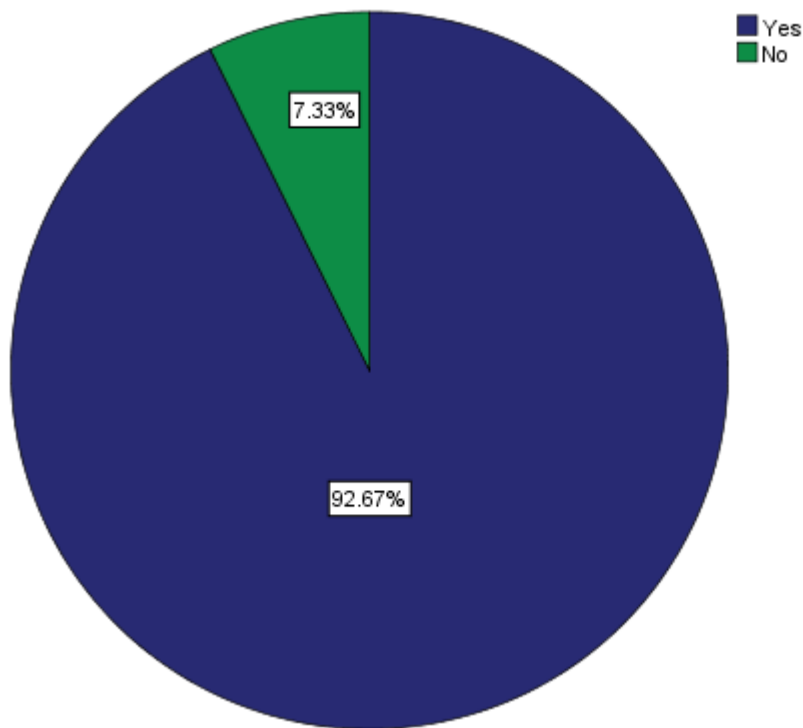


Figure 5: The pie chart depicts the percentage distribution of awareness regarding the salivary flow rate of geriatric people being measured by prosthodontists. 92.67% of the participants reported yes (Blue) and 7.33% of the participants reported no (Green).

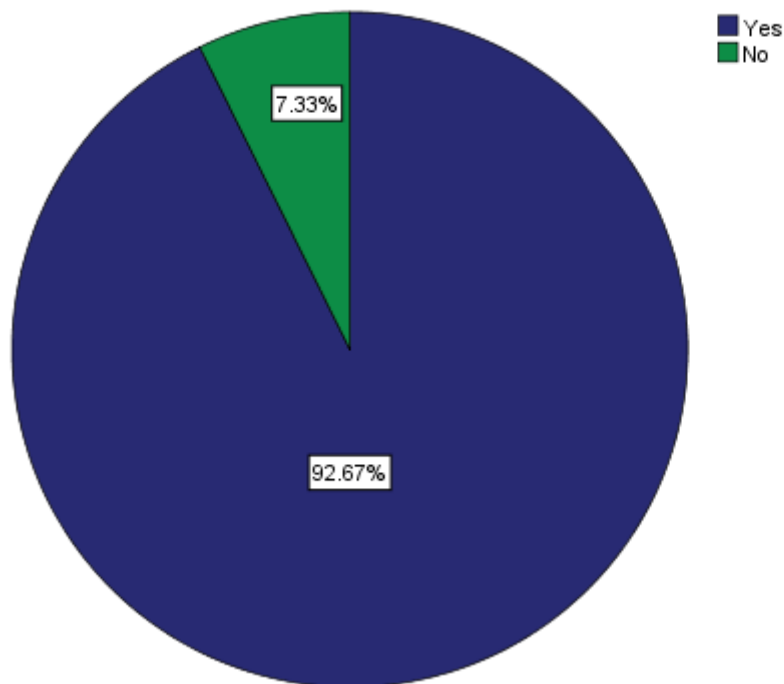


Figure 6: The pie chart depicts the percentage distribution of awareness regarding the functional and aesthetic needs of geriatric patients being fulfilled by prosthodontists. 92.67% of the participants reported Yes (Blue) and 7.33% of the participants reported no (Green).

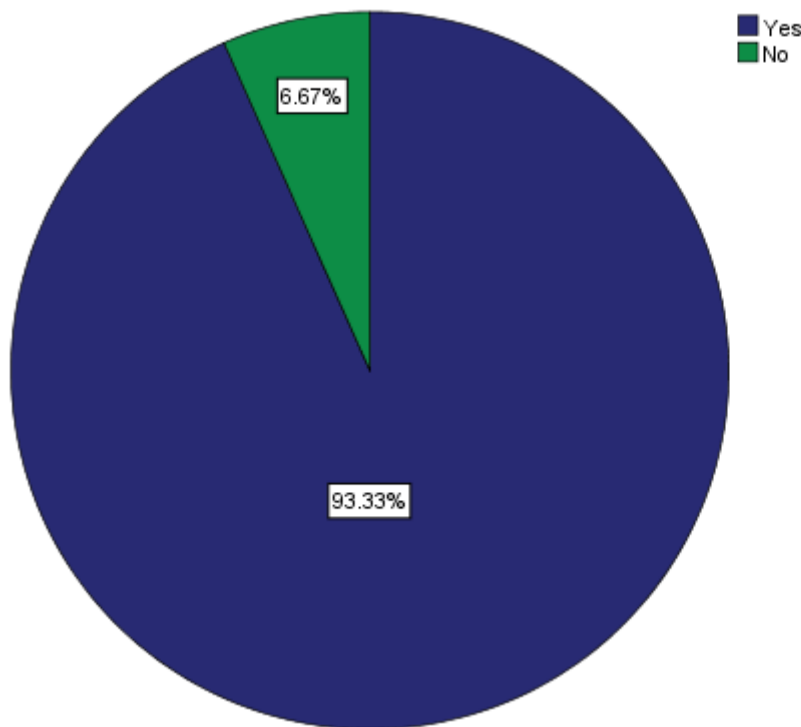


Figure 7: The pie chart depicts the percentage distribution of awareness regarding the relation of edentulous condition to malnutrition in older people. 93.3% of the participants reported yes (Blue) and 6.67% of the participants reported no (Green).

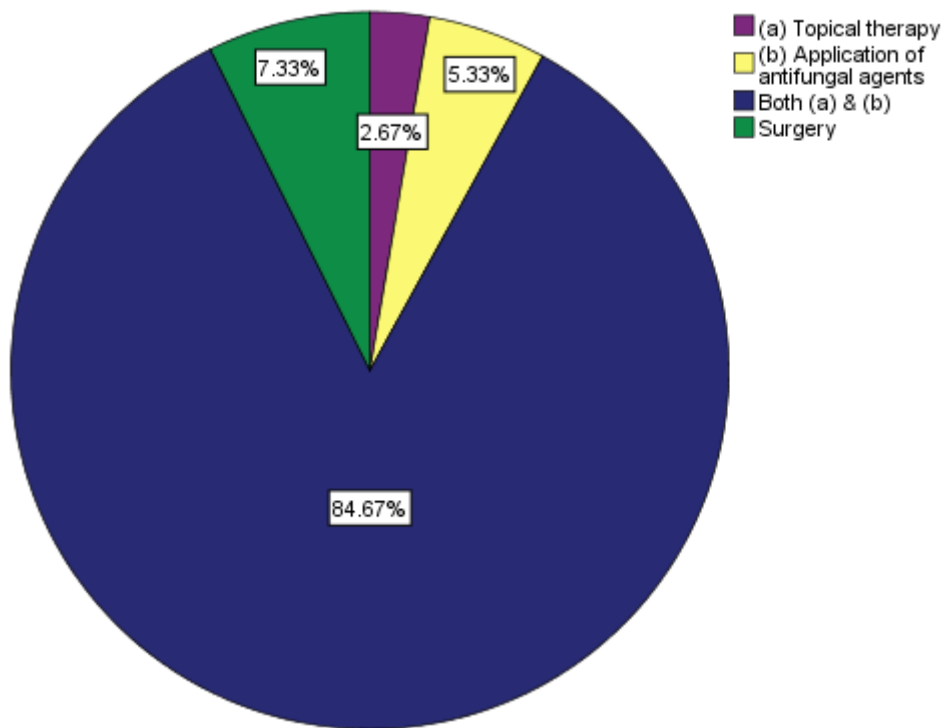


Figure 8: The Pie chart depicts the percentage distribution of awareness regarding the treatment for denture stomatitis. 2.67% of the participants reported (a) Topical therapy (Violet), 5.33% of the participants reported (b) application of antifungal agents (Yellow), 84.67% of the participants reported both (a) & (b) and 7.33% of the participants reported surgery (Green).

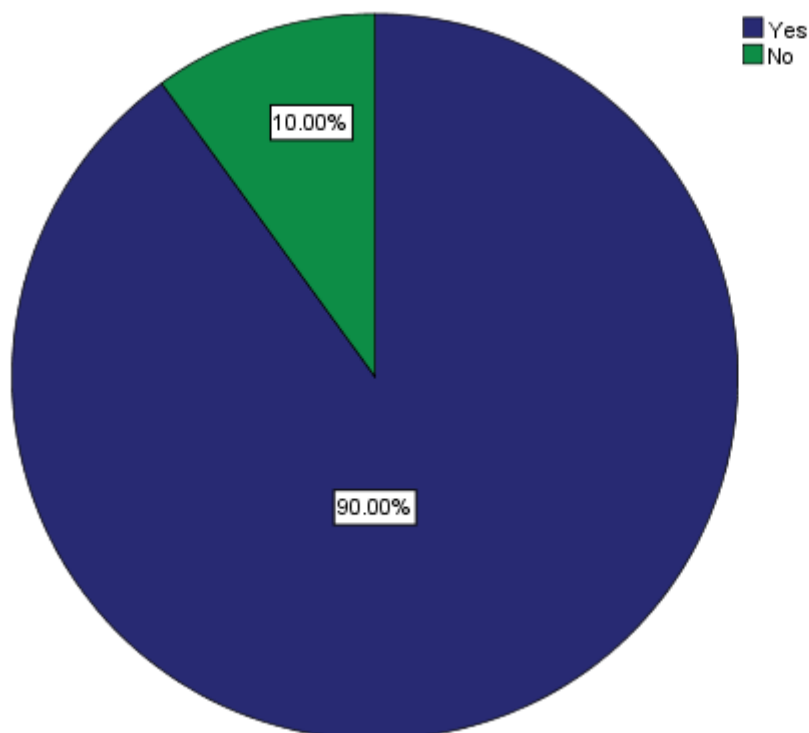


Figure 9: The pie chart depicts the percentage distribution of awareness regarding the conduction of healthcare programmes for geriatric people by prosthodontists. 90% of the participants reported Yes (Blue) and 10% of the participants reported no (Green).

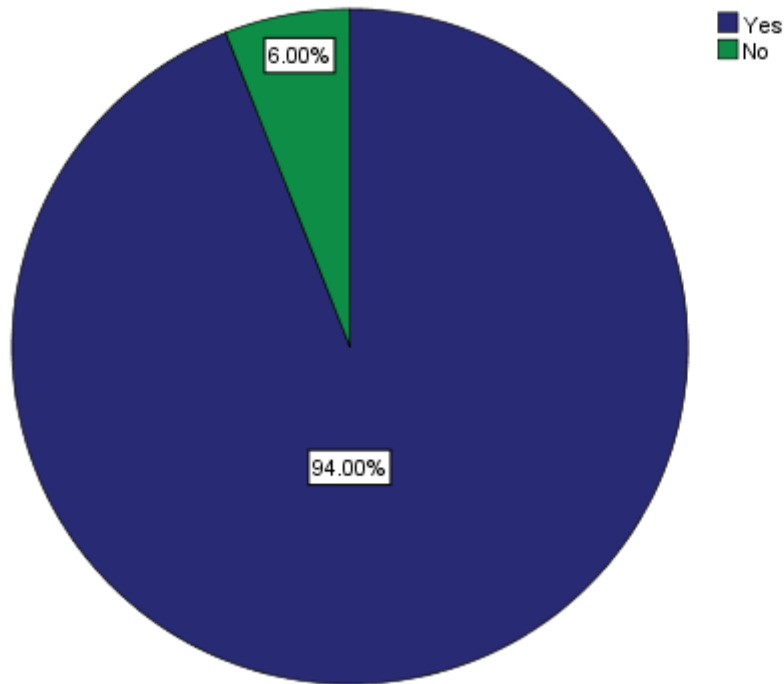


Figure 10: The pie chart depicts the percentage distribution of awareness regarding the observation of increased cavities & periodontal problems among geriatric people. 94% of the participants reported Yes (Blue) and 6% of the participants reported no (Green).

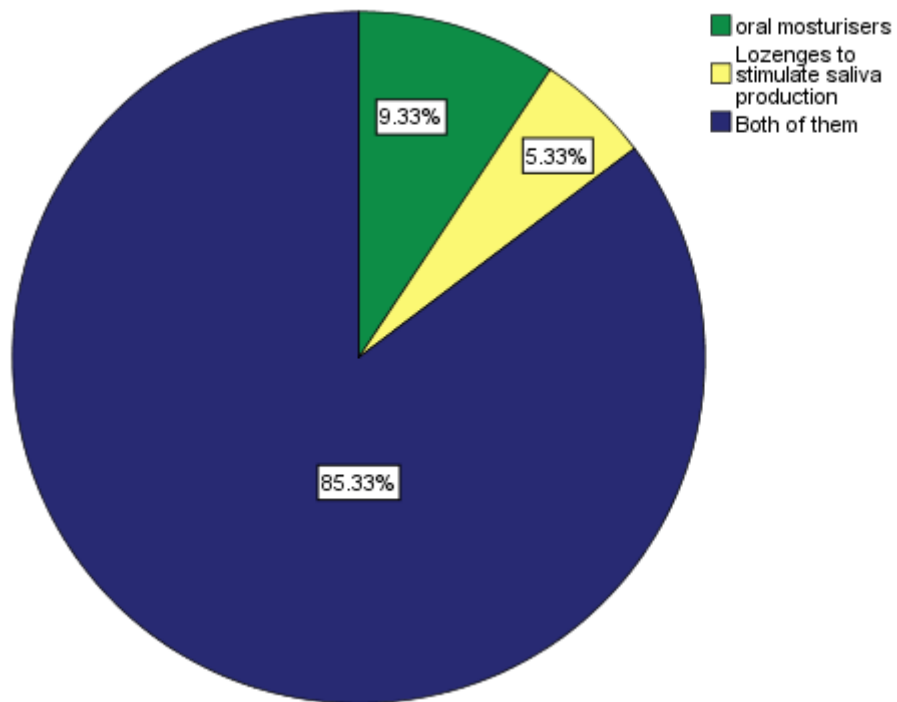


Figure 11: The pie chart depicts the percentage distribution of awareness regarding the treatment of xerostomia among geriatric people. 9.33% of the participants reported oral moisturizers (Green), 5.33% of the participants reported lozenges to stimulate saliva production (Yellow) and 85.33% of the participants reported both of them (Blue).



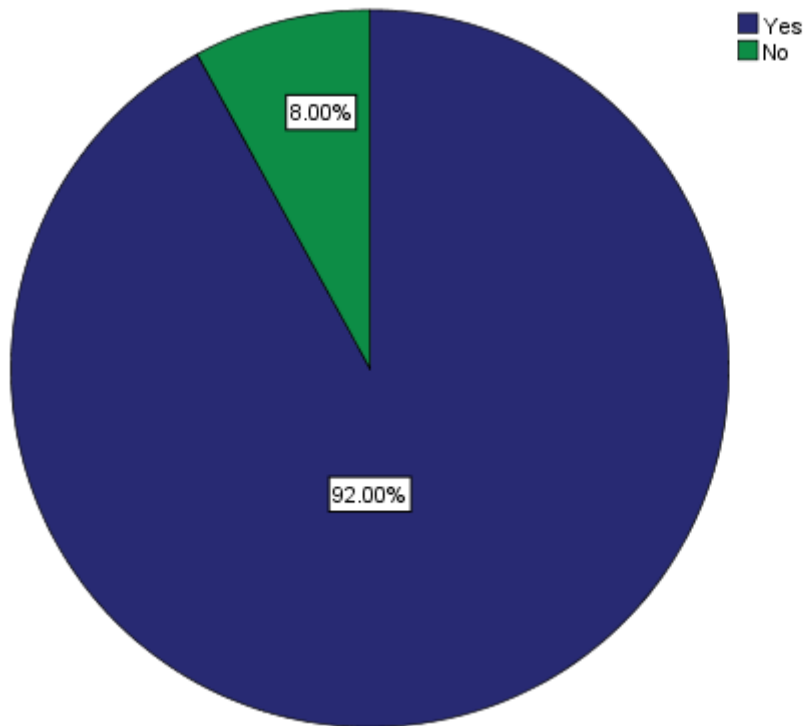


Figure 12: The pie chart depicts the percentage distribution of awareness regarding the patience and care of prosthodontists towards geriatric people. 92% of the participants reported Yes (Blue) and 8% of the participants reported no (Green).

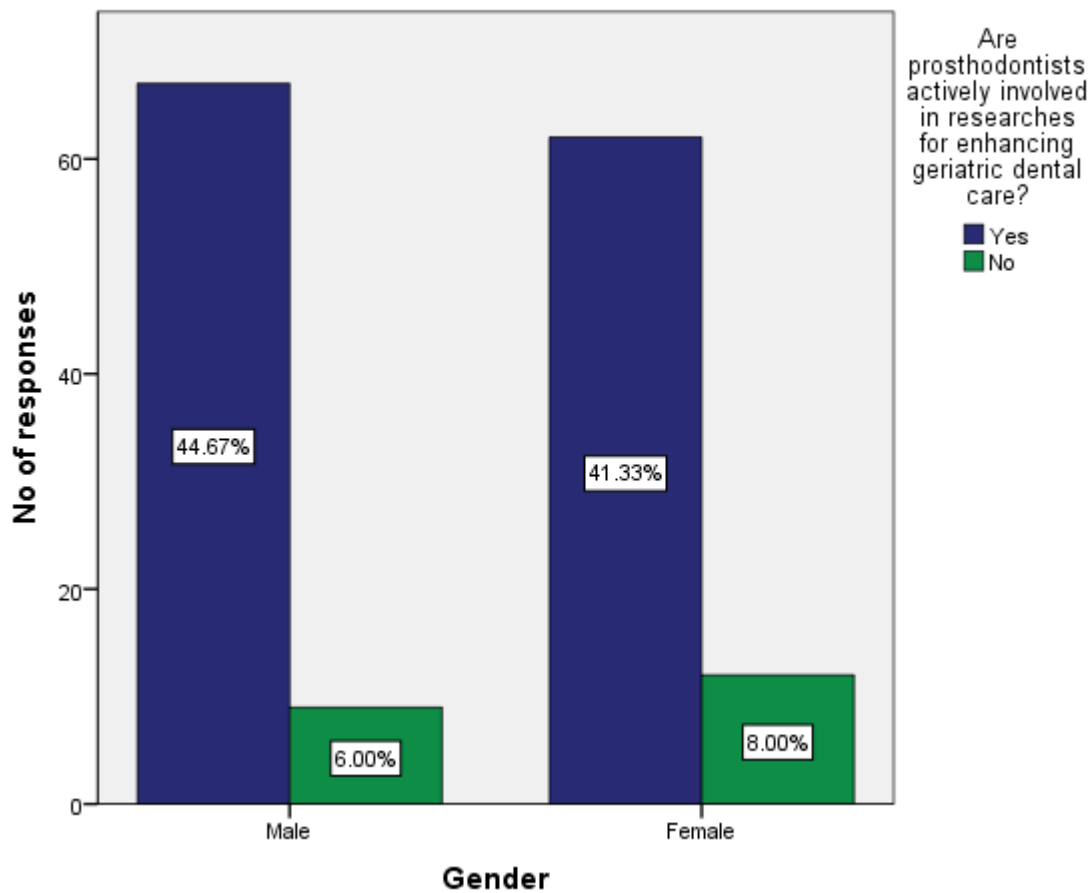


Figure 13: The bar graph represents the association between gender and the knowledge of participants regarding the active involvement of prosthodontists in geriatric researches. X axis represents the gender and Y axis represents the number of responses. Blue denotes yes and green denotes no. Association was done with Pearson's chi square test, chi square value: 0.596; DF value is 1; p value is 0.440 ( $>0.05$ ). Hence, it is not statistically significant. This proves that the knowledge regarding the active involvement of prosthodontists in geriatrics was similar in both the genders.

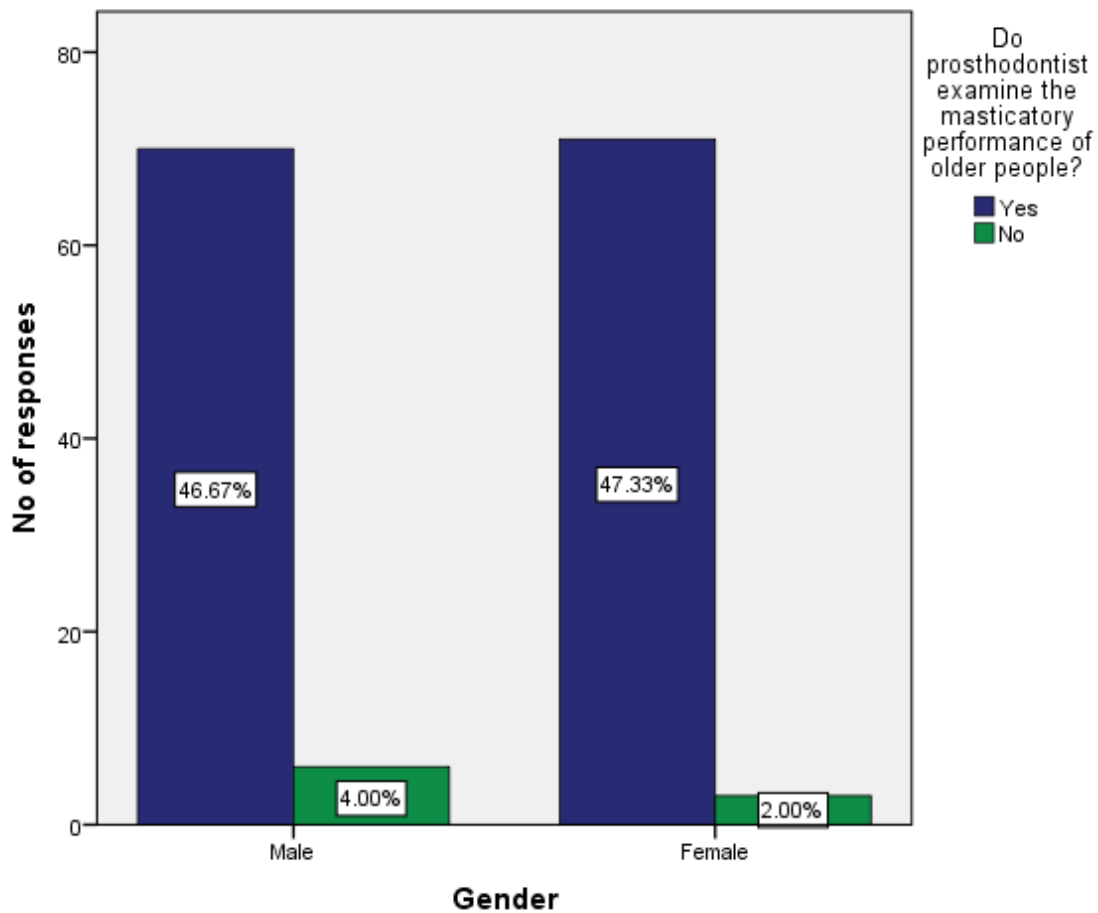


Figure 14: The bar graph represents the association between gender and the knowledge of participants regarding the masticatory performance of older people being analysed by prosthodontists. X axis represents the gender and Y axis represents the number of responses. Blue denotes yes and green denotes no. Pearson's chi square test value is 0.981; DF value is 1; p value is 0.322 ( $>0.05$ ). Hence, it is not statistically significant. This proves that the knowledge regarding the prosthodontists role in geriatrics was similar in both the genders.

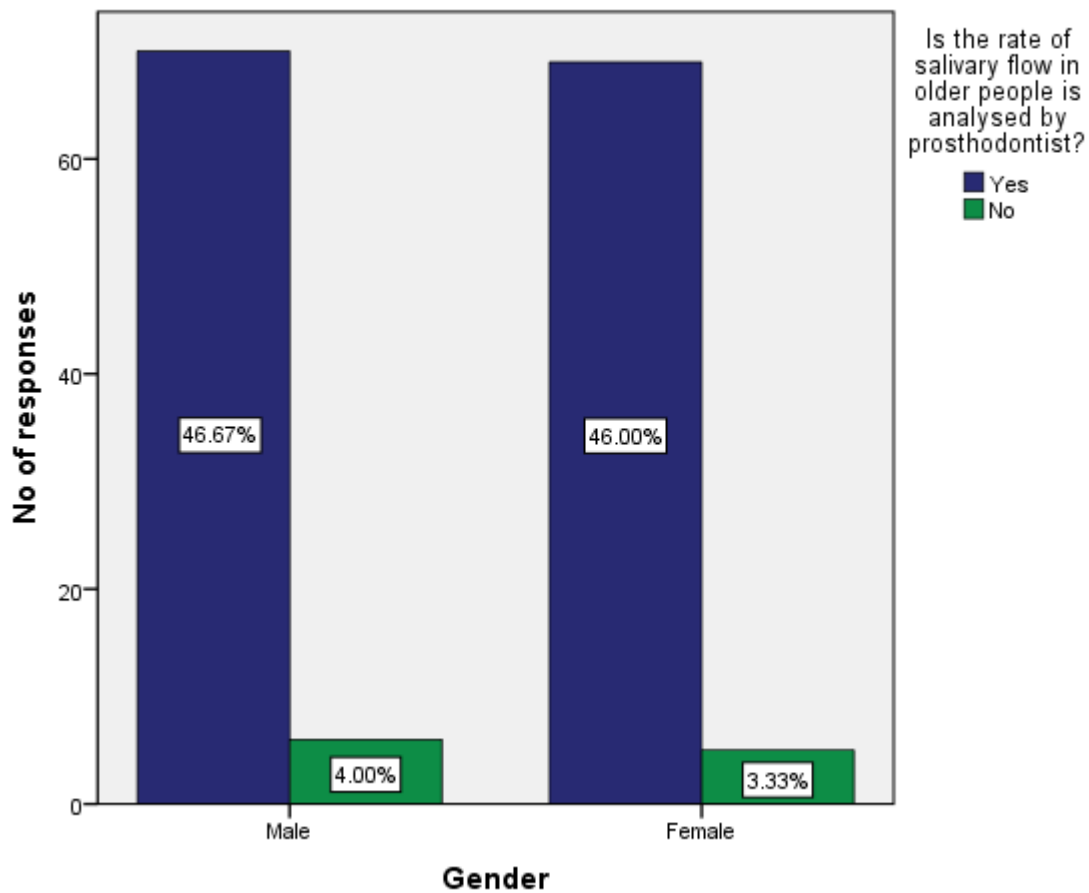


Figure 14: The bar graph represents the association between gender and the knowledge of participants regarding the salivary flow rate of geriatric people being measured by prosthodontists. X axis represents the gender and Y axis represents the number of responses. Blue denotes yes and green denotes no. Males were more aware than females. Pearson's chi square test value is 0.071; DF value is 1; p value is 0.789 ( $>0.05$ ). Hence, it is not statistically significant. This proves that the knowledge regarding the prosthodontists role in analysing salivary flow was similar in both the genders.

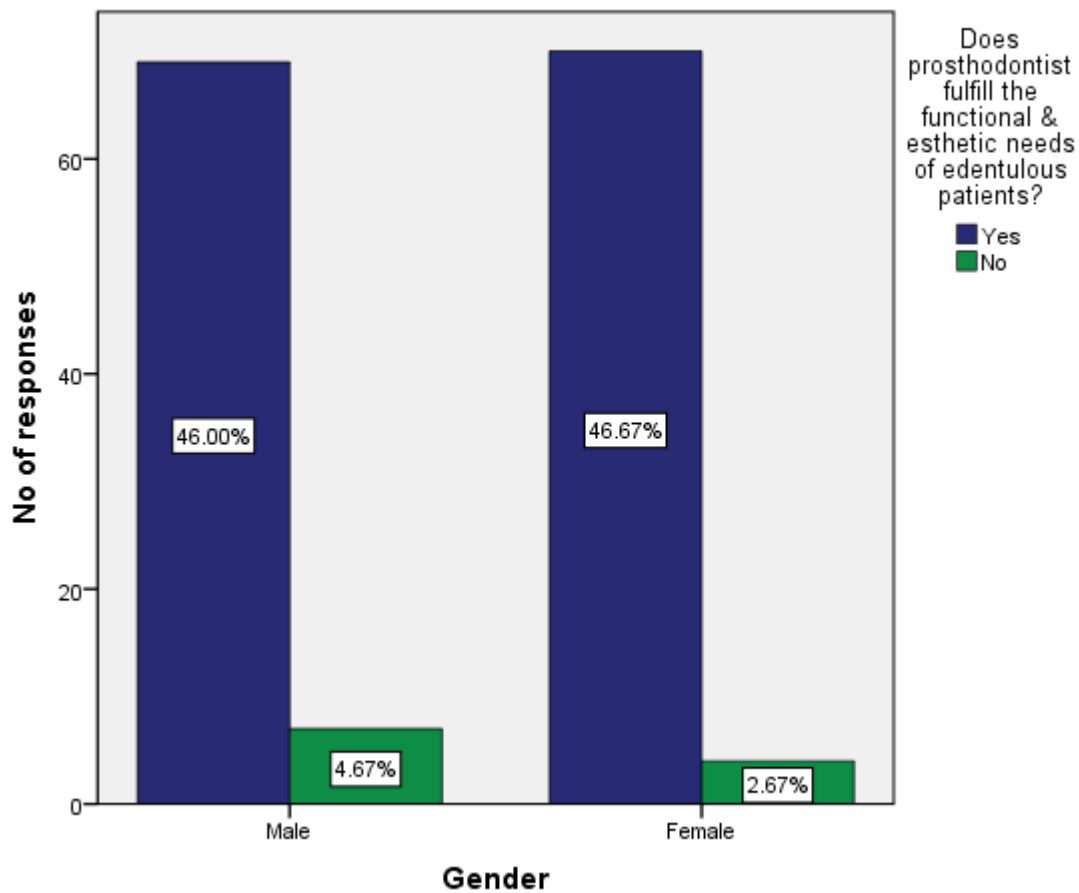


Figure 15: The bar graph represents the association between gender and the knowledge of participants regarding the functional and aesthetic needs of geriatric people being fulfilled by prosthodontists. X axis represents the gender and Y axis represents the number of responses. Blue denotes yes and green denotes no. Females were more aware than males. Pearson's chi square test value is 0.799; DF Value is 1; p value is 0.371 (>0.05). Hence, it is not statistically significant. This proves that the knowledge regarding the prosthodontists role in geriatrics was similar in both the genders.

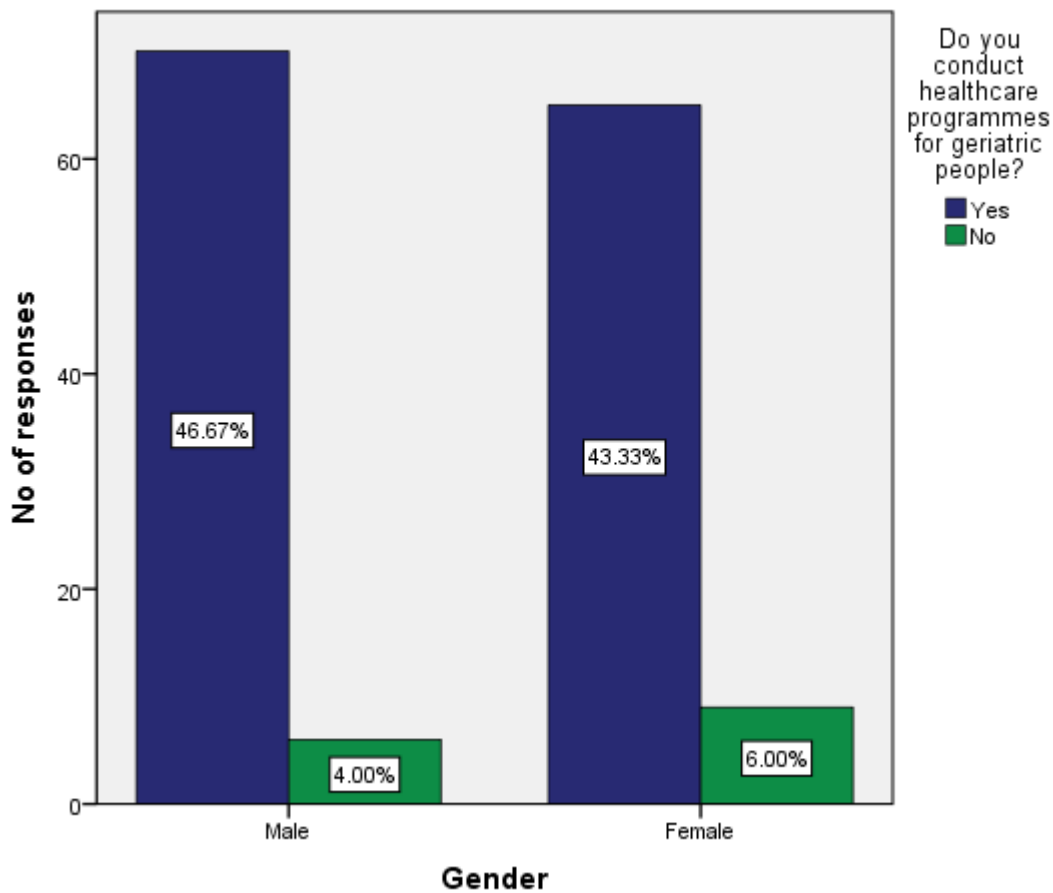


Figure 16: The bar graph represents the association between gender and the knowledge of participants regarding the conduction of healthcare programmes for geriatric people by prosthodontists. X axis represents gender and Y axis represents the number of responses. Blue denotes Yes and green denotes no. Males were more aware than females. Pearson's chi square test value is 0.307; DF value is 1; p value is 0.384 (>0.05). Hence, it is not statistically significant. This proves that the knowledge regarding the prosthodontists role in conducting healthcare programmes for geriatric people was similar in both the genders.