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RESEARCH ARTICLE

KNOWLEDGE, AWARENESS AND PRACTICE AMONG DENTAL PRACTITIONERS REGARDING THE MANAGEMENT OF ALLERGIC REACTIONS INDUCED BY DENTAL PROSTHESIS

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ABSTRACT

OBJECTIVE: An allergic response is due to the invasion of a foreign substance. In regard to dental prosthesis, a wide array of allergic reactions can be induced thus it isessential to assess the levels of knowledge and attitude among the dental practitioners regarding the management of allergic reactions induced by these prosthesis.

MATERIALS AND METHOD: This descriptive cross-sectional study was conducted at Saveetha Dental College and hospitals, Chennai. The study instrument was a structured, self administrable questionnaire consisting of eleven multiple choice questions (MCQs), encompassing major aspects of allergic responses conducted through an online survey.

RESULTS: A total of 100 responses were collected among the dental practitioners with a minimum of 1-5 years of clinical experience. The knowledge regarding the management of allergic reactions and the diagnosis including the tests and aids used was satisfactory. The knowledge on diseases regarding the hypersensitivity reactions were also evaluated. 79% of the respondents opted for more awareness to be created regarding the management of the same.

CONCLUSION: Though the knowledge, awareness and practice among the dental practitioners regarding the management of allergic responses is adequate, there is a need for health care seminars to educate them on further management procedures.

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INTRODUCTION

An allergic response of the body's immune system when it detects an invasion of foreign substance (Rees, 2011). Allergic response can range from a mild rash to death from a multi-system shutdown known as anaphylaxis (Hensten-Pettersen, 1992). Artificial and natural teeth, metallic dental implants, as well as restorative materials with in the mouth interact continually with the physiological fluids (Tošić, 2004). Oral tissues are exposed to a veritable bombardment of both chemical and physical stimuli as well as the metabolism of many species of bacteria; yet, for the most part, oral tissues remain healthy. The pH of saliva varies from 5.2 to 7.8 (Chaturvedi, 2013; Mehulić *et al*., 2005). Allergic reactions may occur from the presence of ions produced from the corrosion of implant (San Martin, 1997). Traditionally nickel, cobalt and chromium have been the most prevalently reported contact allergens (Sicilia, 2008).

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The better alternative can be a dental prosthesis which is bio compatible, metal free, high strength and hygienic (Kanerva, 1993). It was shown that people who had developed occupational allergies, in which contact dermatitis was developed from working with dental prostheses. All patients had positive allergic patch test reactions to methyl methacrylate (MMA) as acrylate is the most widely used material in prostheses (Hildebrand, 1989).These allergic reactions may appear either locally as stomatitis or distantly in the form of general or local contact dermatitis (Pardo, 2004). Investigations of reactions to dental materials is essential for further diagnosis (Gawkrodger, 2005). So this study is aimed at evaluating the levels of knowledge and practice through a survey among dental practitioners.

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted at Saveetha Dental college and hospitals, Chennai. The sample size was 100 which had participants across all specialities.

The study instrument was a structured questionnaire consisting of eleven multiple choice questions (MCQs), encompassing major aspects of allergic responses such as the definition, diagnostic modalities, treatment to rule out the underlining end organ damage and risk factors. An online survey was conducted and they were asked to fill the questionnaire for which ample time was provided. The statistical analysis on the gathered data was carried out and the data was expressed as mean or percentage of participants correctly responding to each question.

RESULTS

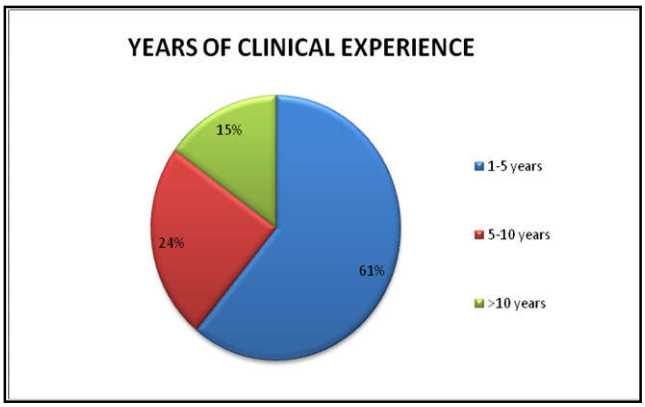

Figure 1.

This chart depicts the years of clinical experience of the practitioners, with majority between 1-5 years of experience.

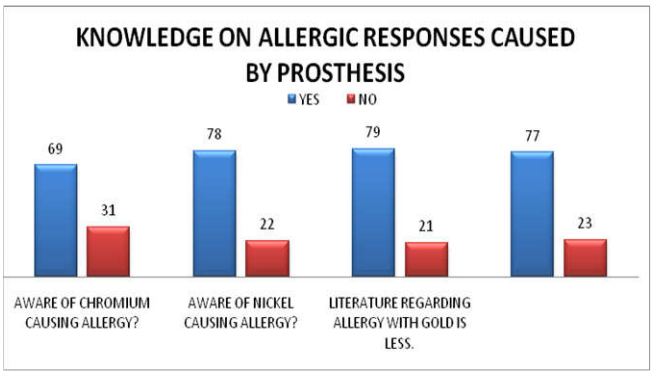

Figure 2.

This graph shows the knowledge regarding the allergic responses caused by prosthesis.

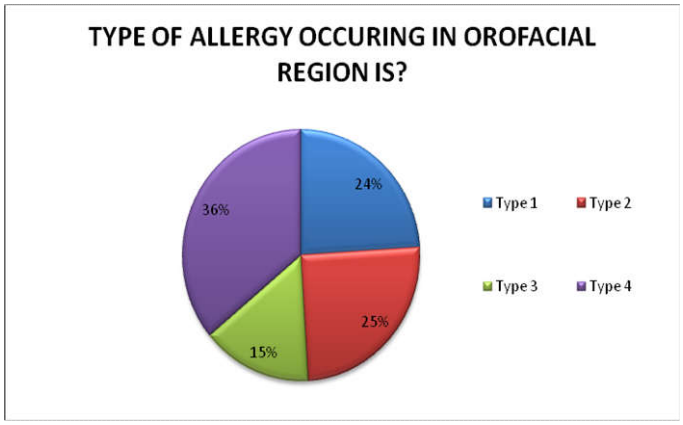

Figure 3.

Shows the type of allergy occurring the orofacial region

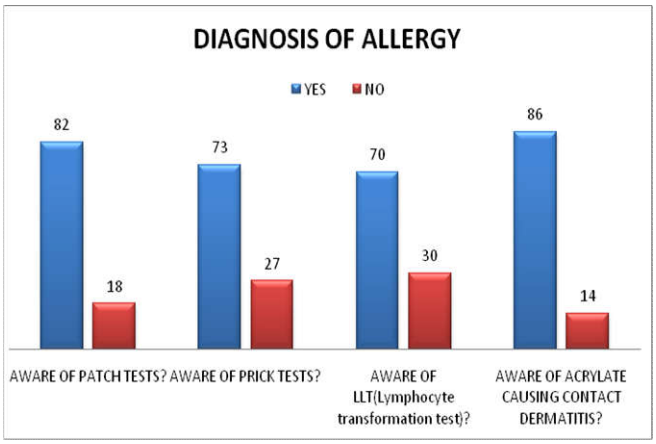

Figure 4.

The diagnostic tests and aids used are tabulated here.

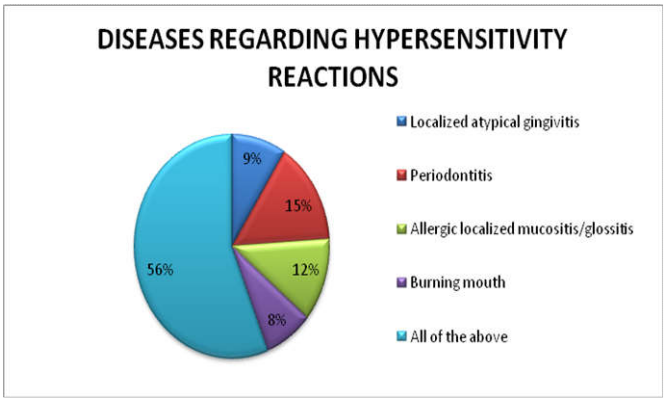

Figure 5.

This figure depicts the diseases regarding the hypersensitivity reactions and its clinical correlation.

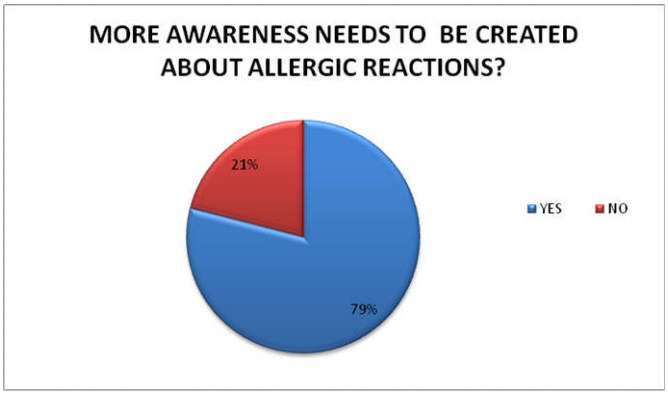

Figure 6.

This graph shows the need for more awareness about allergic responses.

DISCUSSION

The survey was conducted among 100 dental practitioners. The area of specialty of the practitioners varied from general dentists to prosthodontist. The sample size of this study is sufficient to give an idea of the current practice of management of allergic response.

The study included participants with clinical experience ranging from one year to more than 10years. It was found that more than 70% of the respondents were aware of chromium and nickel causing allergic responses. Risk of titanium allergy was also intervened, which is in correlation with a study done by chaturvedi *et al* in December 2013 (Chaturvedi, 2013). In response to the type of allergy occurring in the orofacial region,25% of the respondents selected type1 and 2 and there is a need to create an awareness of type4 which is most commonly occurring, which has been stated by Rees *et al* in 2011 (Rees, 2011). In regards to the diagnostic tests available for allergy, more than 70% of the population were aware of the tests available. Signs and symptoms of the tests were also analyzed. 76% of the population agreed that both local and systemic effects of hypersensitivity could be analyzed by the Lymphocyte Transformation Test as stated by San *et al* in his study (San Martin, 1997). The diseases regarding the hypersensitivity reactions, 56% of the population were aware of all the conditions such as localized atypical gingivitis, periodontitis, all ergicmucositis/glossitis and burning mouth. More than 50% of the respondents were aware that acrylate causes contact dermatitis and its symptoms which is shown in the previous studies as well (Kanerva, 1993; Hildebrand, 1989; Pardo, 2004). More than 75% of the population thought there is a need for more awareness to be made about allergic reactions, which is also shown by Gawkrodger *et al* in 2005 (Gawkrodger, 2005).

Conclusion

This research gives a collective knowledge regarding the management of allergic responses induced by prosthesis. Further this can also be expanded to a wider horizon involving a wider population of study. Though the awareness among the dental practitioners is satisfactory, the knowledge, attitude and awareness on allergic reactions provides a need to educate and motivate them for the management of the same on a regular basis in the curriculum.

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