



Original Article

Comparison of Knowledge Sufficiency Regarding the Specialty of Prosthodontics Among Health Care Professionals of Karachi

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ABSTRACT

A chunk of people from general public and health care professionals know about Prosthodontics as one of the essentials of dentistry and hence, the patients are not adequately referred to them. Subsequently, the quality of oral rehabilitation is negatively affected. **Objective:** Therefore, the aim was to assess and compare the level of knowledge related to Prosthodontics among various healthcare professionals in Karachi. **Methods:** This cross-sectional study using a voluntarily filled validated questionnaire was disseminated to various health care professionals. The selection of participants was in an equal ratio of various health professional communities and were categorized into 5 groups: medical professionals (MBBS), fraternity of doctor of physical therapy (DPT), personnel of doctor of pharmacy (Pharm- D), medical laboratory technicians (MLT) and faculty of nursing. The core results were interpreted in terms of descriptive analysis whereas the inter-group comparison of data was done through ANOVA test application to compare the level of knowledge among various health care professionals. **Results:** Superficially, 72% health care professionals knew about Prosthodontics through newspaper. The inter-group comparison showed that there is a significant difference in the comprehensive knowledge about Prosthodontics among all health care professionals. Among them, DPT and MLT professionals were found to be at the higher level of knowledge status than those of MBBS, nursing and pharmacy. **Conclusions:** The specialty of Prosthodontics is still searching for its identity rather among the health care providers than among the general public.

INTRODUCTION

People living in the current century are considerably concerned regarding their dental and medical health and thus, demanding the best possible treatment for their diseases [1]. Multi- disciplinary approach is the possible solution to this problem, but this is only achievable when different disciplines of health care system have awareness and knowledge about competencies and domains of each other [1-3]. Deteriorated dentition or tooth loss adversely affects the functional, aesthetic, and psycho-social health of an individual's life and can be used as a marker to assess the burden of oral health diseases in a population [4]. To confront this, Prosthodontics is the recognized branch of dentistry by American Dental Association that deals with the restoration of injured, damaged or missing teeth with

prosthetic replacements such as dental veneers, crowns, removable dentures and implant-supported prostheses [4]. Maxillofacial defects originated via congenital or accidental cause, cleft lip and palate, TMJ problems are also efficiently rehabilitated by the Prosthodontist [1]. Professionals other than dentists have significant roles in oral health care system [1,2]. When awareness regarding the concerned discipline is lacking, adequate referrals are delayed and hence, compromising the prognosis of the disease [3,1,2]. Although, there is a dearth of published literature on the statistics of awareness regarding specialty of Prosthodontics, but Oral and Maxillofacial surgery (OMFS) and Oral medicine which are also the significant sub-specialties of dentistry, literature shows

only small number of people have the core concept about them [1,2]. Hence, it is evident that awareness of dental specialties among health care professionals and public is very low [1,2,3]. The public literacy status and awareness about health care system among the population of Pakistan vary disproportionately and differ according to different regions [1]. Therefore, it is desirable to determine the knowledge level of the health care professionals prior undertaking the general public to establish the baseline data in this regard. Therefore, the current study aimed to assess and compare the level of knowledge related to Prosthodontics, a specialty of dentistry among various health care professionals in Karachi. The meager knowledge, and hence lack of awareness was the predicted outcome of the study. Moreover, a uniform pattern of knowledge was expected upon comparison of participants of health care professionals.

METHODS

This cross-sectional study using a voluntarily filled validated questionnaire was distributed to various health care professionals of Karachi except dentists and dental auxiliaries, and those who agreed to participate, in the year of 2021. The non-probability convenience sampling technique was utilized to sort out the sample size of the study. The sample size was calculated to be 384 participants based on 50% prevalence rate. The selection of participants was in an equal ratio of various health professional communities and were categorized into 5 groups: medical professionals (MBBS), fraternity of doctor of physical therapy (DPT), personnel of doctor of pharmacy (Pharm- D), medical laboratory technicians (MLT) and faculty of nursing. A self-reported questionnaire was designed in English language and sent to the sample population using online version of questionnaire. The questionnaire contained two sections. The first section consisted of demographic data and the second section was based upon 7 questions related to Prosthodontics specialty to assess the basic knowledge about the discipline. However, comprehensive knowledge regarding Prosthodontics was determined via 2 detailed questions which were designed in multiple choice format. The score of each question was calculated in terms of percentage of correct responsiveness. 4 true options were given the percentage of 100%, 3 right options were equalized to 75% of in-depth awareness, 2 accurate answers corresponded to 50% knowledge level while 1 correct answer meant 25% knowledge status of the participant. Questionnaire validation was accomplished using a pilot study which was conducted on 10% of the sample size to sort out any ambiguity regarding language or understanding barriers. Kappa test value was calculated as 0.80 from pilot study, to

determine the internal reliability of the questionnaire. Factors affecting internal validity were identified and tried to be kept under control. Lack of participation was minimized by giving rationale of the study. Fear of exposure of identity was addressed through a disclaimer note about confidentiality, anonymity and restricted use of the gathered data. Statistical analysis was done using SPSS version 23.0. The core results were interpreted in terms of descriptive analysis in the form of frequencies, means and standard deviations. The inter-group comparison of data was done through one-way ANOVA test application to compare the level of knowledge among different health care professionals. P- values < 0.05 was considered to be significant.

RESULTS

Among the 400 respondents from various sectors of health sciences, 223 (55.8%) and 177(44.2%) were males and females respectively. Regarding awareness of the dental profession and its associated disciplines, majority of positive responses were obtained from the DPT personnel followed by MBBS and MLT as shown in Figure 1. Out of which, maximum 24.14% MLT personnel heard of it through newspapers (43.48%) as their leading source of information.(Figure 3)

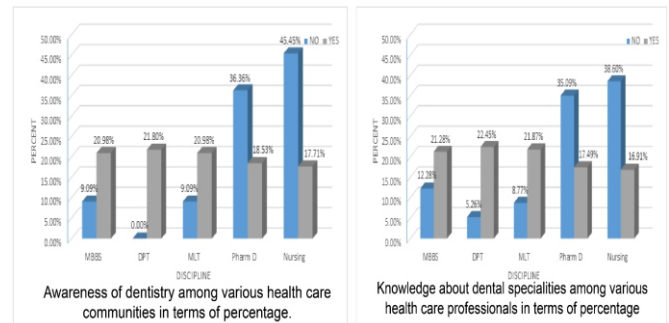


Figure 1: Awareness of dentistry and its specialties among various health care communities in terms of percentage

Having explored awareness regarding Prosthodontics as a specific discipline of dentistry, the overall positive response turned out to be 72.5% as shown in figure 2.

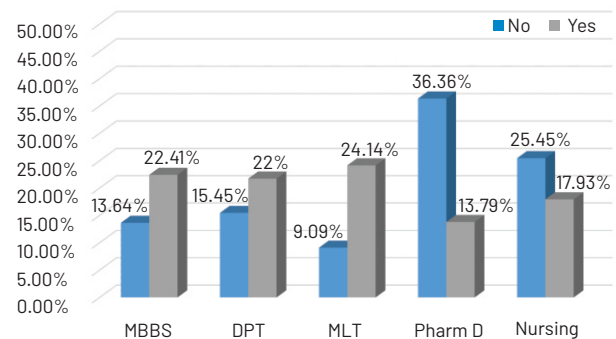


Figure 2: Familiarity with prosthodontics among different health care professionals in terms of percentages

Out of which, maximum 24.14% MLT personnel heard of it through newspapers (43.48%) as their leading source of information as shown in figure 3.

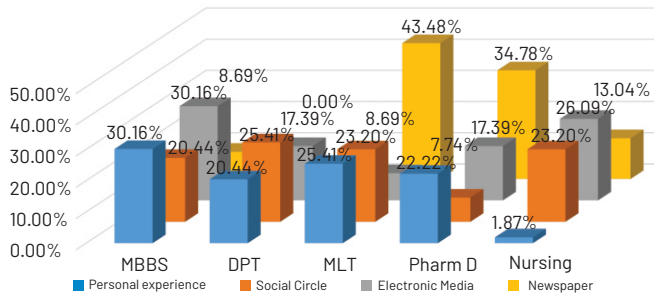


Figure 3: Percentages of various resources used by health care professionals to get knowledge about prosthodontics

The only acknowledged sample population regarding Prosthodontics specialty was then assessed for further in-depth knowledge about the subject. When asked about the various sorts of patients dealt by Prosthodontists, DPT group produced higher accurate knowledge with a mean score of 0.49 ± 0.24 followed by MLT category having a mean score value of 0.45 ± 0.23 . Moreover, there was a significant difference recorded in awareness levels among all health professionals with a p-value of 0.000. (Table 1) When asked about the services offered by Prosthodontists, MLT faculty responded with a higher mean awareness score of 0.47 ± 0.26 followed by MBBS (0.38 ± 0.27). The significant co-relational value of 0.000 was noted among all health professional groups as shown in table 1. Regarding an accessible location for prosthodontic work, maximum precise knowledge was obtained in DPT faculty (0.44 ± 0.09) followed by nursing and MBBS staff with mean scores of 0.43 ± 0.09 and 0.40 ± 0.11 respectively. The one-way ANOVA revealed significant association among knowledge of all health groups (p-value 0.000) as shown in Table 1. While exploring the competencies of a prosthodontist whether he is capable of doing general dental procedures or not, majority subjects associated with pharmacy and DPT reported the correct knowledge about this question. The difference of knowledge among various health professionals was found to be significant. (p=0.004) as shown in Table 1.

Knowledge and Attitude versus Discipline	In your opinion, what sort of the following patients are dealt by Prosthodontists?	Which of the following services are offered by Prosthodontists?	In your opinion is an easily accessible location for prosthodontic work?	Can a Prosthodontist do general dental procedures as well?
Parameter	Mean±SD	Mean±SD	Mean±SD	Mean±SD
MBBS	0.39±0.27	0.38±0.27	0.40±0.11	0.07±0.04
DPT	0.49±0.24	0.30±0.16	0.44±0.09	0.08±0.03
MLT	0.45±0.23	0.47±0.26	0.38±0.12	0.06±0.04
Pharm D	0.23±0.12	0.21±0.18	0.34±0.08	0.09±0.02
Nursing	0.34±0.20	0.25±0.17	0.43±0.09	0.07±0.04
P-value	0.000	0.000	0.000	0.004

Table 1: Level of knowledge about Prosthodontics among various health care professionals

*One-way ANOVA test was applied to see the significant at P-

values ≤ 0.05 , SD=Standard Deviation

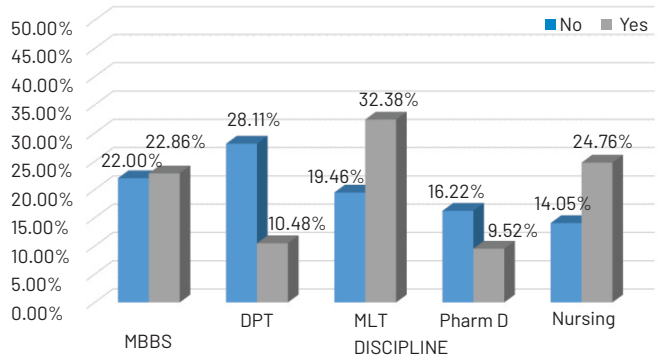


Figure 4: Percentages of health care workers who had undergone personal experience with prosthodontist

DISCUSSION

Dentistry is one of the main components of health care system and it has various specialties. Among them Prosthodontics is one of the leading specialties that deal with replacement of missing teeth and its associated structures. Upon literature review, it is revealed that the competencies of a Prosthodontist are poorly recognized by the other health care communities and hence, the patients are not adequately referred by them [1]. In this regard, this is an initiative to generate exact statistics about awareness of prosthodontics as a dental specialty. Understanding the attitude and perception of our health care professionals is more vital than assessing the knowledge of the general public in order to develop the culture of multidisciplinary treatment approach and promote the trend of patient referrals in our society. These were the reasons behind to incorporate the members of health sciences as sample population, to check their awareness status rather than the general public. The current study showed that 91.8% of health care personnel know about dental profession. This finding is quite similar to the studies did by Oyetola et al., and Chandra et al where 95% and 100% participants knew about dentistry respectively [1,2]. When inquired about dental specialties and Prosthodontics, specifically, 85.8% and 72.5% health care professionals had heard about these respectively. This can be compared to the research work done by Subhashraj et al., while exploring awareness regarding OMFS specialty in which 41% of medical students and 76% of medical professionals and 58% of paramedics had heard of it [1]. Another study by Bokkasam et al., showed that 31% of medical professionals were aware of oral medicine [8]. Mane PN et al., while investigating awareness of Orthodontics, came to know that only 67% patients knew about it [1]. Many researches revealed that awareness of dental specialties among various medical professionals and public is low [9-11]. This may be due to the fact that dental fraternity with its sub-disciplines are not very well-

recognized in developing countries like ours. This study also showed that their core sources of information regarding Prosthodontics is through newspaper, personal experiences and social circle. This may be closely related to the study did by Dahane TM et al., that showed that books and personal experiences were the core sources of knowledge regarding dentistry [12]. However, majority ignorant participants belonged to pharmacy and nursing professions, 36.36% and 25.45% respectively. This may be due the fact that MLT, DPT, MBBS learners are usually taught under the umbrella of a single institution while nursing and pharmacy are trained completely in a separate learning environment, so that the chances of social interaction with students and faculty of BDS is lesser for them as compared to those of MBBS, DPT and MLT. Having probed into the comprehensive knowledge about Prosthodontics, an overall 4.8% and 8.6% health care professionals responded the questionnaire correctly regarding what sort of patients can be dealt and services offered by this specialty. DPT and MLT personnel were found to be at the higher level of knowledge than other health care professionals. Subhashraj et al., in 2018, reported the same awareness difference among various health care communities revealing, medical community to have less amount of knowledge regarding OMFS field [15]. Many other studies also revealed the similar fact that other health care communities do not have even the basic knowledge about dental profession [13,1,2]. and hence, appropriate referral is compromised [8]. In 2019, a study conducted in Indian population exploring the services provided by a Prosthodontist revealed that only 31 out of 500 participants had higher awareness about it [1]. Albraa B et al., while investigating awareness of different dental specialties in Medina showed that 3.5% participants had good, 44.5% had average and 52% had poor level of knowledge [1]. The existing literature suggests that the lack of publicity by the professional bodies may be the underlying reason. Hence, there is an obligation for the health care professionals especially the Prosthodontists, to get involved in oral health promotion programs like continuing medical education (CME) and continuing dental education (CDE) programs to promote the field of Prosthodontics in Pakistan. The strengths of the current study were the incorporation of various healthcare workers from private and public sectors of Karachi while maintaining an equal ratio of all health care communities. However, this survey was done in a single city of Pakistan undertaking only one discipline of dentistry may be the limiting factors of the study. But it can be predicted from the findings of the present study that the scenario in any part of Pakistan would be no different from Karachi. Therefore, it is recommended to generate and co-relate

the statistics of other disciplines of dentistry as well, incorporating sample population of different regions of Pakistan to precisely conclude the scenario regarding awareness and growth of dental fraternity in Pakistan. Undertaking the present finding, it is right to say that the specialty of prosthodontics is still searching for its identity rather among the health care providers than among the general public.

CONCLUSIONS

The overall positive response regarding familiarity with Prosthodontics is 72.5%. Moreover, there is a significant difference observed in the comprehensive knowledge status about Prosthodontics among all health care professionals. However, DPT and MLT personnel were found to be at the higher level of knowledge than those of MBBS, nursing and pharmacy.

Conflicts of Interest

The authors declare no conflict of interest.

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