



Assessment of dental professionals' preparedness for treating patients with special health care needs in Lahore, Pakistan

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ABSTRACT

OBJECTIVE: To evaluate general dentists' perceptions, knowledge, and attitudes regarding the provision of dental services to patients with special health care needs (SHCN).

METHODS: This cross-sectional descriptive study was conducted at the University Dental Hospital, University of Lahore, Pakistan, from May 2022 to October 2022, using non-probability purposive sampling. The study included house officers, postgraduate residents, and general dental practitioners aged up to 30 years. Self-administered questionnaires were distributed to 220 participants, gathering demographic data and assessing their knowledge, perceptions, and attitudes toward SHCN patients. Data analysis was performed using SPSS version 25.

RESULTS: Out of 220 dental professionals, 85 (38.6%) were male and 135 (61.3%) were female. House officers comprised the majority (n=131, 59.5%), followed by postgraduate trainees (n=47, 21.4%) and general dental practitioners (n=42, 19.1%). The mean age of participants was 24.93 ± 2.45 years. A significant portion (n=171; 77.7%) exhibited limited knowledge about SHCN patients, with only 2.7% (n=6) being well-informed. Frequent interactions with SHCN patients were reported by 23.6% (n=52), and 55.5% (n=122) believed there was insufficient experience among dental practitioners in treating these patients.


CONCLUSION: The study highlighted a significant knowledge gap and perceived challenges in treating SHCN patients among general dentists. Addressing these issues requires reforms in dental education, including enhanced training and curriculum modifications to improve exposure to and management of SHCN patients.

KEYWORDS: Dentists (MeSH); Dental Care (MeSH); Oral Hygiene (MeSH); Vulnerable Populations (MeSH); Dental Care for Disabled (MeSH), Dental Care for Chronically Ill (MeSH).

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medical needs.²

The World Health Organization (WHO) estimates that approximately 12% of people in developing countries and 10% in developed countries live with disabilities or special needs.⁴ In the United States, data indicates that 21.8% of male children and 17.1% of female children have special health care needs (SHCN).⁵ Individuals with SHCN often face increased risks of oral diseases and frequently experience barriers to accessing dental care, impacting their overall well-being.^{6,7}

In the realm of dentistry, neglect towards patients with SHCN often stems from dentists' fears, lack of knowledge, and unfamiliarity, which contribute to misconceptions and challenges in treatment.⁸⁻¹⁰ Special care dentistry, defined by the American Dental Association is "the area of dentistry that involves specialized expertise and heightened awareness for patients with intellectual disabilities, medical, physical, or psychiatric conditions requiring unique oral health-related treatments".¹¹

Research on dentists' perspectives towards enhancing oral health care for SHCN patients is scarce in developing regions. Additionally, there is a lack of comprehensive studies examining dental professionals' attitudes and practices regarding the management of patients with SHCN in the literature. Specifically, in Pakistan, little is known about dentists' perceptions, knowledge, and attitudes towards caring for individuals with SHCN.

Therefore, this study was planned to

INTRODUCTION

The term "vulnerable population" refers to marginalized groups in society requiring special care and protection.¹ This includes those with low income, homeless individuals, specific geographic communities, LGBTQ+ (Lesbian, Gay, Bisexual, And Transgender) individuals, and the very young and old. Another category within this group comprises individuals who are chronically ill or disabled, facing unique challenges in accessing healthcare, education, and employment

opportunities.² According to the American Academy of Pediatric Dentistry (AAPD), individuals with special health care needs encompass those with physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairments requiring specialized medical management or interventions.³ This segment of the population often necessitates tailored care to effectively manage their conditions and maintain their quality of life, as disparities in healthcare availability are typically more pronounced among those with greater

address this gap by evaluating general dentists' perceptions, knowledge, and attitudes regarding the delivery of dental services to patients with SHCN. By understanding these factors, the study seeks to identify barriers and opportunities to improve healthcare access and enhance the well-being of individuals who encounter additional challenges in accessing dental care. Insights gained from this research can guide dental practitioners in developing targeted interventions and strategies to improve the quality of dental care for SHCN, ultimately aiming to enhance oral health and overall comfort.

METHODS

This cross-sectional descriptive study was conducted at the University Dental Hospital, University of Lahore, Pakistan, from May 2022 to October 2022. Non-probability purposive sampling was employed for participant selection. Ethical approval was obtained from the Institutional Ethical Committee of the University of Lahore.

The inclusion criteria encompassed house officers, postgraduate residents, and general dental practitioners of both genders, aged up to 30 years. General dental practitioners with over 5 years of experience and specialist dentists were excluded from participation.

Self-administered questionnaires, distributed manually and through Google Forms, were completed by 220 eligible participants. The questionnaire, validated through a pilot study, consisted of 13 closed-ended items. It was structured into two sections: Section A gathered demographic data including age, gender, and designation, while Section B comprised 10 questions evaluating perceptions, knowledge, and attitudes regarding the provision of dental services to patients with special

health care needs.

Data entry and analysis were conducted using SPSS version 25. Quantitative data were presented as mean \pm SD, and qualitative data as frequency and percentage. The Chi-Square test was employed to assess associations between qualitative variables, with statistical significance defined as a p -value ≤ 0.05 .

RESULTS

In this study, 220 dental professionals participated, comprising 85 (38.6%) males and 135 (61.3%) females. The majority of respondents were house officers ($n=131$, 59.5%), followed by postgraduate trainees ($n=47$, 21.4%) and general dental practitioners ($n=42$, 19.1%). The mean age of participants was 24.93 ± 2.45 years.

In the current study, a significant majority of participants ($n=171$, 77.7%) exhibited limited knowledge about patients with SHCN, while a minority of only 2.7% ($n=6$) were well-informed about treating patients with SHCN (Table I).

Regarding encounters with SHNCP, a minority of participants ($n=52$, 23.6%) reported frequent interactions with such patients. Concerning experience in treating SHCN, nearly half of the participants ($n=122$, 55.5%) expressed a belief in insufficient experience among dental practitioners. Regarding facility adequacy for treating SHNCP, a considerable number of respondents ($n=75$, 34.1%) indicated dissatisfaction with their facility's readiness. In terms of facility accessibility for SHNCP, a sizeable number of respondents ($n=80$, 36.4%) strongly affirmed accessibility. Regarding interest in treating SHCN, a majority ($n=105$, 47.7%) expressed a relatively low level of interest. Due to behavioral and physical challenges, a

substantial number ($n=79$, 35.9%) found managing patients with SHCN difficult. Regarding the risk of appointment cancellations and delays for SHNCP, nearly half ($n=114$, 51.8%) of respondents strongly agreed on high risks. Lastly, in comparing ease of treatment between physical and intellectual disabilities, a majority ($n=106$, 48.2%) strongly agreed that treating physical disabilities was easier (Table II).

Table III showed statistically significant associations between participants' designation and their knowledge regarding SHNCP ($P=.005$). Additionally, significant associations were found between participants' gender and their interaction with SHCNP in private dental setups ($p=.027$), as well as between gender and lack of experience in treating SHCNP ($p=.005$).

DISCUSSION

According to our study, conducted to assess dental practitioners' perceptions and understanding regarding the provision of dental services to individuals with SHCN in Pakistan, several crucial insights emerged. Only 2.7% of the respondents demonstrated considerable knowledge about SHCN patients. A substantial portion (37.7%) claimed that individuals with SHCN are rarely difficult to manage. Moreover, a significant majority (78.2%) reported limited interaction with SHCN patients within their practice or facility.

Advancements in living standards and healthier lifestyles have contributed to increased life expectancy and improved oral hygiene among various populations. However, despite these strides, individuals with SHCN often face significant challenges due to societal limitations and disabilities. Dentists play

Table I: Participant's knowledge and its extent about treating SHNCP

Question	Response n(%)		
	To some extent	To larger extent	To much larger extent
Do you have any knowledge about patients with special health care needs?	171(77.7%)	43(19.5%)	6(2.7%)
Do you have enough knowledge to treat a patient with special health care needs?	174(79.1%)	32(14.5%)	14(6.4%)

Table II: Frequency and percentage distribution of participant's perception, knowledge, experience and attitude regarding SHCNP

Question	Response n(%)		
	To some extent	To larger extent	To much larger extent
Do you have any knowledge about patients with special health care needs?	171 (77.76%)	43 (19.5%)	6 (2.7%)
Do you come across SCHNP in your facility?	174 (79.1%)	32 (14.5%)	14 (6.4%)
Do you come across SCHNP in your facility?	Often	Sometimes	Never
	52 (23.6%)	150 (68.2%)	18 (8.2%)
Do you think there is lack of experience among practitioners in treating SHCNP?	Strongly agree	Disagree	Neutral
	122 (55.5%)	18 (8.2%)	80 (36.4%)
DO you have enough knowledge to treat SHCNP?	To some extent	To larger extent	Not at all
	174 (79.1%)	32 (14.5%)	14 (6.4%)
Do you agree that your facility is adequately equipped to treat a SHCNP?	Strongly agree	Disagree	Neutral
	48 (21.8%)	75 (34.1%)	97 (44.1%)
Do you agree that your facility is adequately accessible to treat the SHCNP?	80 (36.4%)	70 (31.8%)	70 (31.8%)
Do you have any interest in treating SHCNP?	To greater extent	Somewhat	Not at all
	85 (38.6%)	105 (47.7%)	30 (13.6%)
Are individuals with special health care needs more challenging to handle because of their behavior and physical limitations?	Seldom	Sometimes	Often
	58 (26.4%)	83 (37.7%)	79 (35.9%)
Do you agree there is a high risk of cancellation or delay in the scheduled appointments of special health care needs patients?	Strongly agree	Disagree	Neutral
	114 (51.8%)	31 (14.1%)	75 (34.1%)
Do you think treating a physically handicapped patient is simpler than treating an intellectually handicapped patient?	106 (48.2%)	50 (22.7%)	64 (29.1%)

SHCNP = patients with special health care needs

a vital role in promoting oral health within this vulnerable group through tailored care, patient education, specialized equipment usage, and interdisciplinary collaboration.^{12,13} Yet, in Pakistan, there exists a significant research gap concerning dentists' perceptions, attitudes, and understanding of managing patients with SHCN. This study is important step to fill this gap by exploring dental professionals' attitudes and approaches to oral health care for individuals with SHCN. Understanding these perceptions is crucial for developing strategies to improve oral health outcomes and access to dental services for this vulnerable population.

The study's demographics showed a predominance of female participants, aligning with Suhasini K, et al., findings where more than half of their participants were also female.¹³ In terms of knowledge about patients with SHCN, a significant majority of dentists (77.1%, n=171) demonstrated limited knowledge, consistent with Derbi¹⁴ and Mandasari M, et al.,¹⁵ who reported similar trends with 65% and 41.6% respectively. A substantial number of participants (68.2%, n=150) reported occasional encounters with SHCN patients, akin to Satish M, et al.,¹⁶ finding of 70% encountering them infrequently.

Among consultants with varying years of

clinical practice, more than half (55.2%, n=122) admitted to having minimal experience in treating SHCN patients, mirroring Derbi's discovery where 55.7% lacked expertise.¹⁴ The study highlighted that lack of experience was frequently cited as a barrier by dentists when treating SHCN patients, suggesting that managing this group demands additional time, patience, and skill development to deliver appropriate care.

A significant majority of respondents (79.1%, n=174) demonstrated a satisfactory understanding of treating patients with SHCN, which closely resembles the findings of Anulekha CK, et al., where 76% of participants

Table III: Association between participant characteristics and attitudes towards patients with special health care needs

Questions		Age	Gender	Employment Status
Q1.	Knowledge about patients with SHCN	0.236	0.306	0.005*
Q2.	Interaction with SHNCP in clinics	0.093	0.027*	0.386
Q3.	Lack of experience to treat SHNCP	0.846	0.005*	0.293
Q4.	Extent of knowledge to treat SHCNP	0.085	0.960	0.250
Q5.	Adequately equipped facility to treat SHCNP	0.379	0.667	0.868
Q6.	Easy access to facility for SHCNP	0.929	0.615	0.369
Q7.	Interest in treating patient with SHCN	0.589	0.582	0.746
Q8.	SHCNP are more challenging to handle	0.167	0.240	0.427
Q9.	High risk of cancellation/delay in the schedule appointments	0.771	0.580	0.743
Q10.	Dexterity of managing physically handicapped vs. intellectually handicapped	0.610	0.079	0.463

SHCNP = patients with special health care needs; *P < 0.05 is considered statistically significant;

exhibited considerable knowledge in this area.¹⁷ Surprisingly, a low percentage of participants (21.8%, n=48) in the current study believed their facilities were adequately equipped to manage patients with SHCN, a result comparable to Elbagermi's findings, where only 31.2% of participants reported having sufficient facility resources for such patients.¹⁸

The accessibility of dental facilities for people with SHCN has been a persistent challenge. In the current study, a notable portion of participants (36.4%, n=80) strongly agreed that their facility is adequately accessible to patients with SHCN. This contrasts with Suhasini K, et al., where 60–90% of participants lacked the necessary infrastructure to accommodate and provide access to such patients in their dental offices.¹³ The discrepancy may stem from differing cultural norms regarding practice locations (e.g., first or second floor settings) in various countries. Additionally, the scarcity of essential medical supplies in general dental offices, which often prioritize meeting basic licensing standards, could also contribute to this variation.

Interest in a task is crucial as it enhances motivation, effort, and promotes a

deeper understanding of the subject matter, fostering personal growth and development. In the current study, a considerable proportion of respondents (47.7%, n=105) expressed some level of interest in treating patients with special health care needs (SHCNP). This contrasts with Bindal P, et al., where a significant majority of professionals (87.2%) were willing to treat patients with SHCN.¹⁹ These findings suggest that dentists in the present study, particularly recent graduates, may not feel compelled to treat SHCNP. Limited exposure to and experience with SHCNP during their undergraduate studies could have contributed to their lack of interest in providing care to these patients.

In our study, sizeable portion of participants (37.7%) expressed the belief that individuals with SHCN can be challenging to handle at times due to their behaviour and physical limitations. This contrasts with the findings of Hugar SM, et al., where over half of the participants (55.2%) considered only the behaviour of SHCN patients as a more prominent barrier to treatment.²⁰ These results indicate differing perceptions among dental professionals regarding the challenges associated with treating SHCN patients, with behaviors and physical limitations both being

identified as potential barriers in the present study.

In the current study, 51.8% of dentists highlighted concerns about appointments with SHCNP being cancelled due to their physical limitations. This contrasts sharply with the findings of Derbi and Mandasari M, et al., where only 16.7% and 4.4% of respondents, respectively, believed that appointment cancellations occurred frequently.^{14,15} The significant difference in findings may be attributed to varying legal frameworks across different countries, with stricter legal regimes potentially influencing practitioners' perceptions and practices regarding appointment cancellations.

In the current study, approximately half of the participants (48.2%, n=106) believed that treating a physically challenged patient is easier compared to treating an intellectually disabled patient. This finding is similar to Derbi and Mandasari M et al., where 53.8% and 67.6% of participants, respectively, expressed the view that treating physically challenged patients is less challenging than treating intellectually disabled patients.^{14,15}

However, there were several limitations to this study, specially the sample size and the fact that the dental

professionals were exclusively from Lahore city of Pakistan. To generalize these results to the broader Pakistani population, future studies with larger and more diverse samples across the country would be necessary. Nevertheless, this study provided valuable insights into the awareness, competence, and areas of improvement for general dentists when treating individuals with SHCN.

CONCLUSION

This study identified a significant lack of knowledge among participants regarding the treatment of SHCN, coupled with a perception that these patients present greater challenges. A prevalent barrier mentioned by the dentists in treating SHCN was insufficient training and experience. Addressing these challenges calls for reforms in dental education, including modifications to the undergraduate curriculum to enhance exposure to such patients. This approach is advocated by the International Association for Disability and Oral Health²¹ and emphasized in the American Dental Education Association Policy Statement (2006), which serves as a model adopted by various countries globally.

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AUTHORS' CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

WA: Concept and study design, drafting the manuscript, critical review, approval of the final version to be published

UJK & KS: Analysis and interpretation of data, drafting the manuscript, approval of the final version to be published

ZM & SMS: Acquisition of data, drafting the manuscript, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest, whether financial or otherwise, that could influence the integrity, objectivity, or validity of their research work.

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DATA SHARING STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request



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