

Communication Methods in The Management of Hearing Impaired Patients: A Questionnaire Survey Involving Dentists

Research Article

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Abstract

Background and Aim: Hearing impaired patient have often imposed an unsatisfied dental experience. In the health care area, there is often little awareness of the communication barriers faced by the deaf and, in dentistry, the attitude adopted towards the deaf is not always correct. The study aims to bridge this communication gap between the dentists and patients by assessing their knowledge and thereby instilling awareness on the subject, a positive attitude and a practise management favourable to the patient.

Methodology: An electronic survey consisting of a structured questionnaire written in English, made up of 15 questions written in a multiple-choice format was implemented using Google forms and distributed to active Indian dentists in South India in the form of a web link and their responses were recorded.

Results and Conclusion: The responses generated revealed incompetent standards of knowledge and awareness in regard to communication with hearing impaired patients. This highlights the need for dentists to learn the various ways of communicating with such patients and also managing them in a clinical set up.

Keywords: Hearing Impaired; Hearing Disability; Sign Language; Disability in Dentistry.

Introduction

Hearing impairment accounts for 5.76% of the total disability [1]. Hearing is the usual way of acquiring language, and is the most important attribute of man. Language allows humans to communicate with one another and has had a decisive participation in the development of society and its many cultures. Auditory deficit carries personal and social consequences, such as difficulties and conflicts when receiving care from the doctor [2]. In India, 63 million people suffer from significant auditory loss. The estimated prevalence of adult-onset deafness in India was found to be 7.6% and childhood onset deafness to be 2% [3]. The extent of related consequences depends on age of onset, training, and acceptance of disability [4].

It has been reported, a dental treatment is the greatest unattended health need of the disabled [5].

The main barrier to communication for hearing impaired persons is the lack of consideration by others. They can face prolonged illnesses due to inadequate communication with their health care providers. Dental practitioners often face difficulty to treat a physically challenged patient because of communication, more office hours, limitation in dental services, and skills [6]. Most often, dental health-care providers find themselves helpless in recording a proper history and explaining the treatment plan to patients. Due to complex individual, interpersonal and systemic factors, deaf individuals are often times the recipients of inappropriate or even unethical dental care [7].

Health care providers think that lip-reading and written notes are sufficient for effective communication. However, some hearing-impaired persons don't fully understand either spoken or written language and, even if they use sign language, this has a differ-

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ent structure and less vocabulary [8]. Inadequate communication might be chaotic for the professional if the patient doesn't follow treatment instructions properly or take sufficient post-operative care [9].

Most of the dentists are ignorant to guidelines regarding the subject provided through literature. The hearing-impaired are considered as pathological cases rather than as people who need treatment for a pathology that has nothing to do with their impairment [10]. However, by being prepared, and by preparing the patient, health workers can ensure good communication, thereby giving patients access to appropriate and effective health care [11]. This study was conducted in an attempt to bridge the gap between hearing impaired patients and dentists by bringing about awareness on their knowledge related to the subject thereby instilling a positive attitude and a practise management favourable to the patient.

Methodology

Upon approval from the University Institutional Review Board, the proposed survey was conducted between December 2019 and January 2020. The electronic survey was implemented using Google forms and distributed to active Indian dentists in South India in the form of a web link which led users to an online structured questionnaire in English consisting of 15 questions written in a multiple-choice format and was inclusive of demographic data. The survey was divided into five sections: (1) demographics; and questions regarding (2) information on patient history (3) mode(s) of communication used (4) knowledge on the priorities of a hearing impaired patient (5) receptiveness of the clinic waiting area. Respondents were provided a list from which they were asked to choose the most appropriate response(s) for each question. Cronbach's alpha was used to assess the internal reliability of the survey and it was found to be satisfactory ($\alpha=0.8$). Participation was voluntary and anonymous. No incentive was offered. An individual could only submit the form once and their response was non-modifiable after submission. The survey responses were put together and abridged with descriptive statistical analysis and Chi-square tests. The data obtained was statistically analysed using SPSS version 23.0. Statistical significance was set at p value ≤ 0.05 .

Results

A total of 326 responses were collected of which 2 responses were excluded, due to incompleteness of the form. The remaining 324 responses were assembled and included in the study. In the present study, 64.5% were females and 35.5% were males. Majority (73.6%) of the respondents belonged to age group 20-40 years and 55.7% of the respondents had 5-10 years of experience in the field of dentistry [Table 1]. It was found that most of the respondents preferred to use written format (38.8%) while communicating with hearing impaired whereas sign language was least preferred (14.9%) [Table 2]. The difference between the responses was statistically significant (p value= 0.03). A similar finding was found amongst dentists who have encountered and treated hearing impaired patients ($n=201$). Most among the above had utilised interpreters/helpers for better communication (35.3%) and signing was least used (12.6) indicating that most dentists were unfamiliar with it [Fig 1]. This finding was found to be statistically significant (p value= 0.04). An association between usage of sign language and years of experience in the field of dentistry showed no significance. (p value= 0.08) [Fig 2]. Based on respondents who preferred interpreters for communication, knowledge regarding their services was questioned and their responses were assessed [Fig 3, 4]. Table 3 depicts the responses obtained regarding the receptiveness of a clinic waiting area to hearing impaired patients. The difference between the responses was statistically significant (p value < 0.01).

Discussion

Hearing impairment can be congenital, inherited, or acquired throughout life as the result of accident, disease, drug-induced or as part of the aging process. Four degrees of hearing loss are designated: Mild (26–40 db), moderate (41–70 db), severe (71–90 db), and profound (>90 db) [1].

Communication is important to understand a hearing impaired patient's reason for attendance, their medical history, to explain treatment needs and gain informed consent and to provide appropriate preventive advice [12].

One of the greatest barriers, the hearing impaired patients face in the dental office is their inability to express their complaints. The

Table 1. Frequency distribution of the respondents.

Variables	Percentage (%)
Age	
20-40 years	73.6
40-60 years	20.7
>60 years	5.7
Gender	
Male	35.5
Female	64.5
Years of experience	
0-5 years	29.5
5-10 years	55.7
>10 years	14.8

Table 2. Frequency of response to familiarity of dentists to special communication methods.

Response	Frequency (%)
Interpreter	29.8
Sign Language	14.9
Lip reading	16.5
Written Format	38.8

Chi square= 23.56; p value= 0.03.

Table 3. Frequency of responses to Q.14 by respondents regarding the receptiveness of the waiting area.

Response	Frequency (%)
Approach the patient and gently tap her/him on the shoulder	34.20%
Approach the patient and call their name louder	14.20%
Approach the patient, making small gestures in his/her field of vision to try to get their attention	45%
Do not know	6.60%

Chi square= 31.67, p value < 0.001

Figure 1. Frequency of communication method used most commonly by dentists who have encountered hearing impaired patients. Chi square= 18.12; p value= 0.04.

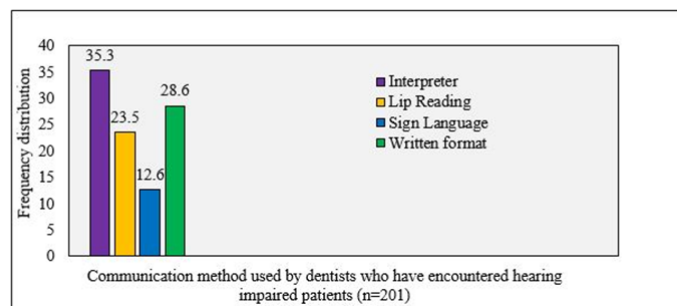
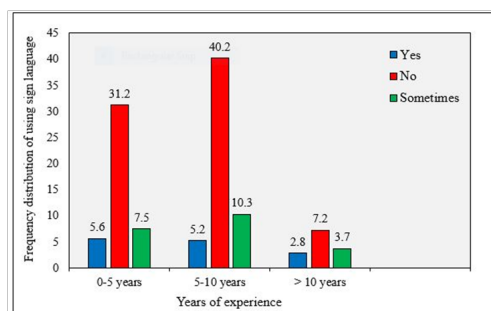


Figure 2. Association between years of experience in dental practise and usage of sign language. Chi square= 3.231, p value =0.08.



majority have poor verbal skills and are restricted in their ability to communicate effectively. Furthermore, the lack of sign language awareness and training among health service staff creates significant problem for the patient in accessing health care [13].

There are three main elements of communication. Words, tone of voice and body language. While verbal communication (VC) only account for 7% of transmission, tone of voice is estimated to convey 33% and body language/NVC conveys 60% of the message. If VC isn't congruent, it's the nonverbal elements that

will be believed [12]. Therefore, dentists need to be sensitive to NVC such as facial expressions, postures, and movements as a means of conveying feelings [13].

Deaf people choose to communicate in different ways, depending on their level of deafness and who they are communicating with. They may use any or any combination of the following:

Lip reading - This is tiring and requires a lot of concentration. It involves recognizing lip patterns, but is difficult as many sounds,

Figure 3. Frequency response to Q12 by respondents who preferred to communicate through interpretation.

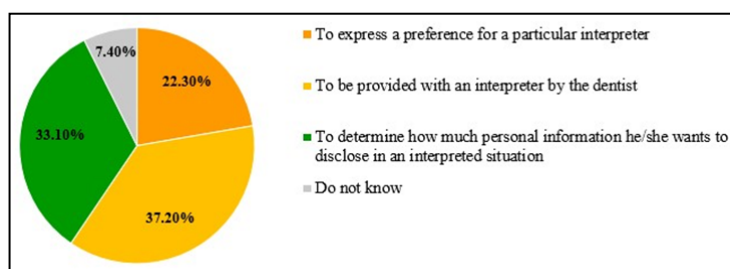
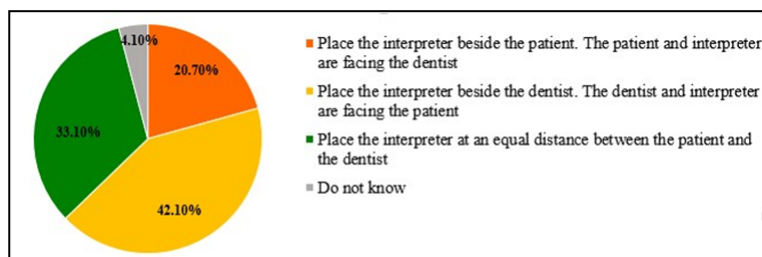


Figure 4. Frequency response to Q13 by respondents who preferred to communicate through interpretation.



such as “b” and “p,” have similar lip patterns. Lip-reading is efficient when the conditions are ideal. There are often obstacles such as moustaches, poor lighting, and position of the speaker, fast speaking and face masks. Any dental procedure should be explained before the dentist applies the face mask [13, 9]. If something is to be explained in the middle of the procedure, the dentist must remove the mask because these patients need a clear view of the speaker’s face to maximise their understanding. The amount of speech understood through lip reading is typically only 30–40%, with the rest being inferred [14].

Sign language - This has its own structure and syntax [15]. In India, the National Sign Language, also known as the Indian Sign Language is followed. Signs for some common dental problems such as dental pain, swelling, broken tooth, decayed tooth, yellowish teeth, bleeding from gums, halitosis, and mobility already exists. Raymond Cadden was the creator of the eight-sign method (Dentisign) that was designed to reduce the anxiety levels during dental treatment [16]. Dentists must take effort to attend a sign language course so that one can at least use its basic structure and some simple gestures.

Finger spelling- In the manual alphabet [12] there are 26 different hand positions representing the 26 letters of the alphabet [13].

Hearing aids - These can be very useful in making the most of residual hearing. They will not necessarily make all sounds perfectly clear, they only amplify the sounds. Hence it is necessary to minimize background noise, avoid passing hands and moving close to the hearing-aids as the device may buzz. Notify the patients to switch off their aids in case of using rotary instruments.

Written format- Deaf people who have little or no effective speech are likely to use pen and paper. One must be prepared to write down what you have to say/do or have pre-prepared written prompts. This saves time and allows the patient to take a copy home.

In a study by AA Alsheri et al, hearing impaired patients (72.1%) expressed that their dentists did not even initiate to ask which method of communication was suitable to them [17].

In this questionnaire study, based on the modes of communication utilised by the dentist, most of the respondents (38.8%) preferred to use written format [Table 2]. However, lack of exposure to verbal language in early years means that the literacy level of those who became deaf prelingually is quite limited [14, 18]. Amongst practitioners who have encountered such patients, nearly 35% of them preferred to use a helper in communicating with the patient [Fig 1]. Also, hearing impaired patients preferred a professional interpreter compared to family members/friend [17].

From the responses obtained with regard to practise experience [Fig 2], it is known that dentists were not familiar with sign language even though sign language was the preferred method of communication among the hearing impaired [17, 9]. This is because clinicians often believe that note writing and lip reading is sufficient for effective communication [19].

With regard to knowledge of the dentists to the privileges, hearing impaired patients carry the right to use an interpreter. While physicians are not required to make unduly burdensome and fundamental alterations in their practices to accommodate patients who have impairments, they must make reasonable modifications with the patient in order to comply with the statutes [21]. Practitioners must also take adequate steps to ensure the privacy of the patient’s health information. Most of the respondents were aware of at least one of the privileges. [Fig 3] However, only 20% of the respondents knew how to seat an interpreter to achieve effective communication. [Fig 4] When using a sign interpreter (professional, family member or friend), it is important to look more at the patient than at the interpreter. The dentist should talk directly to the patient using the second person and pay attention when the patient replies [9]. This can be achieved only when the interpreter is seated beside the patient and facing the dentist. The interpreter should be present at all appointments.

The receptiveness of the waiting area in a dental set up was evaluated in the last part of the questionnaire. Almost half the respondents (45%) were unaware of a courteous way to summon the patient i.e. they’ve attempted to be viewed in the line of sight of vision of such a patient instead of direct approach and call.

[Table 3] One must call attention with a light touch or a discreet signal before beginning to speak [22]. In one study, the deaf and hard of hearing, raised concerns about not hearing when they are called in waiting rooms. Some miss appointments scheduled long before; others do nothing while waiting except watch to be called. [9][13] A frequent mistake is to shout. In public, this may embarrass the hearing-impaired person. It may also distort lip movements, making lip-reading more difficult [23]. It is necessary to use additional aids to help the patient realise their turn. Usage of a vibrating pager and digitalised number calls may provide a way to inform patients when the clinician is ready for appointment.

After a defamatory incident of a medicolegal case involving a hearing impaired patient, Sfikas insisted that the dentists must provide auxiliary aids and interpreter services as necessary to achieve effective communication when providing services to people with hearing impairments [24].

Recently, signs such as X-ray, restoration, RCT, extraction, scaling, orthodontic treatment, and brushing timings were developed by Jain et al with the help of teachers who were expert in the National Sign Language and also by abiding to the Indian Sign Language Dictionary and its effectiveness were established [25].

The findings of this survey require a serious concern for the hearing impaired, and the dental professionals need to understand their role and obligations towards the patients with special needs. It would not only be beneficial for the patients but it would definitely safeguard the reputation of the dentists in the society as a whole as the doctor-patient bond has been considered as the cornerstone of healthcare delivery system.

Conclusion

The hearing impaired patients in particular often fail to obtain needed care because of communication difficulties experienced in the treatment situation. The health care workers should first understand their lack of mindfulness regarding the subject and intervene so as to deliver a fruitful experience to the patient by exerting oneself to expand their techniques of communication simply by attending sign language classes, by being an exemplary to trust upon, by making sure not to view the patients' difficulty as a disability and by offering ample time and ethical treatment to these patients.

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APPENDIX

Questionnaire Survey:

1. Age:

A: 20-40 years

B: 40-60 years

C: >60 years

2. Gender:

A: Male

B: Female

3. Years of experience:

A: 0-5 years

B: 5-10 years

C: >10 years

4. Have you had an encounter with a hearing impaired patient?

A: Yes

B: No

5. Have you initiated to ask which method/ language of communication is preferable for the patient?

A: Yes

B: No

C: Sometimes

6. Have you taken a history regarding their impairment (partial or complete)?

A: Yes

B: No

C: Sometimes

7. Have you questioned on their use of medical aids/ therapy?

A: Yes

B: No

C: Sometimes

8. How do you prefer to communicate with the patient?

A: Interpreter

B: Sign language

C: Lip reading

D: Written format

9. Have you used sign language to converse with the patient regarding chief complaint, signs and symptoms?

A: Yes

B: No

C: Maybe

10. When conversing with the patient, do you have your mouth mask on?

A: Yes

B: No

11. Are your assistants capable of conversing in signing?

- A: Yes
- B: No
- C: Maybe

12. In a professional setting, it is the right of the deaf patient

- A: To express a preference for a particular interpreter
- B: To be provided an interpreter by the dentist
- C: To determine how much personal information he/she wants to disclose in an interpreted situation
- D: Do not know

13. In the consultation room, how do you prefer the interpreter and the patient to be seated?

- A: Place the interpreter beside the patient. The patient and the interpreter are facing the dentist
- B: Place the interpreter beside the dentist. The dentist and the interpreter are facing the patient.
- C: Place the interpreter at an equal distance between the dentist and the patient
- D: Do not know

14. In the waiting area, how does one approach a hearing impaired patient?

- A: Approach the patient and gently tap her/him on the shoulder
- B: Approach the patient and call their name louder
- C: Approach the patient, making small gestures in his/her field of vision to try to get their attention
- D: Do not know

15. In regard to next in line, how does your clinic enable the impaired to realise their turn?

- A: Call the patient by name
- B: Digitalised token systems
- C: Approach the patient
- D: Do not know