

PATIENT'S PERCEPTION ON CROSS-INFECTION CONTROL IN DENTAL PRACTICE

Halima Khattak, Braikhna Murad, Nida Sipah, Basheer-Rehman

Khyber Girls Medical College, Hayatabad Medical Complex Peshawar Pakistan

ABSTRACT

Objective: The objective of this study was to assess the knowledge and perception of patients, regarding cross-infection and its control, in dental practice.

Material and Methods: The present study was conducted at two tertiary health care hospitals i-e Khyber College of Dentistry Kyber Pakhtunkhwa and Ayub Dental Section Abbottabad for a period 6 months. A total of 400 patients coming to out patient departments of both the hospitals, between the ages of 17-60 years, were included in the study. The survey was conducted through a structured questionnaire that included age, gender, socioeconomic status, educational status, viral status, and questions to assess the knowledge of patients about cross-infection control. The questionnaire also included perception of patients about the instruments used for their dental treatment and about screening tests performed for hepatitis and Acquired Immune Deficiency Syndrome.

Results: Out of 400 patients, 350 responded positively. Out of these, 226 patients(64.6%) didn't know anything about instrument cleaning or its methods. Only 15.1% knew about the use of autoclaves. Seventy one percent of the patients thought that the barrier techniques are for the protection of both patients and dentists. Over 73% of the patients thought that instruments used for their dental treatment are previously used and cleaned while 61.1% of the patients thought that screening tests performed for hepatitis and AIDS are only for their own benefit.

Conclusions: The patients attending tertiary health care hospitals have adequate knowledge regarding barrier techniques and its importance but have poor knowledge regarding the spread of hepatitis, AIDS and other infections; and use of autoclave for sterilization of instruments. Patients who visited multiple times were more aware than the first time visitors.

Key words:

INTRODUCTION

Dental practice has undergone a drastic change since the introduction of hepatitis, human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) and other transmittable infectious diseases¹. The patient visiting dental hospitals has the right to receive best treatment and care regardless of his/her health status. Now there is heightened awareness among dental practitioners about the risks of cross infections. Many techniques are designed to protect personnel against the risk of exposure to infections and the use of autoclaves have an important place in dental surgery.

Cross infection as we know, is the transmission of infectious agent in a clinical environment. At times, a patient visiting a dental hospital may be in prodromal stage of infection and healthy carrier of a disease. On the other hand, dentist treating the patient may also be suffering from various infectious diseases. In other words, infectious agents in a clinical environment may transmit from patient to dental team, dental team to patient, patient to patient, patient to community and vice versa. The most common infectious diseases include tuberculosis, hepatitis B, AIDS, herpes simplex and cytomegalovirus. Protective barriers like wearing gloves, masks, eye wear and the use of autoclave, are a major defense against these cross infections.

Perception is the ability to see, hear or become aware of something through sense. It is highly desirable to involve patients in decisions regarding their treatment² in, to better meet their expectations³, and

Correspondence:

Dr. Halima Khattak

Ex House Officer,

Khyber College of Dentistry, Peshawar

Cell: 0332-9234550

Email address: halima.khattak@yahoo.com

to evaluate the effects of financial restrictions on accessibility and quality⁴. In dentistry it is extremely important to explore the extent of public knowledge, determine awareness, and attitudes toward cross-infection which may help in shaping their understanding and expectations regarding treatment.

The acceptance to public health measures by the population, depends largely on the way people perceive a threat. This perception in dentistry is, the interpretation by a patient, about cross infection risk in the light of his own knowledge. Educated and well aware patient may have high expectations regarding the quality of his care at dental hospital while patient who is illiterate may be least concerned about cross infection control. In a study conducted⁵, almost all patients expected the dentists to wear protective gloves and only 73% expected dental staff to wear face masks and 40% were expected to wear spectacles. Most patients were aware that these measures were for the benefit of both dental staff and the patients.

Different factors that affect the perception of patients towards cross infection include age groups, gender, educational status, dental hospital attending pattern, number of hospital visits and geographical location⁶⁻⁹.

This study is conducted with the aim to analyse the knowledge and attitude of dental patients towards cross infection control measures

METHODS AND MATERIALS

A random sample of 400 individuals was selected from people attending the Out Patient Department at Khyber College of Dentistry Kyber Pakhtunkhwa and Ayub Dental Section Abbottabad (200 patient from each hospital). Out of these 150 patients responded from Ayub Dental Section and 200 responded from Khyber College of Dentistry. The sample members were interviewed using a questionnaire. The structured questionnaire was a comprehensive tool containing a series of question regarding knowledge and attitudes towards cross-infection control measures in dental practice and the perceived risk of cross infection during dental treatment. The questionnaire consisted of three parts: first part included sociodemographic data (age, gender, socioeconomic status, educational status, patient's viral status); the second part included the related questions to assess the awareness and

knowledge about the infection spread and control methods in dental practice; the third part had related questions to assess the perceptions of patients toward infection control measures. Data was analyzed through SPSS V-20.

RESULTS

A total of 400 proformas were distributed among patients at Ayub Dental School (ADS) and Khyber College of Dentistry (KCD), out of which 350 were returned. Out of the 350 respondents, 155 (44.28%) were male and 195 (55.71%) were female, with a male to female ratio of 1:1.25.

142 (40.6%) of the respondents had an age of 36 years or greater and 105 (30%) had ages between 15 and 25 years as shown in table.1. Majority of the subjects were poor and illiterate details of which are given in tables 2 and 3 respectively.

Only 4% of the subjects were found to have active Hepatitis C virus infection and 4.57% had Hepatitis B virus infection. HIV infection was not reported in any of the subjects.

Out of total, 35.4% of the respondents had knowledge about the different methods that can be used for instrument cleansing. Majority of the respondents (64.6%) had no idea about the method of instrument cleansing that is used in the hospital. Fifteen percent respondents believed the instruments are sterilized in an autoclave. Details are given in table 4.

Out of total respondents, 248 (70.9%) believed the different barrier techniques used at the dental chair-side are for the protection of both the patient and the dentist while 13.4% thought these protect only the dentist and 9.1% considered the techniques protective for the patient only.

258 (73.7%) respondents believed the instruments used for their treatment are used but cleaned properly. but a considerable number (23.7%) believed they are new. Only 9 (2.6%) of them thought the instruments are used and not cleaned.

Similarly, majority of the patients (61.1%) be-

Table-1: Age distribution

Age (in years)	Frequency	In percentage
15-25	105	30
26-35	103	29.4
36 and greater	142	40.6
Total	350	100

lieved the screening tests are performed for patient's benefit and protection. Details are given in table.5.

DISCUSSION

The findings of the study should be of interest for the dental professionals in Khyber Pakhtunkhwa (KPK). This survey evaluated the level of awareness and opinions of patients regarding the cross infection control measures in out-patient department of tertiary health care units in Pakistan. The study revealed that the dental patients, in general, have little knowledge about cross infection control in the dental hospitals.

Table-2: socioeconomic status.

Socioeconomic status	Frequency	In percentage
Very poor	52	14.9
Poor	123	35.1
Satisfactory	85	24.3
Good	90	25.7
Total	350	100

Table-3: educational status

Educational status	Frequency	Percentage
Illiterate	119	34
Primary	45	12.9
Matric	79	22.6
Graduation	82	23.4
Post-graduation	25	7.1
Total	350	100

Table-4: methods of instruments cleansing

Method	Frequency	Percentage
Autoclave	53	15.1
Boiling water	37	10.6
Dipping in a chemical	27	7.7
Washing with water	7	2
Don't know	226	64.6
Total	350	100

Table-5: purpose of screening tests

tests	Frequency	Percentage
Dental staff protection	38	10.9
Hospital protocol	39	11.1
Patient's benefit	214	61.1
Patient and hospital protocol	2	0.6
Patient and staff protection	37	10.6
All	20	5.7
Total	350	100

Significant increase in serious transmissible diseases has created a global concern and has affected the treatment approach of dental practitioners. According to Reddy et al¹⁰, there are more than 300 million carriers of different viruses globally and about 90 % of these live in developing countries. Among these, hepatitis B and HIV are the main health issues. Any health care specialty that involves contact with mucosa, blood or instruments contaminated with body fluids should follow standard universal precautions in order to minimize the risk of these infections. This includes screening test which must be mandatory in dental practice.

The screening tests conducted in our study subjects showed majority of the patients were healthy and only few had active HBS or HCV status (4% each). But when interviewed, most of the respondents (61.1%) believed that the screening tests were performed for the patient benefit only. They had wrong perceptions about the facts of cross infection and thought it's only for them to know if they have the disease. On the other hand, some patients (11.1%) also had a view that these screening tests were merely a part of the hospital protocol and had nothing to do with patient or dental staff protection, which again reflected lack of knowledge and little acceptance to cross infection control measures.

Pakistan is highly endemic with chronic diseases especially HBV infection, as there are currently an estimated 9 million carriers (roughly 5% of the population)¹¹ with increase in this number, there arises more need of improving public perception about the health care services they receive at dental hospitals. This perception can be improved by the level of patient education about health which increases with an increase in their concern for protection during treatment¹². For instance, while receiving a treatment, patient will only be concerned for the equipment used for him if he has knowledge about sterilization and disinfection but in our study, 64.4% of the patients had little or no idea about the cross infection control measures taken at the hospital as majority of the patients were illiterate, showing that the level of awareness of the patients about cross infection control in dentistry is affected by their educational status. This is in accordance with a study conducted in Glasgow by Samaranyake et al¹³.

Only 15% of the respondents knew that autoclave is used for the sterilization of instruments which

is less than the study conducted by Azodo et al¹⁴, in which 43% of the patients were aware of autoclave and its significance. Some of the patients also mentioned instrument cleaning by boiling in water, washing with tap water or dipping in disinfectants but they merely guessed such methods and their perception was not clear. As a consequence, patients visiting a health care unit cannot ensure health safety. Moreover majority of the patients (73.7%) stated that the instruments used in their dental treatment were previously used for other patients but were cleaned before another use. Surprisingly, 23.7% of the patients also suggested that new instruments are used for every patient and then they are discarded after use. But in general most of the patients could not evaluate the quality of equipment and instruments in use. This can be attributed to the fact that first time visitors have had less exposure to the clinical environment and hence a different perception. Such patients believe the instruments used for their treatment are new. On the other hand, those who have had multiple visits are well aware that the instruments are previously used but cleaned. Baseer et al¹⁵ also suggested that visits to a dentists play significant role in level of knowledge among patients regarding cross infection control measures taken by the dentist.

Barrier techniques in dental practice are for the protection of operator from infection carried by the patients, to avoid transmission among the patients and to reassure the patient that the operator is aware of cross infection risks and is taking steps to avoid it. Majority of the patients in this study strongly agreed that these barrier techniques protect both the patient and the dentist which is in accordance with the study performed in Jeddah by Nahla et al where 89.8% patients had the same perception¹⁶. Such patients had a good perception that mask, gloves, eye wear etc are used for every patient in dental setup to act as ultimate barriers in prevention of transmittable diseases in community. On the other hand, in a studies showed that one third of the patients thought that the barrier techniques are for dentist protection only¹³. Another study conducted by Mousa et al⁹ showed that most patients considered the barrier techniques beneficial for the patients only.

CONCLUSION

The patients attending tertiary health care hospitals have adequate knowledge regarding barrier techniques and its importance but have poor knowledge

regarding the spread of hepatitis, AIDS and other infections; and use of autoclave for sterilization of instruments. Patients who visited multiple times were more aware than the first time visitors.

RECOMMENDATION

1. Public awareness seminars and campaigns need to be introduced by the health authorities.
2. There is a continued need to improve the public understanding and awareness of the quality of services provided during their dental treatments.

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