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Research Article

A STUDY ON THE INFECTION CONTROL IN DENTISTRY PRACTICES AND KNOWLEDGE CONCERNING BARRIER TECHNIQUES, POST EXPOSURE PROPHYLAXIS AND TREATMENT**Anam Masood, Rauha Sheikh, Ayesha Iqbal, Dr Mohsin Majeed, Dr Sara Izhar**
Nishtar Institute of Dentistry, Multan**Article Received:** March 2020**Accepted:** April 2020**Published:** May 2020**Abstract:**

Aim: The purpose of this study is to evaluate the perception of cross-infection in dental practice between dental surgeons and clinical dentistry students.

Study Design: A descriptive study.

Place and Duration: In the dental department of Nishtar Hospital Multan for one year duration from January 2019 to January 2020.

Methods: Interviews were conducted with forty-three (43) dentists and fifty-seven (57) students. Seventy-nine percent of respondents asked patients about their medical history before performing any dental procedures, sixty-five percent examined their patients for viral blood pathologies (HBV, HCV and HIV).

Results and Conclusion: In 100% of patient's gloves were worn and replaced during dental treatment, and 10 percent of the glasses wore glasses and ninety percent of the masks. Thirty-five percent of participants had a positive history of needle stick injury during dental use, and 65 percent of needles and blades were thrown into safe containers after use, and 84 percent came out of the needle sleeve. after local anesthetic injection.

Keywords: Cross-infection Control, Awareness.

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INTRODUCTION:

Cross-infection can be defined as the transmission of infectious agents between a patient and staff in a clinical setting. Infection can be caused by human contact or contaminated objects and requires a source of infection. In dentistry, the source of infection can be patients suffering from infectious diseases, the prodromal stage of some infections, and healthy carriers of pathogens¹⁻². Viral diseases such as hepatitis, especially B, D, C, herpes simplex, immunodeficiency syndrome (AIDS), cytomegalovirus are the main threats not only for dentists, but also for the community. The dentist should periodically check the history of each patient to detect any events, conditions or medications that may significantly affect the recommended oral treatment plan³⁻⁴. Transmission of infection through dental surgery can occur through direct contact with secretions or blood, drops containing infectious agents or contaminated with sharp or incorrectly sterilized instruments. Any wear on the skin provides the doctor with a potential route to viral infections in the patient's blood⁵⁻⁶. The risk is directly proportional to the physical contact and immune status of the affected persons. Long-term high-risk procedures increase the risk of transmission of blood-borne viruses. The risk is mainly associated with needle injuries, from implantation of the conjunctivitis to eye splashes. In dentistry, the risk of blood-borne viral infections can be reduced by wearing high-quality gloves, and conjunctival blood loss can be prevented by wearing protective goggles, glasses and a surgical helmet⁷⁻⁸. Used disposable dental materials should be disposed of safely. Used needles should be tight, put into a

closed container. Viral hepatitis serology should be confirmed by operator serological tests to prevent spread to all patients and others prior to use of the instruments. Because dental health specialists no longer question your needs, infection control has become an integral part of the application.

METHOD:

This descriptive cross-sectional study was conducted from January 2019 to January 2020 in the dental department of Nishtar Hospital Multan. After obtaining their oral consent, dental specialists were interviewed using an appropriate sampling technique. Dentists and students participated in the study. Doctors include consultants, prosthetists and orthodontics, periodontics, pedodontics, oral surgery and dental surgery. Among the students were young people from BDS and the elderly. The study required a pre-coded, tested bias control study to provide demographic data on age, gender awareness and infection control measures. Participants performed each of the procedures, examined patients for blood virology, wore gloves, glasses or a mask and eye mask; replace the mask after each patient or when it becomes wet or dirty; Waste disposal system and post-exposure strategies were used.

RESULTS:

The results are given in Tables 1, 2, 3 and 4. All these results were subjected to statistical analysis. The chi-square test and Fisher's exact test were used to evaluate all percentages of variables, if correctly determined to find the p value.

TABLE 1: VIEWS OF PARTICIPANTS

Questions					P Value
Habit of taking medical history from patient	Yes		No		0.02
	Doctor	Student	Doctor	Student	
	29 50 79(79%)		14 7 21(21%)		
Patient screening habit before a dental procedure	Yes		No		0.54
	26 39 65(65%)		17 18 35(45%)		

TABLE 2: VIEWS OF PARTICIPANTS REGARDING USE OF GLOVES

Questions	Gloves								P value
	Surgical		Examination		Both		Double gloves		
	Doctor	Student	Doctor	Student	Doctor	Student	Doctor	Student	
Which gloves do you use?	22 00 %	23	43	57	22	23	3	5	0.72
	45(45%)		100(100%)		45(45%)		8(8%)		
Second time glove change during the same procedure; when become dirty for the same patient.	Doctor	Student			Doctor		Student		0.77
	29	50			14		7		
Gloves wearing habit during examination of patient.	79(79%)				21(21%)				
After wearing gloves do you touch the objects like; unit, lamp, buttons, mobile etc	19	49			24		8		
	68(68%)				32(32%)				
	24	29			19		28		
	53(53%)				47(47%)				

TABLE 3: VIEWS OF PARTICIPANTS REGARDING USE OF FACE MASK

Questions	Face Mask & Goggles				P Value
	Doctor	Student	Doctor	Student	
Do you wear goggles and face mask Change of face mask for every patient Change on daily basis Change only when become dirty	2	8	41	49	0.02
	10(10%)		90(90%)		
	Doctor		Student		
	4	12	16<16 percent>		
	41	33	74(74%)		
	2	8	10(10%)		
Do you touch your face mask after wearing gloves	Yes		No		0.18
	Doctor	Student	Doctor	Student	
	15	26	26	23	
	41(41%)		59(59%)		

TABLE 4: VIEWS OF PARTICIPANTS REGARDING NEEDLES

Questions	Needles						P value
	Doctor			Student			
Positive history of needle stick injury during your dental career	18			17			0.06
	35(35%)						
Precautions taken after getting injury	Allow to bleed the wound & wash only		Bleed>wash>cover with sterile bandage		Bleed>wash>bandage >disinfectant>bandage		0.54
	Docto r	Studen t	Docto r	Studen t	Docto r	Studen t	
	2 5(5%)	3	32 85(85%)	53	9 10(10%)	1	
Habit of safe disposal of needles & sharps in sage containers	Yes			No			0.15
	26 65(65%)	39	18		18 35(35%)		
Resheathing of needle habit after local anaesthesia injection	33 84(84%)	51	10		6 16(16%)		
Method of resheathing	One hand technique			Two hands technique			0.004
	26 49(49%)	23	26	7	28 35(35%)		

DISCUSSION:

Infection control is an essential part of the application for all healthcare professionals and remains one of the most cost-effective medical interventions. It is known that dental professionals are at high risk of hepatitis and HIV infection. There is evidence that many infected patients are not aware of their condition due to long incubation periods and post-infection periods when antibodies cannot be detected. In our study, 79 percent of participants received medical history for patients, 77 percent of them by Mohammed Al Al OMARI in Jordan, and 93 percent of Abdullah Al Rabeah's dentists received a routine medical history of patients prior to surgery. This study showed that participants were aware of the importance of medical history prior to dental surgery, medical history was important because it helped diagnose medical conditions and medications that affect dental treatment, as well as oral symptoms of systemic diseases. . or surgery. This study also showed that 65 percent of participants routinely examined before dental surgery, in our previous study 17.98 percent of participants had the habit of examining their patients. Viral blood pathology. Blood and blood products infected with HBV are more dangerous and can carry infections only in 0.0000001 ml of fluid, especially when they contain antigens. Therefore, it is desirable to check the serology of the viral hepatitis virus in all patients before using the tools.

It was also disclosed that all participants had the habit of changing gloves for each patient. Only 10 percent of respondents routinely wear glasses, and 90 percent change routinely, 74 percent change daily, and 10 percent wet or dirty. It was reported that 100 percent of participants wore gloves, 90 percent of face masks, 81.8 percent of Jordanian study wore gloves, and 54.4 percent wore masks. At KUWAIT, 90 percent of the participants wore gloves, 75 percent wore masks, and 52 percent wore glasses. In New Zealand Treasure et al. It has been shown that 42 percent of dentists wear gloves, 64.8 percent masks, and 66.4 percent protect eyes. Comparing the use of gloves with gloves, our participants were fully aware of the importance of gloves in dentistry, DHCP should wear gloves to prevent hand contamination by touching mucous membranes, blood and saliva. reducing the likelihood of patients being contaminated during surgery or other supportive measures. Gloves should be changed between patients and after breaking or puncturing. Wearing gloves does not eliminate the need to wash your hands. Gloves are task-specific and should be based on the type of procedure chosen (e.g. surgery or patient examination). Suitable gloves of the right size should be easily accessible. The frequency of perforation of surgical gloves used in outpatient oral surgery is between 6 percent. Studies have shown that HCP and DHCP are generally unaware of the minimal damage to gloves

that may occur during use. These studies showed that gloves develop defects within 30 minutes -3 hours, depending on the type of glove and procedure. Scientists have not determined the best time to change gloves during the procedure. This study shows that 79% of participants should change gloves during the same procedure; Our contamination with blood or saliva also shows the great conscience of our respondent. In addition to non-sterile examination gloves, 45 percent wear sterile (surgical) gloves. In some limited studies, there was no difference in the percentage of postoperative infections after routine removal when surgeons wore sterile or unsterile gloves. However, the use of sterile surgical gloves during surgical procedures is supported by strong theoretical justification. Sterile gloves minimize microbial contamination in the surgical hands of DHCP patients and prevent DHCP surgical contamination of hands from patient blood and body fluids. This study shows that 8 percent of respondents wear double gloves for various dental procedures: According to some studies on the use of double gloves, it can be said that double gloves can provide additional protection against professional contact with blood. It seems that our participants who reported having touched items such as lamps, buttons, drawers and mobile devices, even if they wore gloves, did not significantly reduce dexterity or tactile sensitivity. During dental practice, operators should remember this when wearing gloves. Everything you touch is contaminated. Touch what you need to touch, clean and disinfect surfaces, use caps and barriers, and discard after each meeting. In addition, DHCP must wear a surgical mask covering both the nose and mouth, safety glasses with solid side shields or a mask and protective clothing to prevent contamination of street clothing during treatments and maintenance. patient. May cause splashes or splashes of blood and body fluids. In addition, the patient's safety goggles prevent the eyes from filling with water or dirt during dental procedures. Avoiding contact with occupational blood is an important way to prevent transmission of HBV, HCV and HIV to healthcare professionals. Injuries caused by contaminated instruments pose a serious threat to the dental team. 35 percent of participants in this study reported percutaneous exposure during dental use. Needles, syringes and seams, drills, reamers, weighing tips, dental office. Percutaneous injury between DHCP usually occurs outside the patient's mouth, so there is less risk of re-contact with the patient's tissues and always contains a limited amount of blood, but most can prevent teeth exposure and use standard methods among methods of reducing blood contact, using acute injuries. Use devices with features designed to prevent business applications and changes. These approaches may have contributed to the reduction of percutaneous injuries among

dentists in recent years. Checking the operation of needles and other sharp objects in appropriate puncture resistant containers as close as possible to the place where the objects are used. This study shows that 65 percent of participants tend to safely remove sharp needles and tips in safe containers. This showed that, according to the Al Omari report (31), our participants were aware of the importance of safely destroying snipers compared to studies by Abdullah Al Rabeah (56.2 percent) and Jordan's GDP. Less aware of Kurba and Fontaine's research (72%) than the participants. In addition, used needles should never be grasped or manipulated in any other way using your hand or any other technique involving pointing the needle tip at any part of the body. Use the one-handed vat technique to align the needles between uses and before disposal. DHCP should never bend or break needles before throwing them, because this application is unnecessary manipulation; Avoid using a syringe with a prolonged needle because of the possibility of injury. Post-exposure management is an integral part of a comprehensive infection prevention program after professional exposure to blood. Saliva is probably contaminated with blood during dental procedures. Even if the blood is not visible, it may still be available in limited quantities and is therefore considered potentially infectious material. After professional exposure, wash the area with soap and water; mucous membranes should be rinsed with water. In this study, in addition to washing and applying a sterile waterproof dressing after exposure, 10 percent of respondents used disinfectants to heal wounds or tighten the wound, as well as to reduce the risk of infection with pathogens. blood; however, it is not recommended to use antiseptics or disinfectants on the wound. The exposed DHCP should immediately report the exposure to another designated person who should start contacting the infection control coordinator or qualified healthcare professional and complete the required reports, as many factors increase the risk of post-exposure infection. from a professional to blood.

CONCLUSION:

The entire patient history should always be downloaded and regularly updated. It should be routine practice to screen patients prior to major and minor dental procedures that may function as a cross infection at the dental center. A new pair of medical gloves should be worn for each patient; they are removed immediately after use and the hands are washed immediately to prevent the transfer of microorganisms to other patients. Use a mask and eye protection to protect your eyes, nose and mouth during oral surgery. It is necessary to put used disposable needles and sharp edges in safe containers.

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