Awareness of Infection Control Protocols Among Dental Students in Babylon Dental Faculty

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Abstract

Infection control and knowledge of common "infectious diseases" is essential for safe dental practice. Conveyance of infectious diseases is likely "from one individual to another during dental procedures", thorough" blood-borne" viruses and bacteria "such as hepatitis" , human immunodeficiency virus (HIV). Thence in dental practice, the sterilization and particular protection is of most importance Process in dental procedures, and patient sponsor settings seek specific strategies guide to prevent the transmission of diseases among dental students , oral verdure care staffs and their patients.

Aim: Current study highlight the methods and behavior to evaluate the benefits of awareness, stance and pursuit of infection control between dental students in training dental clinic at Babylon dental collage .

Materials and Methods: A cross-sectional wipe using a rear ordered questionnaire was executed. The reconnaissance consisted of 38 closed-ended questions that included the key areas of infection control, including hand hygiene, personal preservation, sterilization and disinfection and ecological infection monitoring. There were also questions to elicit perceptions regarding the treatment of HBV and HIV/AIDS patients.

Results: Survey study was done for dental students replied to the reconnaissance. Their situation and realization across infection control in college teaching clinic .The results were assorted between 100% were orderly using gloves and 96% mask with patient to 6% were orderly wore eye glasses. The type of sterilization of instrument was 90% autoclave and 10% oven and from analysis of data revealed most teaching clinics devoid of instruction post about control of infection control measures

Conclusion: "Improved compliance with recommended infection control procedures is required for all dentists" and graduated dental students predestined in the existing project. Enduring instruction "programs and short-time" processions about "cross-infection and infection control" modes are convenient to progress the awareness and attitude of Dental students in infection control.

Keywards : Awareness of infection, cross-sectional, dentistry, Dental Students

الخلاصة

مكافحة العدوى ومعرفة الأمراض المعدية الشائعة أمر ضروري لآمن طب الأسنان. ومن المرجح انتقال الأمراض المعدية من فرد إلى آخر أثناء إجراءات طب الأسنان، والفيروسات "المنقولة بالدم" الشاملة البكتيريا مثل والتهاب الكبد، وفيروس نقص المناعة البشرية. وبالتالي في ممارسة طب الأسنان، والتعقيم وحماية خاصة من أهم الفعاليات في إجراءات طب الأسنان، وإعدادات الراعي المريض تسعى استراتيجيات محددة دليل لمنع انتقال الأمراض بين طلاب طب الأسنان، وفريق العناية بالفم عن طريق الفم ومرضاهم. الهدف من الدراسة الحالية تسلط الضوء على الأساليب والسلوك لتقييم فوائد الوعي والموقف والسعي لمكافحة العدوى بين طلاب طب الأسنان في تدريب عيادة الأسنان في بابيلون الكولاج الأسنان.

المواد والأساليب: تم إجراء مسح مستعرض "مسح باستخدام استمارة طلبية خلفية، وقد تم إجراء الاستطلاع من 38 سؤالا مغلقا شملت المجالات الرئيسية لمكافحة العدوى بما في ذلك نظافة اليد، والحفاظ على الشخصية والتعقيم والتطهير ومراقبة العدوى الإيكولوجية، وكانت هناك أيضا أسئلة لانتزاع التصورات المتعلقة بمعالجة مرضى الالتهاب الكبدي الوبائي وفيروس نقص المناعة البشرية / الإيدز.

النتائج: أجريت دراسة استقصائية على طلبة طب الأسنان أجابوا على الاستطلاع. وضعهم وتحقيقها عبر السيطرة على العدوى في كلية التدريس العيادة. وكانت النتائج بين 100٪ كانت منظمة باستخدام قفازات و 96٪ قناع مع المريض إلى 6٪ نظمت منظم نظارات العين. كان نوع التعقيم من الصك 90٪ الأوتوكلاف و 10٪ فرن ومن تحليل البيانات كشفت معظم التدريس عيادة خالية من التعليمات بعد السيطرة على تدابير مكافحة العدوى.

الاستنتاج: مطلوب تحسين الامتثال مع إجراءات مكافحة العدوى الموصى بها لجميع أطباء الأسنان وتخرج طلاب الأسنان سلفا في المشروع الحالي. برامج التعليم المستمر والمواكب قصيرة الأجل حول انتقال العدوى وسائط مكافحة العدوى هي مريحة للتقدم الوعي وموقف طلاب الأسنان في مكافحة العدوى.

الكلمات المفتاحية: الوعي بالعدوى، مسح مستعرض. طب الاسنان، طلاب طب الاسنان

Introduction

Infectious diseases still representing the most threating that effect the health and life that required for more effort to control the spread of infections. Fiasco to abide to infection observation mensuration hints the propagation of "pathogens and microorganisms" which influences the validity of both the "healthcare personnel (staff)" and the society in overall (Ghasemi *et al.*, 2011)

Persons looking for dental health problem solving who attend dental clinic for consultation or management perhaps be healthy or agonized from various infectious diseases or possibility consider as a categories of a carriers of infectious complaint. There is sufficient indication to stimulate "that many infected patients" are unresponsive "of their status because of long incubation periods and post-infection window" time during which "antibodies cannot be regulated".(Baseer, 2013)

Several regular health procuration such as the Centers for Disease Control and Prevention CDC, Occupational Safety and Health Administration OSHA American Dental Association ADA in the United States and National Institute of Health and Clinical Excellence NICE . United Kingdom, in ordered to control and decreases the process of cross infection during dental practices advising for utilizing protective procedures that including gloves, masks, goggles beside sterilization of dental devices, vaccination against HBV, and the overall standard precautions (Khan, 2012)

The process of Dental therapy techniques noticeably leading cause to bleeding and clarification to infected blood, saliva and aerosol which are known resources of infectious disease transportation. Routine use of barrier practices such as gloves, masks, spectacles has been report to be practice in "preventing the three lanes of transmission' that including the following (dentist to patient, patient to dentist, patient to patient) in dental clinic (Weheida, 2008).

Role of the administrators in the dental infection control where the greatest of the nation state have clinical agency plans evidence-based recommendations which are set forth by regulatory and consultative agencies to raise safety in the enforcement of patient care. In 2003, the Centers for Disease Control (CDC) sophisticated and released the Recommendations for Infection rule in Dental Clinics. These advices aid in infection control displayed the role of hospital administrative in four areas: 1) instructing staff regarding the patient safety enlightenment: we must show our group our pledge to a culture of patient solidity, expound its significance, and performance as a team, 2) we commitment to recognize the existing position before taking any agencies, and we can also check our protocols for work in a life threatening issue 3) conceive protocols to make activities less dangerous, and 4) establish safety directives": these action signify the red lines of preventive control action (November-Rider, *et al.*, 2012 ; Yamalik & P`erez ,2012).

Firstly, the role of the managers in the dental infection control where most of the countries have clinical practice guidelines (evidence-based recommendations) which are set forth by regulatory and consultative agencies to elevate safety in the application of patient care. In 2003, the "Centers for Disease Control (CDC) advanced

and issued the Guidelines for Infection Control in Dental Clinics. These guidelines aid in infection control (Osazuwa-Peters *et al.*, 2012).

Inadequacy of concern touching potency personal risk, value of infection control practices, limited gap to necessary tools and materials, and performing in public clinics have been fixed as barriers to arraign with infection control practices among dentists. Practically there are known problem that regarding the fact that all patients with infectious diseases cannot be identified through routine physical examination or laboratory screening, the patients may be without any signs or symptoms (asymptomatic), so the high standard precaution must be taken and followed for all patients coming to dental clinics and must be provided with a high protection for all the health staff working in the dental clinics (Weheida, 2008 ; Amarapathy , 2013).

Studies done in that fields revealed that less than 50% dental patients were aware of the dispersal of infection in dental clinics via saliva, blood and unsterilized contaminated dental instruments (Weinbaum *et al.*, 2008; Shepard *et al.*, 2006; Kohn *et al.*, 2003).

The task of medical staff helper in the dental infection control, Garland *et al*. found that the dental hygienists are long-lasting with most portions of the infection control guidelines (ICG) (Garland, 2013). High acceptance with ICG (infection control guidelines) among defendant in this revision was linked with positive safety practices and politics, whereas lower deference with ICG was linked with less positive safety principles and practices (Harvey, 2009).

Francisco *et al.* pointed out that there is a need to progress practicing dental hygienists' understanding and partnership in the infection control practices (Francisco *et al.*, 2013).

Regulated medical waste has greater potential of causing infections and therefore needs special and careful handling and disposal examples of regulated medical waste in dental clinics are gauze or cotton appeased with blood, extracted teeth, surgically segregated hard and soft tissues, and polluted needles and scalpel blades. Single, sturdy and leak- resistant biohazard bags should be used for containment and disposal of non-sharp organized medical waste. Puncture-resistant cistern should be used for sharp regulated medical waste. The container should be set close to the point of application and marked with biohazard label Final disposal and management of waste should comply with the national and local regulations (Bokhoree *et al.*, 2015.).

Elements of Standard Precautions include, but are not limited to: adherence to hand hygiene, use of Personal Protective Equipment (PPE), with utility of engineering and occupation practice monitoring, and careful handling of materials and equipment to prevent cross Prevention of exposure. Avoiding insinuation to blood and Other Potency Infectious Material (OPIM) and immunization are the primary strategies to avoid occupationally acquired infections. Most of the exposures in dental practice are preventable. The best way to reduce exposure is through a combination of Standard Precautions as well as the use of engineering, work-practice and managerial controls. The use of Personal Protective Equipment, which are elements of Standard Precautions, will protect the skin and mucous membranes of OHCW against exposure (Smith, *et al.*, 2014; Szymańska & Sitkowska, 2013).

Materials and Methods

The Study design was A descriptive, cross sectional survey was chosen for this study as it best suited the study aims and objectives.

Data collection tool were used for this study was questionnaires then

The data were classified, arranged and registered into the computer. The information was captured in Excel. A fundamental graphic examination was finished utilizing the Excel for investigation the information.

Results

The results of questionnaire for applying the infection control measures as gloves , mask protection are representing in Table (1).

Table (1).Regularly applied infection control measures

Infection control	**Yes%**	**No %**	**Some Time**
Infection control	Yes%	No%	Some time
Gloves	100%		
Masks	96%	4%	
Eye Glasses	6%	56%	38%
Protective clothing	80%	16%	4%

The action of infection control measures between patients are representing in table(2)

Table (2). control measures between patients infection

Infection control measure	Gloves Yes	Mask Yes	Eye protection Yes
Changing after each patient	96%	80%	10%
After few patients	6%	8%	57%
More than ones a day	2%	2%	11%
If it becomes soiled	6%	10%	12%

The applying procedures for sterilizing working surface ,unit tray handle and floor are represented in table 3

Table(3).The procedure used for sterilization

Surface	Phenol	Spirit	Soduim hypocloride	Ammonia reagent	Water	Detergent	non
Floor	18%	16%	8%		32%	36%	4%
Unit tray handle	60%	22%	2%	2%	10%	8%	
Spitton	52%	24%	8%	2%	12%	4%	
Working surface	66%	22%	12%		16%		
Light handle	76%	10%	2%	4%	4%	4%	4%
Basin	32%	8%	2%	2%	30%	4%	8%

Percentage of usage the autoclave and oven for sterilization instruments are represented in figure 1

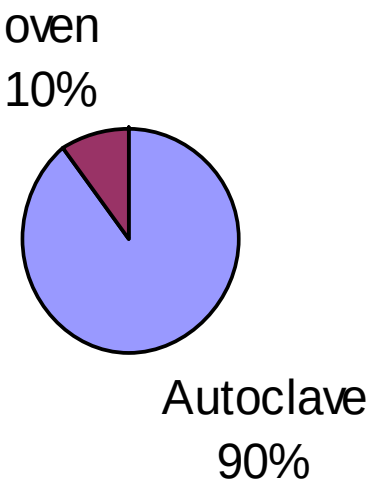


Figure (1). Type of sterilization instrument

The option of sterilization of different dental item are represened in table 4

Table (4). of sterilization major dental instrument

Items	Sterilization	Disinfection	Disposable	Water
High speed hand piece	**14%**	**66%**	**14%**	**6%**
Contra angle hand piece	**16%**	**80%**	**4%**	**4%**
Straight hand piece	14%	**80%**		**6%**
Filling instruments	**80%**	**10%**	**2%**	**8%**
Endodontic files	**80%**	**8%**	**8%**	**4%**
Barbed broaches	**75%**	**12%**	**10%**	**3%**
Examination Set	**34%**	**16%**	**46%**	**4%**
Filling burs	**70%**	**20%**	**6%**	**4%**
Surgical burs	**80%**	**10%**	**4%**	**6%**
Syringe	**40%**	**18%**	**%40**	**2%**

The mean knowledge hygiene of hand score of students are represened in figure 2

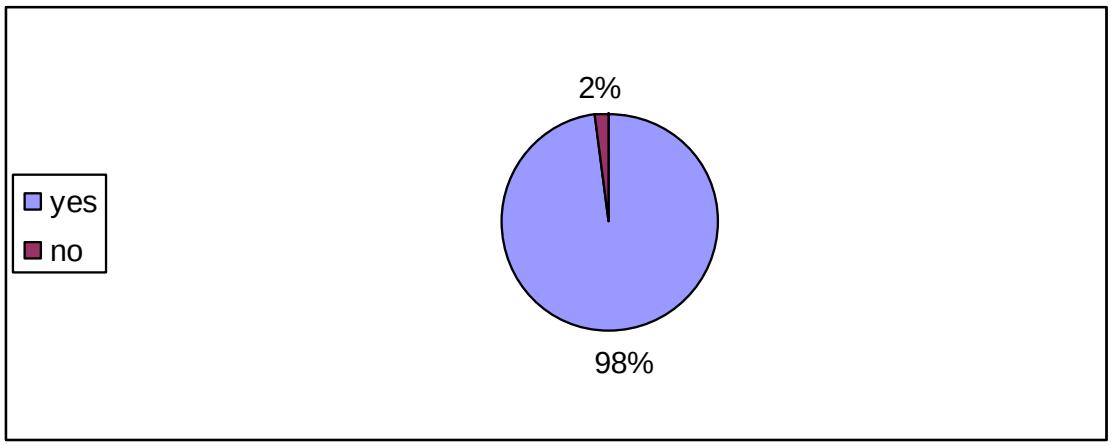


Figure (2). Mean knowledge hygiene of hand score of students

The best time of washing hand are represented in table 5

Table(5). best time of washing hand

Before and after each patient	62%
After removing your gloves	34%
Before putting on gloves	2%
If integrity of gloves is compromised	2%

The causes beyond not washing hand in clinic are representing in table 6

Table(6).Causes of don't washing hand

Lack of hand washing materials.	16%
Low risk of acquiring infection.	6%
I forget to do so. …	8%
Causes irritation and dryness.	34%
No time - busy practice.	36%

The main item used for cleaning the hand are representing in table 7

Table (7).The item used for clean the hand

. Antiseptic soap and water.	64%
Soap and water.	32%
Alcohol.	4%

The way for drying the hand are representing in table 8.

Table (8).The item used for drying the hand

Paper towel.	30%
I don't dry my hands.	.20%
Towel.	38%
Other (specify).	12%

The availability of post sticker about sterilization behavior in clinics 98% are not available in dental clinic

The availability of sterilization protocol written and distributed in clinic Equipped from Government institutions 100% are not available . The usage of vacuum and saliva ejector are representing in table 9

Table (9).the usage of vacuum and saliva ejector

Item	Yes	No	Sometimes
High vacuum Suction	**6%**	**56%**	**38%**
Saliva ejector	**8%**	46%	**46%**
Rubber dam	**8%**	**45%**	**42%**

The main causes for not usage previous items are not available and some answer there is no need for them or time consuming.

The ways of collection the disposal in dental clinic are represented in figure 3

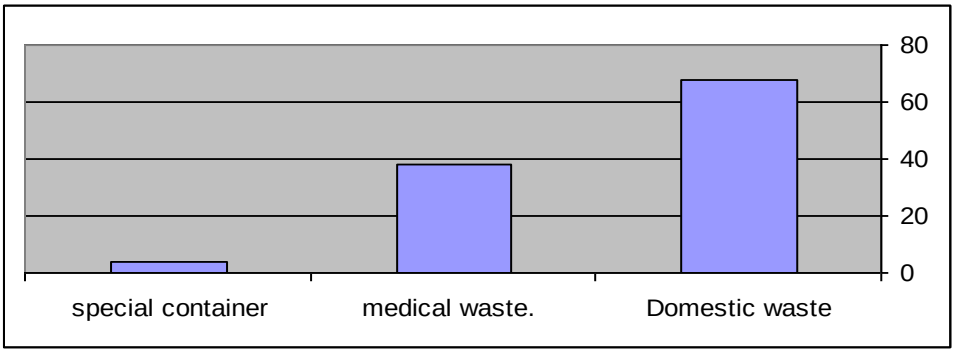
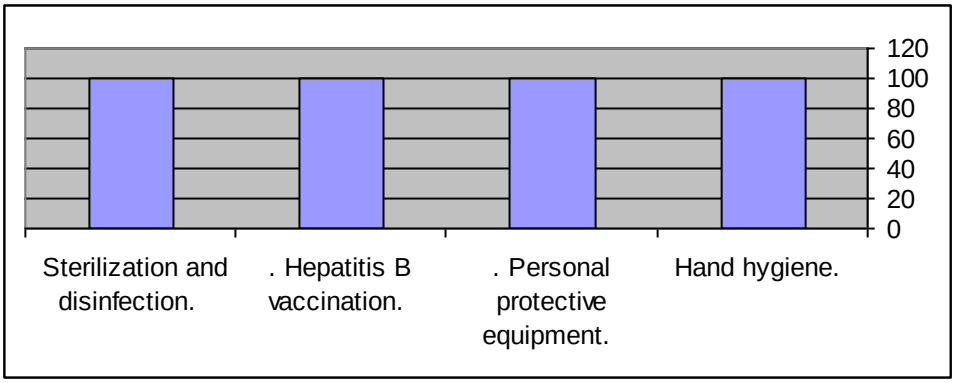


Figure (3).The way of collection dental disposal .

The percentage of hepatitis B vaccinated are 94%

What is the opinion for the most important procedure in controlling infection measures are representing in figure 4



Figuer (4).the openian of control infection

The suggestion for improving the infection control issue are representing in table(10)

Table (10) Improving the infection control issues

Infection control issues	Percentage
More infection control readings/seminars.	48
Standardization of equipment/materials.	34
Regular monitoring.	52
Better supply of material.	28
Obligatory training.	54

Discussion

This review assessed the information and states of mind of dental students towards infection control measures in dental school facilities. The data analysis of the current study conceal student behavior regarding infection control in dental schools. The decision evaluating lasts stage dental students was due to the fact that these students are in the last years of the undergraduate program and should therefore have almost more complete theoretical and practical background regarding infection control in order to become dentists. Furthermore, assessments at this phase may be indicative of the capacity of dental courses in incorporating adequate behavior regarding infection control among future dentists .The results presented indicate the opinions of students dental. Regardless of whether such assessments would be generally hung on an across the country premise stays to be dictated by leading comparative studies in government and other more up to date private dental schools. Our investigation revealed a general satisfactory learning and states of mind of dental students

Dental specialists dental assistants and patients might be presented to pathogenic microorganisms which are restricted in ral cavity and respiratory tract including cytomegalovirus CMV, HBV, HCV, herpes simplex virus HSV type 1 and 2, HIV, Mycobacterium tuberculosis, staphylococci, streptococci and other viruses and bacteria. (Yüzbasioglu *et al.,* 2009; Milward & Cooper, 2007; Rahman *et al.*, 2013). These microorganisms has the ability of transmitted to the dental team experts by instantaneous contact with a patient's salivation, blood, skin and oral secretions or, on the other hand by circuitous contact through wounds caused by sharp polluted instruments or by droplet infection from aerosols or splatters (Nagao *et al.,* 2008). The practice and wearing of gloves by dental specialists and all member working in these field who have direct activity clinical procedures has been advised as a basic element of dental surgery infection monitoring (Askarian & Assadian, 2009).

However, the individual reactions to the utilization of barrier strategies for contamination control shifted among various examinations studies as results revealed in this present study.

In this study students answered about and mask after each patients and response are 96% change gloves and for mask 80% and for eye protection 86% should changes after several patients . the present study, although the compliance level for the use of gloves was highly similar to previous studies conducted in Canada, Iran, the UK, the UAE, and Brazil (Rahman *et al.,* 2013; Souza *et al.,* 2006; Alavian *et al.,* 2011).

Regularity habit of face mask and protective eyewear use was unsatisfactory. This deprived usage of eyewear and face masks: may demonstrate a low level of mindfulness about disease transmission by means of 'aerosols and blood splashes. Dental students ought to be urged to wear' masks and a protective eyewear equipment' to limit the shot of transmitting airborne infections.

The response related to washing hand indicated that most students 64% believed that they should wash hands before and after each pateints and 34% before putting gloves and 64% of answer about best way for hand washing by antiseptic soap and water ,according to this response the students have thought about important for washing hand but they need familiarity about the best time of washing and way,there is prevouse study has such approach (November, 2012).

There is adequate proof that alcohol-based hand are better than washing with soap and water, except in situations where the hands are unmistakably grimy or sullied with body fluid. Hand hygiene facilities ought to be situated as close as

conceivable to all dental operatory and, ideally, in clear sight of patients. In the event that they are "out of sight patients" should be influenced hand cleanliness is assuming.

The other important item for control cross infection in dental clinic is about the way of operating the medical waste product, in this survey most students they answered using domestic waste and 38% they use medical waste, could make hurt to the environment. Most chemical waste streams created in dental clinic can be overseen as nonhazardous waste, in the event that appropriate transfer rules are taken, this opinion coincide with researches focusing on most ideal method of operating the dental waste (Bhaskar *et al.*, 2012).

Backflow from a low-volume saliva pitcher that could happened when a patient tighten his or her lips around the tip, forming a seal that makes a partial vacuum. This backflow can lead to transmission of micro-organisms from the suction lines entering the patient's mouth, and a possible source of cross-contamination. So the advices is by not allowing patients to plug the "saliva ejector tip via the mouth. Moreover, specially prepared saliva ejectors exist that do not permit a :negative pressure to form near the tip. Suction lines should be purified between patients by aspirating water" or a suitable cleaning solution, that expelling loosely adherent spoil and micro-organisms. At least once per week, suction lines should be "flushed out through an enzymatic detergent or suitable cleaning smelting". The reaction of dental students in this study about using High vacuum. Suction and saliva ejector was not satisfactory, the important about using these procedures documented in other study (Bhaskar, 2012; Guidelines of the Royal College 2009; Canadian Immunization Guide 2006). -

Conclusion

In general, our study showed poor acquiescence with the recommended infection monitoring practices among dental students of Babylon University, though they had an acceptable attitude and level of knowledge. This incongruity between information and situation could be due to an inappropriate supply of personal protective tools, carelessness, incongruous disposal of medical waste, and a lack of periodic educational programs. Therefore, continuous educational programs, as well as training workshops on infection control isolation precaution for dental students, and the required aperient to allow compliance with infection control plans are urgently needed. Moreover, all the vaccinations, especially Hepatitis B vaccination, should be set as compulsory for students before to entrance fee to "dental" institute. It is the responsibility of guidance institutions to include the safety of the students by requiring mandatory HBV vaccinations prior to exposure.

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