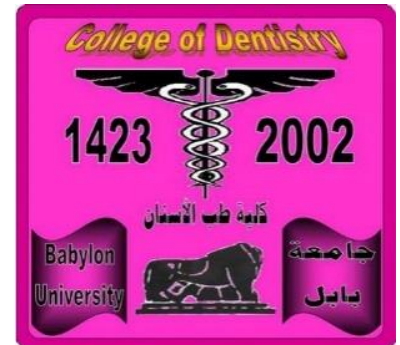




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**BABYLON UNIVERSITY
COLLAGE OF
DENYISTRY**



**Impact of teaching program on 5th stage dental students
during an Omicron pandemic
(Clinical performance in orthodontics)**

PREPARED BY

Dhurgham Kadhim

Ali Jawad

Raed Abbas

SUPERVISION BY

Assit.prof: Thaer Jaber AL-khafaji

Assist.Prof: Kasem Ahmed

Introduction:

Coronavirus disease 2019 (COVID-19) has been noted worldwide as an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS CoV-2)¹. is a highly infectious disease that has a great impact not only on health but also violates economics and social activities global wide. The route of spreading the virus is not only by means of direct contact but also can be transmitted by air droplets². This leads to an embarrassing situation for the government to make a last resort policy in terms of lockdown or isolation to limit the infection^{3,4}. It becomes the best choice of strategy to prevent the wide spread of the pandemic⁵. By means of lockdown or isolation, the social distance can be kept to prevent direct contact or aerosol contamination of human beings, thus the pandemic can be inhibited. But this strategy also possesses some adverse effects to limit social activities⁶. The education was the one of the fields required social distance. In the last week of march, the education system Lockdown and turn to social education and on that time, the majority of countries worldwide begin to impose a temporary dental practice closure and lockdown of their population as well. Not to mention, dentists were reported to be among the highest professional risk groups of being infected and a possible vector of the transmission of the SARS-CoV-2 virus ⁷. As a result, many faculty dentistry around the world have rapidly adopted virtual modes. dental education composed mainly of three components: Lectures/tutorials and problem-based learning (PBL) interactions, simulated training courses, and clinical skills training. These three components, especially for simulated training courses and clinical skills training require close contact of human beings in which social distance cannot be always maintained during the process of these three components⁶. So, the clinical aspect of orthodontics was the first field that affect by covid19. Despite some other health

care services, most dental services can be delivered only through close contact with patients. Since it is not possible for the patients to wear a mask during dental treatment, the whole responsibility of protection relies on the shoulder of oral health professionals⁸. Thus, dentistry has been affected wildly by the pandemic in its all aspects After year from spread coronavirus, some faculty applied Online theoretical - on-site practical learning. In this period the CDC is working with state and local public health officials to monitor the spread of Omicron. As of December 20, 2021, Omicron had been detected in every U.S. state and territory and continues to be the dominant variant in the United States then spread to all world. The Omicron variant spreads more easily than earlier variants of the virus that cause COVID-19, including the Delta variant. CDC expects that anyone with Omicron infection, regardless of vaccination status or whether or not they have symptoms, can spread the virus to others⁹. Many Dental Schools have shut down the face-to-face education activities, and switched their education to online or blended learning mode to keep on the learning progress for those dental students. The learning efficiency of the online learning from the students' end can be influenced by some objective factors like equipment and facility of the online teaching and learning, technique to manipulate those digital facilities, and so on^{10,11,12}. Although various infection control protocols had had been recommended to avoid transmission of COVID-19 disease in dental practice This is the first experiment for dental faculties to bring most of the education by online, and there are still many unanswered concerns about the effectiveness of clinical study¹³. However, this information is very important to ensure and improve the quality of dental education in the new normal society. Very fewer studies examined the effect of the omicron epidemic on the dental clinical performance. So, the aim of this study is to evolute the impaction of the teaching program of orthodontics during the omicron epidemic with focus in the clinical performance

Methods:

Study design and sampling procedure:

The present study was conducted at University of Babylon-college of dentistry-department of orthodontics under closed supervision and authority of orthodontists. An online Google forms questionnaires (docs.google.com/forms) was sent to the participant using a website link with the aid of a telegram group. The participants included in the study were a 5th stage dental students who already finished the clinical orthodontic requirement of the 1st and 2nd course at the teaching hospital, and to enhance the confidentiality of the responses; the survey was relied on anonymity and no E-mail address was requested so the rights are reserved. The questionnaires were uploaded to the students on 9 April, 2022 for accepting responses until the 19 April; during which two reminders were sent on the group to ensure a good response. While the contributor opens the link, the questionnaires was headed with brief information in Arabic within the description bar demonstrating the study objectives and the total time elapsed of no more than 2 minutes to completing the answers. Out of 147 Student received the link of the project, only 100 were submit the correct response to be collected through the forms for data analyses of which **(1 M / 4 F)**. The respondents were enabled to deliver only one response, but their answers can be modified or changed before final submitting. The items of the questionnaires were evaluated and checked by an experienced specialist so as to correspond the goals of the study and their purposes as well without confusion.

Questionnaire design and data collection.

An English questionnaire was designed to have only one section aiming to present the orthodontics' clinical performance and confidence of final stage dental

students. To perceive the relationship between the self confidence level of the students as they performing different clinical procedures in orthodontics mainly during the Omicron era of COVID-19 pandemic and on-site learning program, further multi-choice questions were chosen to underline such study objective. At the end of the 10th day, the responses were collected automatically on spreadsheet to be downloaded on Microsoft Excel 2010 for data analyses.

Results:

The categorical data were computed in term of frequencies and percentages of the replies. The response rate of the participants in the study were (68%), as (100) student were submitting the responses from a total of (147) that included in the survey, which represented in **figure (1)**. The response rate of females were (70%) while nearly about (30%) for males which represented **in figure (2)**. The frequency and percentage of student's responses about their self-confidence level in clinical orthodontics was revealed **by table (1)**.

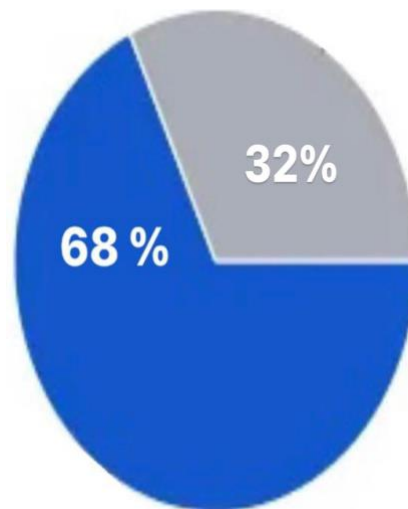


Figure (1):The response rate of the participants in the study.

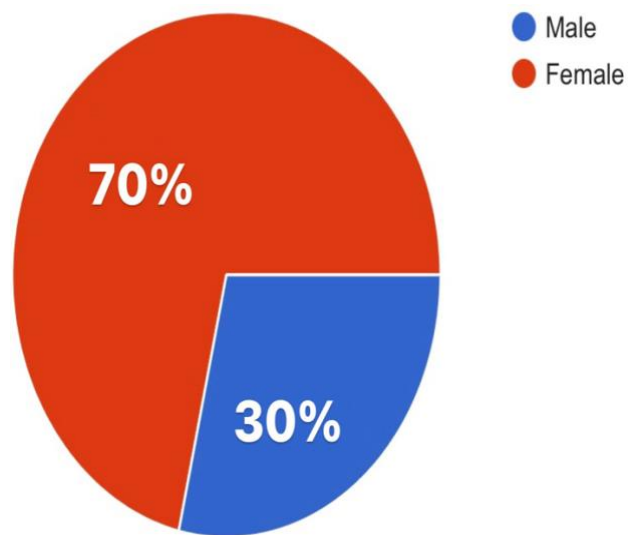


Figure (2): The response rate of males and females.

Table 1: Reveals the frequencies of 5th stage dental student's responses regarding the impact of on-site learning program during Omicron stage of COVID-19 on their practical self-confidence level in orthodontics.

Question	Less confident	Moderately conf.	No conf.	confident	More Conf,
clinical assessment and diagnosis of orthodontic patient:	7%	35%	7%	34%	17%
Appliance design, fabrication and its modification if required:	8%	32%	6%	27%	27%
orthodontic treatment planning regarding removable orthodontics:	9%	30%	8%	31%	22%

Appliance delivery and communication with technician:	10%	28%	4%	38%	20%
Appliance insertion and its manipulation within the patients mouth:	7%	31%	4%	38%	20%
Activation of orthodontic appliance and its adjustment:	5%	29%	5%	35%	26%
patients management and instruction:	9%	21%	4%	35%	31%

Note: the percentage of every value is equal to their frequency, as the number of total sample was one hundred dental student replied to questionnaire.

Discussion: -

Impact of teaching program during an Omicron pandemic of the 2022 final year dental students (clinical performance in orthodontics) was the main outcome of this study. The response rate of participants was 68% the majority of student was collected in sample. Additionally, the response rate was higher in female than male that the female rate was 70%, due to the most participation was female. Student score self-confident level using five - level Likert like format (from 1-no confidence to more confident).The students was confident with clinical assessment and diagnosis and orthodontic treatment planning. We can note that in appliance design fabrication and its modifications was moderately confident and confident because the supervision was by professional doctors. In the activation of orthodontic appliance and adjustment, most of students were confident, Because of the simplicity of this procedure and it doesn't take much time .

The most confident rate was in appliance delivery and communication with technicians because of online communication with technicians was good. The appliance insertion and its manipulation within patients' mouth was the higher confident rate maybe this is because the good training of the dental student in the previous years and good skilling that they have. While in patient management and instruction was confident Due to the good skill communication between student and patients.

Conclusion: -

the results of this study revealed that 2022 final year dental students' attitudes weren't negative as we expected, however there's some clinical limitations they meet during this pandemic which affect the results of their cases and confidence.

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