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RESEARCH ARTICLE OPEN ACCESS

Understanding the Experiences of Dental Interns in Internship Programs in the United Arab Emirates: A Comprehensive Cross-Sectional Study

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Abstract:

Background/purpose: Dental internship training is crucial for the professional development of dental graduates in preparation for independent practice. In the United Arab Emirates, dental internship programs have been established for many years; however, outcome reports from the interns' perspectives are still lacking. The aim of this study, therefore, was to evaluate interns' perceptions and experiences with dental internship programs in the United Arab Emirates.

Materials and Methods: A cross-sectional study was conducted on dental interns enrolled in internship programs in the year 2020/2021. Participants rated their experience using a validated questionnaire covering nine clinical domains with a 4-point Likert scale and responded to open-ended questions. Quantitative data were analyzed using descriptive statistics (Statistical Package for the Social Sciences, Windows version 28, SPSS Inc., Chicago, IL, USA) while textual data were analyzed using the Framework Analysis approach. An independent *t*-test was employed to compare male and female participants in each survey domain.

Results: Two hundred and fifty-five interns responded (90 males, 165 females; response rate: 80.6%). The majority of participants rated their experience "well" or "very well"; however, "poor" or "very poor" performance in surgical periodontics (49%), trauma management, tissue biopsy (50%), and restoration of dental implants (60%) were reported. No gender differences were observed across the different domains. Open textual responses focused on the clinical aspects of the programs with demands for more complex and challenging cases.

Conclusion: The outcomes of dental internship programs in the United Arab Emirates were overall positive, reflecting a very adequate preparedness for practice. Areas of weakness in dental implant restoration, esthetic and digital dentistry, and surgical periodontics were reported with a need for increasing the scholarly activity component.

Keywords: Cross-sectional, Dental, Internship, Independent *t*-test, Trauma management, Tissue biopsy.

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1. INTRODUCTION

The transition from supervised undergraduate education to independent practice is a crucial step in the professional development of the recently graduated dentist [1]. Dental internship training programs, therefore, provide a valuable opportunity for interns to strengthen

their cognitive knowledge and procedural skills in the provision of oral healthcare services [2, 3]. There seems to be no universally accepted framework for dental internship programs. Various programs designed for specific educational or statutory requirements or community healthcare needs exist worldwide. For example, in the United Kingdom, one year of vocational training is required for newly qualified dentists wishing to be registered for practice [2, 4]. This model has recently been revised and re-introduced as the "Dental Foundation Training", a one-year program designed for fresh graduates intending to pursue specialty training or postgraduate education [5]. Another model of internship comes in the form of a one-year house job in designated clinics or hospitals, which enables new graduates to obtain their license for practice [6]. Internship programs can also be integrated into the undergraduate dental curriculum, allowing students to complete a year of internship before graduation [3, 7].

One of the earliest reports on dental internship programs in the Middle East was published in late 1994 on a Saudi cohort [8]. The authors in that report investigated the satisfaction of the interns with their internship training and described the outcome as satisfactory. Several other reports, also on Saudi cohorts, have been subsequently published addressing interns' perceptions of training [9], patient satisfaction with treatment rendered by interns [10], the impact of COVID-19 on the quality of training [11, 12], or the scholar outcomes of these programs [13]. In the United Arab Emirates, the completion of a one-year internship is a statutory requirement for the new graduate to be licensed to practice. The structure of the internship programs comprises clinical rotations in the different dental disciplines, as well as satisfying several other professional, educational, and administrative requirements. Formal internship programs in the United Arab Emirates began with the graduation of the first dental cohort from Ajman University (AU) in 2001. The growing community interest in dentistry and increased market demands for dental services have led to the inauguration of three other dental colleges at the University of Sharjah (UoS) in 2004, at Ras Al-Khaimah University of Medical and Health Sciences (RAKUMHS) in 2007, and at the Gulf Medical University (GMU) in 2008. Additionally, a postgraduate dental college was established at the Mohammad Bin Rashid University (MBRU) in 2009. Aside from these academic institutions, hospitals and clinics of the public health sectors in the United Arab Emirates also offer internship programs in their dental facilities. Of these, the Emirates Health Services (EHS), the federal healthcare service provider in the country, has been offering structured dental internship programs in its dental facilities for over two decades. These programs have been pragmatically revised over time to improve the training experience of the interns, albeit without an objective assessment of the programs or the interns' training outcomes.

Measuring training needs and perceptions of trainees with their training experiences can provide essential tools for quality improvement of healthcare training and education [14-17]. These tools can help identify existing gaps in training programs and provide recommendations for improvement [18]. In this context, an information-gathering stage is crucial and one method extensively utilized for this purpose is the surveys [19]. Currently, there are very limited published reports focusing on intern-centered outcomes from dental internship programs [2, 4, 8, 9, 13]. In the United Arab Emirates, to the best knowledge of the authors, no studies describing dental interns' experiences with internship programs or the training outcomes of these programs have been previously conducted. Therefore, the purpose of this study was to evaluate the experiences and perceptions of dental interns with internship programs in the United Arab Emirates in terms of preparedness for clinical practice.

2. MATERIALS AND METHODS

This cross-sectional questionnaire-based cohort study was conducted in accordance with the Helsinki Declaration of 1975, as revised in 2013 and approved by the Central Ethical Committee of the Ministry of Health and Prevention (MOHAP) of the United Arab Emirates (Reference: MOHAP/DXB-REC/ JSS/No. 84/2021). The guidelines of Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) were followed for the preparation and reporting of this study. Eligible participants from all five dental colleges (AU, UoS, RAKUMHS, GMU, MBRU) and six EHS specialty dental centers in the United Arab Emirates were included.

2.1. Study Sample

The study sample consisted of the entire cohort of dental graduates enrolled in internship programs in the five dental colleges and dental facilities of the Emirates Health Services (EHS) in 2020/2021. Accordingly, a total of 316 interns were invited to participate in this study. Inclusion criteria required participants to have been enrolled in the internship program for 12 months and be able to provide informed consent. Interns not capable of providing informed consent were excluded. Dental education in the United Arab Emirates is provided exclusively using the English language and, therefore, participants were asked to respond to the questionnaire developed in English.

2.2. Questionnaire

A questionnaire composed of three parts was used to collect the relevant information. The first part of the questionnaire gathered demographic information of participants (age, sex, college of graduation, site of internship). The second part was based on a validated tool [20-22] and consisted of 54 items covering nine domains designed to measure participants' competence in various dental disciplines. For each of these domains, the participants were asked to rate their perceived preparedness for dental practice using a 4-point Likert scale (very well = 4, well = 3, poorly = 2, and very poorly = 1). The third part of the questionnaire comprised two open-ended questions, with the first one requiring

participants to identify three obstacles experienced during the internship training, while the second eliciting recommendations for improvement. The questionnaires with information sheets and consent forms were distributed to interns by a clerical staff not involved in the study. Consented participants were instructed to deliver the completed questionnaires in sealed unmarked opaque envelopes at the end of the internship program.

2.3. Data Analysis

Quantitative data were summarized and analyzed with descriptive statistics using the Statistical Package for Social Sciences (Windows version 28, SPSS Inc., Chicago, IL, USA). Independent *t*-test was utilized to compare male and female participants according to each of the survey domains by summing up the responses for each domain and dividing by the number of items per domain. Additional analysis was also conducted to assess differences in responses on all survey domains according to whether each participant chose to stay in the same university to complete the one-year internship or enrolled in the internship at another university or an EHS dental facility. Textual data were organized using Microsoft Excel and analyzed using the Framework Analysis approach [23]. At first, the free-text response was read and coded by MA and NA independently. Through discussion, MA and NA agreed on a set of codes and grouped codes that were conceptually related to thematic coding categories. Summaries of written responses to the open-ended questions have been presented in the results organized by themes, and the representative quotes have been selected from a variety of respondents.

3. RESULTS

Of the 316 interns invited to participate in this study, 255 responded [207 from dental colleges and 48 from EHS; 90 males and 165 females with a mean age of 24.4 years (SD: 1.5) and 24.2 years (SD: 1.4), respectively], while 61 declined to participate, resulting in a response rate of 80.6%.

The frequency of responses to questionnaire items across the different domains is presented in Table **1**. Overall, the majority of participants rated their experience in the different items as “well” or “very well”. However, a relatively high percentage of interns rated the item “perform periodontal surgery for pocket management” as “poor” or “very poor” (49%). Similarly, more than 50% felt they could poorly manage trauma to the dentofacial complex or perform soft tissue biopsy. In addition, 60% of the participants rated their abilities to restore dental implants with crowns/bridges as “poor” or “very poor”. No significant differences were observed by sex in ratings for each of the nine study domains (Table **2**). Table **3** shows that participants who completed their internship at a different institution from where they graduated were significantly less satisfied with their ability to perform restorative treatments compared to those who completed their internship at the same institution where they graduated (mean: 3.1 (SD: 0.6) *vs*. mean: 3.5 (SD:0.4); respectively).

Table 1. Frequency distribution of responses to items per domain.

Item	Very Poor	Poor	Well	Very Well
General Patient Management	-	-	-	-
1. Take and interpret medical, social, and dental history	1 (0.4)	2(0.8)	106 (42)	146 (57)
2. Communicate effectively with patients	1 (0.4)	5 (1.6)	81 (32)	167 (66)
3. Discuss treatment plans and get informed consent	2 (1)	4 (2)	69 (27)	180 (71)
4. Take and interpret appropriate intra-oral radiographs	1 (0.4)	1 (0.4)	100 (39)	153 (60)
5. Develop a sequential treatment plan	1 (0.4)	3 (2)	87 (34)	164 (64)
6. Interpret tests and history to make a diagnosis	1 (0.4)	3 (2)	64 (25)	187 (73)
7. Identify and address patients’ chief complaints	1 (0.4)	2 (1)	107 (42)	145 (57)
Practice management	-	-	-	-
8. Maintain accurate confidential patient records	1 (0.4)	8 (3)	95 (37)	151 (59)
9. Communicate effectively with colleagues	1 (0.4)	131 (51)	37 (15)	86 (34)
10. Select and monitor infection control procedures	1 (0.4)	8 (3)	77 (30)	169 (66)
11. Write laboratory prescriptions and evaluate laboratory work	4 (2)	45 (18)	131 (51)	75 (29)
12. Critically evaluate dental literature to inform dental practice and policy	6 (2)	25 (10)	186 (73)	38 (15)
13. Apply evidence-based dentistry	1 (0.4)	30 (12)	138 (54)	86 (34)
Periodontology and dental public health	-	-	-	-
14. Treat early periodontal disease	2 (1)	29 (11)	122 (48)	102 (40)
15. Perform deep scaling and root planning	6 (2)	11 (4)	90 (35)	148 (58)
16. Perform periodontal surgery for pocket management	37 (15)	88(34)	77 (30)	53 (21)
17. Perform periodontal surgery for crown lengthening	29 (11)	74 (29)	101 (40)	51 (20)
18. Perform oral hygiene instruction and diet analysis	2 (1)	9 (4)	76 (30)	168 (66)
19. Provide and monitor preventive treatment	1 (0.4)	9 (4)	84 (33)	161 (63)
Operative/restorative treatment	-	-	-	-
20. Restore teeth with amalgam restorations	16 (6)	32 (13)	97 (38)	110 (43)

(Table 1) contd.....

Item	Very Poor	Poor	Well	Very Well
21. Restore teeth with resin composite	1 (0.4)	7 (2.6)	51 (20)	196 (77)
22. Perform post and core restorations	8 (3)	21 (8)	97 (38)	129 (51)
23. Perform single-root canal treatment	3 (1)	5 (2)	51 (20)	196 (77)
24. Perform multi-root canal treatment	3 (1)	12 (5)	82 (32)	158 (62)
25. Restore teeth with single crowns	8 (3)	25 (10)	91 (36)	131 (51)
26. Restore teeth with post and core crowns	11 (4)	28 (11)	98 (38)	118 (46)
Prosthodontics	-	-	-	-
27. Replace teeth with partial dentures	4 (2)	32 (12)	125 (49)	94 (37)
28. Replace teeth with complete dentures	13 (5)	39 (15)	119 (47)	84 (33)
29. Replace teeth with conventional bridges	10 (4)	31 (12)	115 (45)	99 (39)
30. Replace teeth with resin-bonded bridges	19 (8)	45 (18)	119 (47)	72 (28)
31. Restore dental implants with crowns/bridges	78(30)	76 (30)	48 (19)	53 (21)
Orthodontics	-	-	-	-
32. Perform orthodontic treatment planning	45 (18)	71 (28)	93 (37)	46 (18)
33. Perform space maintenance/regaining	24 (9)	66 (26)	112 (44)	53 (21)
34. Perform minor tooth movement	64 (25)	74 (29)	76 (30)	41 (16)
Pedodontics and special-needs patients	-	-	-	-
35. Manage anxious child dental patients	3 (1)	40 (16)	132 (52)	80 (31)
36. Perform pulpotomy/pulpectomy	4 (2)	15 (6)	113 (44)	123 (48)
37. Perform stainless steel crowns	8 (3)	39 (15)	103 (40)	105 (41)
38. Manage medically compromised patients	6 (3)	41 (16)	136 (53)	72 (28)
39. Manage mentally or physically disabled	20 (8)	77 (30)	100 (39)	58 (23)
40. Manage patients with child traumatic dental injuries	13 (5)	56 (22)	120 (47)	66 (26)
Oral and maxillofacial surgery	-	-	-	-
41. Manage acute pain/infection	1 (0.4)	16 (6)	118 (46)	120 (47)
42. Perform simple extraction	1 (0.4)	3 (1.6)	55 (22)	196 (77)
43. Extract impacted third molars	16 (6)	71 (28)	90 (35)	78 (31)
44. Manage complications of oral surgery	7 (3)	34 (13)	134 (53)	80 (31)
45. Manage and identify chronic orofacial pain	12 (5)	66 (26)	120 (47)	57 (22)
46. Identify and manage oral pathology	25 (10)	76 (30)	99 (39)	55 (22)
47. Perform soft-tissue biopsies	48 (19)	91(36)	83 (33)	33 (13)
48. Manage trauma to dentofacial complex	43 (17)	86 (34)	80 (31)	46 (18)
49. Diagnose and manage TMJ disorders	20(8)	69 (27)	115 (45)	51 (20)
Drug and emergency management	-	-	-	-
50. Administer Local Anesthetics (LA)	1 (0.4)	2 (1)	54 (21)	198 (78)
51. Prescribe drugs	4 (2)	13 (5)	114 (45)	124 (49)
52. Prevent and manage LA complications	3 (1)	24 (9)	93 (37)	135 (53)
53. Manage medical emergencies	8 (3)	27 (11)	112 (44)	108 (42)
54. Prevent and manage dental emergencies	2 (1)	14 (6)	112 (44)	127 (50)

Table 2. Average scores per domain by sex (independent t-test, $p<0.05$).

Domains	Sex	N	Mean	SD
General patient management	Male	90	3.6	0.4
	Female	165	3.6	0.3
Practice management	Male	90	2.9	0.7
	Female	165	2.7	0.5
Periodontology and public health	Male	90	3.1	0.5
	Female	165	3.2	0.4
Operative/restorative dentistry	Male	90	3.4	0.5
	Female	165	3.4	0.4
Prosthodontics	Male	89	2.8	0.7
	Female	165	3.0	0.6
Orthodontics	Male	90	2.4	0.8
	Female	165	2.6	0.8

(Table 2) contd.....

Domains	Sex	N	Mean	SD
Pedodontics/special needs	Male	90	3.0	0.5
	Female	165	3.1	0.5
Oral and maxillofacial surgery	Male	90	2.9	0.6
	Female	165	2.9	0.5
Drugs/emergency management	Male	90	3.4	0.6
	Female	165	3.4	0.5

Table 3. Comparison of domain ratings according to the institute of the internship program (independent t-test, $p<0.05$).

Domains	Place of Internship	N	Mean	Standard Deviation
General patient management	Different, a	52	3.6	0.5
	Same, b	201	3.6	0.3
Practice management	Different	53	2.7	0.3
	Same	202	2.8	0.4
Periodontology and public health	Different	53	3.2	0.5
	Same	202	3.2	0.5
Operative/restorative dentistry	Different	53	3.1c	0.6
	Same	202	3.5	0.4
Prosthodontics	Different	53	3.0	0.7
	Same	201	2.9	0.6
Orthodontics	Different	53	2.7	0.9
	Same	202	2.5	0.8
Pedodontics/special needs	Different	53	3.1	0.6
	Same	202	3.1	0.5
Oral and maxillofacial surgery	Different	53	3.0	0.6
	Same	202	2.9	0.5
Drugs/emergency management	Different	53	3.5	0.5
	Same	202	3.5	0.5

Note: a Enrolled for the internship program in an institute other than that of graduation.
b Enrolled for the internship program in the same institute of graduation.
c Significant difference ($p<0.05$).

Table 4. Emerging themes from the textual data.

Themes
Clinical Rotation
- Rotation in Pediatric Dentistry and Orthodontics are needed
- More hospital rotations
- Rotation time in each specialty should be increased
Clinical requirements:
- More complex and challenging cases
- Implant cases should be added to the program
- Reduction in
- number of requirements
- Practice esthetic dentistry
Duration of the internship
- Shorter internship duration
- Internship fees should be reconsidered
Instructions and supervision
- More specialists should be available in the clinics
- GPs should be highly qualified who supervise the internship programs
Lectures/seminars and workshops
- Provide the interns with additional workshops and lectures to enhance knowledge.

Findings from the open textual responses were categorized under five main themes: clinical rotation, clinical requirements, duration of the internship, instructors and supervision, and scholarly activities (Table **4**). Many of the responses focused on the clinical aspects of the internship program with comments requiring more complex and challenging cases, which are as follows:

"Focus on allowing students to work on difficult cases."

"They should allow us to work more complicated cases, especially in surgery."

"Allow us to have more complicated cases."

Additional issues that emerged were regarding the experience of the clinical instructors, in which it was indicated that more specialists are needed to supervise some of the cases, such as in the following responses:

"Increase the specialists in the clinics."

"Make sure to have adequate specialists in different specialties."

" More experienced general practitioners."

Moreover, there were requirements to add scholarly activities, such as lectures, workshops, and seminars to the internship programs in order to improve the knowledge, as can be seen in the following comments:

"More seminars"

"Weekly courses for aspects that we don't practice in our internship."

"Organized workshops inside the university."

4. DISCUSSION

This cross-sectional questionnaire-based study aimed to evaluate the experiences and perceptions of dental interns with internship training programs in the United Arab Emirates in terms of perceived preparedness for independent practice.

The attempt to include the entire intern cohort of the year 2020/2021 enrolled in 11 different internship training sites was challenging. Nevertheless, the achieved response rate of 80.6% has been found to be high when compared to other reports of similar objectives and designs [21, 22, 24]. The use of a paper-based, rather than an online or web-based survey, helped improve the response rate as research has shown the superiority of the former method [2, 25, 26].

The findings of this study have shown the positive experiences and confidence of the majority of the interns with current internship programs across the different domains of dental practice. The highest level of this was demonstrated in the general patient management domain, operative/restorative dentistry, and drug and emergency management, where an average of 90-98% of the participants perceived their experience to be "well" or "very well". On the other hand, a lower level of preparedness was demonstrated in orthodontics with 45% of participants considering their experience to be "poor or "very poor". These findings are in line with those reported in other studies [2, 4, 8]. A study on 124 interns at King Saud University in Saudi Arabia showed restorative dentistry as the discipline most liked by interns (20.3%), while most difficulties in training were experienced in orthodontics (46.3%) [8]. Likewise, two studies [2, 4] reporting on dental graduates enrolled in vocational training in the United Kingdom have shown similar results with 56% and 60% of trainees, respectively, reporting low confidence in orthodontics. Arguably, however, competency in orthodontics has been thought to require specialization as it cannot be achieved in an undergraduate dental program [22, 27].

Nearly 70% of participants in this study expressed a moderate overall experience in the prosthodontic training (2.9 rating on a 4-point scale) with the poorest being in restoring dental implants with crowns and bridges where 60% of participants described their experience as "poor" or "very poor". This finding could be explained on the basis that implant dentistry falls within the scope of privileged general practitioners and specialists. Hence, advanced training in implant dentistry is required for dentists wishing to engage in this practice. Similarly, in oral and maxillofacial surgery, 70% of participant have shown their overall training to be very adequate; however, in managing dentofacial trauma and performing a soft tissue biopsy, nearly one-third of the participants have considered their experience to be "poor". Moreover, in periodontics, an average of 81% of interns rated their training to be very adequate, yet half were dissatisfied with the ability to perform surgical pocket management and crown lengthening procedures. It is possible that these procedures may be invasive and obtaining patients' consent to treatment by interns in such instances could be very challenging. It has been previously shown that despite the majority of patients showing confidence in treatment rendered by interns, 13% have demonstrated negative attitudes toward such treatment for unknown reasons [10].

In the present study, two-thirds of interns enrolled in the internship programs were females. In fact, of the total 438 students admitted to dentistry programs in the United Arab Emirates in the year 2020/2021, 60% were females. This is a reflection of the increased interest of the female gender in studying dentistry in recent years. A similar trend has also been observed in Saudi Arabia where the number of females entering undergraduate and post-graduate dental education has also been on the rise [28, 29].

In examining the level of preparedness for practice between male and female participants, no gender differences have been found in the present study. The responses of both male and female interns reflected similar perceptions regarding the strengths and weaknesses of their internship programs. Similar findings were reported among physicians in Saudi Arabia, where there were no gender differences in satisfaction with residency programs, regardless of family responsibilities, and marital or parenting status [30]. It was also observed among surgery residents in the United States that clinical

competence and training perceptions appear to be independent of the gender of the trainee [31].

Undertaking internship training in sites other than the original institute of graduation did not seem to influence interns' level of preparedness, except in the operative/ restorative domain. The 53 interns completing their internship in sites other than their original colleges had significantly lower levels of preparedness compared to those remaining in their colleges (mean = 3.1 *versus* 3.5, respectively). In a previous study, geography was stated as one of the most important factors considered by applicants when applying to residency programs [32]. However, whether choosing a different internship location leads to dissatisfaction with a particular aspect of the program remains unknown.

The findings from the open textual responses have yielded valuable information on the areas of weakness in current internship programs, which could help to provide directions for program improvement. The demands for more clinical exposure in the restorative phases of implant dentistry and the need for hands-on training in advanced surgical procedures have been found to be legitimate. These fields, together with esthetic dentistry and digital restorative technologies, have been observed to be very attractive for those venturing into private practice. One proposal at this juncture could be to provide elective options within the program to serve the needs of interns interested in these areas. Another area for improvement, based on interns' feedback, is the need to increase the scholarly content of the internship program. Demands for on-site workshops, seminars, and scientific activities across various disciplines have been found to be raised in the present study. Addressing these issues effectively is very challenging in the health service environment where training and service provision occur in tandem. This area, however, can be improved by encouraging interns to initiate or engage in scholarly activities in academic institutions where facilities are more amenable. In exchange, interns in academic institutions can perform part of their clinical training in health service sites where high-level clinical setups and larger patient pools with a wider range of oral health care needs are available for management. Other comments cited in the present study were related to the length of the internship, program fees, and the number of clinical requirements. Regarding the length of the internship program, completion of a full 12-month period of training is a statutory requirement. However, in some sites, an extension may be required to compensate for the restrictions imposed during the peak of COVID-19, when the flow of patients was reduced. Concerning the program fees, tuition fees of varied scales are imposed in academic institutions, while in the EHS facilities, internship programs are offered free of charge. Considering the number of requirements, there seems to be a need to move from the current traditional requirement-based programs to a competency-based model of internship. It has been suggested that competency-based dental training that is independent of training time or numerical targets is a more effective model in yielding competent dental graduates [33].

One major strength of the present study is its inclusion of all universities and centers providing internship programs in the United Arab Emirates. However, a potential limitation is that the study was conducted during the COVID-19 pandemic. Therefore, the results presented need to be interpreted within the context of the circumstances of that period. Two cross-sectional studies have evaluated the impact of the COVID-19 pandemic on interns' experience in Saudi Arabia and revealed negative effects on the level of preparedness and clinical confidence of interns [11, 12]. In the present study, despite the period of lockdown and scaling down of dental services during the pandemic, a high level of preparedness and adequacy of training was demonstrated by 70-99% of the interns. This can be a result of the measures utilized by the training sites, such as extending the internship training period, the use of online educational platforms, involving interns in COVID-related dental services, and the focus on multidisciplinary case management, which may have helped deliver an overall adequate training experience.

CONCLUSION

The results of this study have provided valuable insights into the experiences and perceptions of dental interns with dental internship programs in the United Arab Emirates. The outcomes have overall been positive, indicating a very adequate level of preparedness for clinical practice. However, several areas of weakness have also been revealed, such as the need for more clinical exposure in the disciplines of implant, esthetic and digital dentistry, and surgical periodontics, and the need for increasing the scholarly activity component of the internship programs. These aspects need to be addressed effectively to enrich the internship training experience of dental graduates in the United Arab Emirates.

AUTHORS' CONTRIBUTION

All the authors have accepted responsibility for the manuscript's content and consented to its submission. All of them have meticulously reviewed the results and unanimously approved the final version of the manuscript.

LIST OF ABBREVIATIONS

MOHAP	=	Ministry of Health and Prevention
AU	=	Ajman University
RAKUMHS	=	Ras Al-Khaimah University of Medical and Health Sciences
GMU	=	Gulf Medical University
MBRU	=	Mohammad Bin Rashid University
EHS	=	Emirates Health Services

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was approved by the Central Ethical Committee of the Ministry of Health and Prevention

(MOHAP) of the United Arab Emirates (Reference :MOHAP/DXB-REC/ JSS/No. 84/2021).

HUMAN AND ANIMAL RIGHTS

All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committee, and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from the participants.

STANDARDS OF REPORTING

STROBE and SAGER guidelines were followed.

AVAILABILITY OF DATA AND MATERIAL

The data supporting the findings of the article is available upon request from the corresponding author.

FUNDING

None.

CONFLICT OF INTEREST

The authors have declared no conflict of interest, financial or otherwise.

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