

ORIGINAL ARTICLE

Intention & knowledge of fresh dental graduates of FMH college of dentistry, Lahore related to dental practice management

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ABSTRACT

Background: Dental practice is getting complex day by day, whereas dentistry graduates are oblivious of the world they would face after house job. Dental practice management is a subject that is neglected in the curriculum of baccalaureate of dental surgery.

Aims: To explore the aspiration of fresh dental graduate's intention related to future dental practice and to determine their knowledge related to dental practice management.

Methods: This quantitative, descriptive study was conducted at FMH College of medicine & dentistry, Shadman, Lahore. All fresh graduates were asked to fill a proforma devised to investigate intention, teaching and knowledge related to practice management. The questionnaire was divided into three blocks, first block was related to fresh graduate intention related to future dental practice, second block was about teaching of practice management and third section tested knowledge of fresh graduate related to dental practice management

Result: The questionnaire was distributed to sixty-two fresh graduates. The response rate was 79% (n=49). 42 (85.7%) respondents said they wish to join clinical fields, 31 (63.3%) said they were interested in starting full time practice (n=31, 63.3%) and 22 (44.9%) respondents said they wanted to start practice immediately after house job. More than half (n=21, 42.8%) thought they were not ready to run a dental practice. Teaching of dental practice management was a neglected aspect according to majority of respondents (n=28, 57.1%) and almost all fresh graduates (n=44, 89.8%) agreed that more time should be allocated for teaching of dental practice management. The knowledge related to various aspect of dental practice management varies among fresh graduates, the legal and financial aspect were major weakness.

Conclusion: Fresh graduates have not been taught dental practice management. There is no statistically significant difference in knowledge of graduates who think they are ready for private practice from those who think they are unprepared for private practice.

Key Words: dental practice management, curriculum, teaching.

Introduction: Dental practice is getting complex day by day, yet a dentistry graduate is oblivious of world he/she would face after house job. Dental practice management encompasses topics that relate to location, patients, staff, marketing, finance, legal knowledge, quality assurance and career related issues. As a subject, dental practice management aims to give an insight to dentistry students regarding problems and challenges that they may possibly face during dental practice. (Gonzales,

Martins Filho, Biazevic, Silva, & Michel-Crosato, 2017) Courses on dental practice management are vital if we want to enable fresh graduates to run their practices efficiently. Modern dental curricula incorporate dental practice management in their current and future curriculum. (Bridges, 2014) European Union recommended introduction of a curriculum which awards a degree in three years followed by two years of vocational practice in a government institute. (Willis, 2009) The graduating European dentist is expected to set high goals for the preceding students/dentists. Similar goals have been set for dentists graduating in North American. (Field, Cowpe, & Walmsley, 2017) The Pakistan Medical & Dental Council, an accrediting body that governs the dental colleges of Pakistan, revised its curriculum for baccalaureate of dental surgery (BDS) in 2003 (PMDC BDS revised curriculum 2003). This revision incorporated practice

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management into the curriculum, clearly stating that students should attend a course related to dental practice management to gain knowledge on how to run a private practice. However, the revised curriculum (2003) sparingly discussed the details of the issue and did not assign its teaching to any of the existing clinical departments. Neither the intended course outline nor its assessment strategies were defined. At a much later stage, the department of oral and maxillofacial surgery was assigned the task of teaching dental practice management. The learning objectives and expected outcomes were however, still missing. Due to a lack of emphasis on dental practice management during undergraduate studies, majority of dental graduates in Pakistan are not prepared enough to open a dental practice immediately after house job (Qureshi, Van Der Sanden, & Mulder, 2013). Changes in professional behavior of future graduates can only be brought about if dental practice management is properly taught and assessed. As we are going through the process of curriculum revision it is important to understand that courses on dental practice management are the need of the hour and must be incorporated formally into the curriculum if we expect the professional behavior of future graduates to change for the better. The objectives of this study were to determine aspirations of fresh dental graduates and their intentions related to future dental practice as well as to determine knowledge of fresh graduates related to dental practice management, with the final aim that an insight into the subject may serve as a need analysis for curriculum revision.

Research methodology: This study was quantitative, descriptive type and was conducted at Fatima Memorial Hospital - College of medicine & dentistry, Shadman, Lahore. The data was collected within one week and all fresh graduates currently doing house job were invited to participate in this study. Nonprobability purposive sampling technique was used to include all house officer available and willing. The dental practice management proforma was constructed after literature review. An already validated proforma testing knowledge related dental practice management for practicing dentist was modified as this survey is testing knowledge of non-practicing dentist (Gonzales et al., 2017). The proforma was sent to subject specialists who reviewed the proforma and made suggestions. This proforma is mix of statistically validated and expert validated contents. Before submission to IRB the proforma was reviewed by a faculty member. Institution Review board of FMH College of medicine and dentistry allowed to conduct this study. The final Dental practice management proforma consisted of three blocks, first block deal with initial practice plan, second block collected information on how dental practice management was taught to students and finally what was their current understanding related to the subject. An oral and maxillofacial surgery resident was trained to help the fresh

dental graduates. The graduates were requested to manually enter their desired options on above mentioned proforma. All current house officers were invited to participate in this study. Consent was taken prior to presenting the proforma and respondents were assured their anonymity would be maintained. The instructions were clearly mentioned for this survey. The dental graduate filled the proforma in approximately 15 minutes. The collected data was entered in SPSS version 20 and the variables were divided into various types. Descriptive statistics were recorded as frequencies. Ordinal data was used for the questions measuring graduate's confidence related to dental practice. The fresh graduate knowledge related was compared with their readiness to run practice management.

Results: This study was intended for determining student knowledge and behavior related to practice management. Results related to all three blocks were as follows: Fresh graduates were enthusiastic about their future plan. The current batch of house officers comprised of sixty-two fresh graduates and out of these forty-nine volunteered to fill this proforma and response rate was 79%. The current cohort consisted of thirty-seven (75.5%) female and six males (12.25%) fresh graduates and rest did not mention their gender. Forty-two (85.7%) graduates wanted to stay in touch with clinical jobs like working as associate dentist, continuing further studies or becoming a demonstrator. Seven (14.3%) graduates wanted to join nonclinical fields, switch profession or chosen to stay at home. Few graduates wrote down basis of their choices. If given the opportunity, forty-four (89.8%) graduates said they would join postgraduate program. Restorative dentistry was the first choice followed by oral & maxillofacial surgery, oral medicine and periodontics. Only five (10.2%) graduates wanted to join postgraduates' program in basic sciences. The summary of intended plan is given as table 1. The questions in second block were about how dental practice management was taught to them. According to twenty-eight graduates (57.1%), dental practice management was not formally taught to them, rest of twenty-one graduates said they were taught about dental practice management. Only nine (18.4%) fresh graduates could correctly tell that oral and maxillofacial surgery was assigned to teach practice management and is now included in oral surgery curriculum. Rest of the graduates did not know of the subject or they thought other clinical departments were assigned to teach dental practice management. Majority of graduates revealed that they were not taught how to develop curriculum vitae (77%) nor received career counseling during the course of their education (73.5%). Forty-four graduates (89.8%) wanted that additional time should be allocated to dental practice management teaching. The summary related to teaching block has been given in table 2.

Table 1: Intended plan after house job

Total (n) 49		Male= 6 (12.25%)	Female=37 (75.5%)	Missing =6 (12.25%)
Post house job plan		Clinical Job	No clinical job	
	1 st priority	42 (85.7%)	7 (14.3%)	
	2 nd priority	35 (71.4%)	5 (10.2%)	Missing=9 (18.4%)
	3 rd priority	35 (71.4%)	4 (8.2%)	Missing=10 (20.4%)
Post-graduation plan		Clinical related= 44 (89.8%)	Nonclinical related= 5 (10.2%)	
Start clinical practice	After house job= 22 (44.9%)	With post-graduation=7 (14.3%)	After a break=19 (38.8%)	Never open a clinic=1(2.0%)
Kind practice		Part time =17 (34.7%)	Full time= 31(63.3%)	Missing= 1(2.0%)
Type of practice		General =24 (49%)	Specialist =24 (49%)	Missing= 1(2.0%)
Prepared for practice	Yes= 18 (36.7%)	No= 1(42.9%)	Do not know =9(18.4%)	Missing =1(2.0%)
Practice Role model	Yes= 23 (46.9%)	No= 4 (8.1%)	Do not know =21 (42.9%)	Missing =1(2.0%)

Taught about dental practice management	Yes=21 (42.9%)	No=28 (57.1%)		
What subject has been assigned to teach dental practice management	Correctly answered by=9 (18.4%)	Incorrectly answered by= 20 (40.8%)	Correct answer but also assigned other= 17 (34.7%)	Missing= 3 (6.1%)
Trained to develop your curriculum vitae (CV)	Yes =7 (14.3%)	No=38 (77.5%)	Do not know=4 (8.2%)	
Formally career counseled during your education	Yes =12 (24.5%)	No=36 (73.5%)	Do not know =1(2.0%)	
More time should be allocated for teaching practice management in final year	Yes =44 (89.8%)	No=4 (8.2%)	Do not know =1 (2.0%)	

The third block checked knowledge of fresh dental graduates, related to dental practice management and if he or she wished to open a clinic. Graduates wanted to open practices in cities where they had studied or in large metropolitan cities. The most favored area were hospital complexes. Nineteen graduates (38.7%) wished to serve every class, but the most favored target population was upper and lower middle-class patients. Table 2: Teaching Blocks

Majority of fresh graduates (thirty-three, 67.3%) admitted they did not know the legal requirements for opening a clinic. The finance related matter clearly showed lack of knowledge related to this aspect. When compared, the fresh graduates who thought they were prepared with those who thought they were not prepared for dental practice financial aspect produced statistically significant result ($p = 0.04$). Most of the graduates did not know the factors that determine the cost of filling and none of the graduates knew how these factors are converted into formula. The investments required to open a clinic by fresh graduates were small yet about half of the graduates wanted to buy a cone beam computer tomography which currently costs around twenty-five million rupees. Most fresh graduates skipped answering

questions related to what initial staff they will be requiring running a practice and forty-four (89.8%) graduates gave incorrect identified vaccines required for dental ancillary staff. Fresh graduates did not feel confident in matters related to practice management. Twenty-five (51%) fresh graduates would like to hire a practice manager. The assessment of knowledge related to dental practice management has been summarized in table 3 & 4 **Discussion:** The first block collected data related to intention of fresh graduates. The intended plans of our fresh graduates are very different from dental graduates in Middle East (Rashid, Ghotane, Abufanas, & Gallagher, 2013), Saharan region (Mlangwa & Matiko, 2017) and North America (Nashleanas, McKernan, Kuthy, & Qian, 2014). Most of the fresh graduates wished to pursue clinical jobs. Fresh graduates wanted to work as associate dentist while pursuing post-graduation and work as demonstrators. The aspirations of fresh graduates are different as most graduates are female and are free of debt at the end of their education. If fresh graduates are allowed to pursue post-graduation, operative dentistry is preferred choice. This choice is in contrast to middle eastern and Saharan counties where students prefer to join orthodontics or oral maxillofacial residency program (Mlangwa & Matiko, 2017; Rashid et al., 2013).

Table 3: Knowledge related to practice management and comparison with preparedness for dental practice

Table. 3 Knowledge related to practice management and comparison with preparedness for dental practice							
Question related to practice management		Responses					P value
Do you wish to use practice management software?		Yes=19 (38.8%)		No=6 (12.2%)	DNK=24 (49.0%)		0.09
For how long you have to maintain patient's record for medicolegal reasons?	1 year =8 (16.3%)	2 years =2 (4.1%)	3 years =4 (8.2%)	4years =8 (16.3%)	5years =26 (53%)	Missing=1 (2.0%)	0.02
	Do you know the legal requirement to open a dental clinic?		Yes= 16 (32.7%)		No=33 (67.3%)		0.01
Have some knowhow of factors that will determine cost of a filling		Yes=22 (44.9%)		No=25 (51.0%)		Missing=2 (4.1%)	0.13
Correctly identified vaccinations required for dental ancillary staff?		Yes=4 (8.2%)		No=45 (91.8%)			0.55
Do you wish to hire a practice manager in future?		Yes =25 (51.0%)		No=10 (20.4%)	DNK=12 (24.5%)		Missing=2 (4.1%) 0.69

The majority of graduates want to start dental practice immediately after house job, but many want to take break after house job. Additionally, some graduates want to join dental practice as a part time job. This may be due to the fact that majority of respondents were female, and they have to fulfill family related responsibilities and professional activities take a back seat. This is also seen in female graduates in the middle east(Rashid et al., 2013). Dental graduates have been trained to become general dentists but most of them want to start specialist practice, which seems contradictory to earlier statement that they want to start practice immediately after house job. The majority of fresh graduates are not confident enough for dental practice management. This was the main outcome of this study and this may be related to lack of knowledge related to dental practice management (Qureshi et al., 2013). The preparedness of dental practice varies at graduation as found in this study. The graduates may think that preparedness to practice is working alone without any support but general dental council has defined that this means that working in healthcare team can also be taken as preparing for practice(Turner, Ross, & Ibbetson, 2012). Graduates when enter into practice they start as novice and gradually advance to expert level(Willis, 2009). Teachers have transferred knowledge; skill and attitude but fresh graduates have not been given outlook of dental practice management. The students have no knowledge about which subject is teaching them practice management. The revised curriculum has assigned this subject to oral surgery. Table of specification sent by University of Health Sciences does not include practice management for assessment(Tai-Seale, McGuire, & Zhang, 2007). When practice management knowledge was assessed it was less than what is required to run a practice. Fresh graduates admit that they do not know the legal requirement for opening a clinic. This lack of legal knowledge shows a gap in training of these fresh graduates. The finance related matter clearly showed lack of knowledge related to this aspect. It was very clear from response of dental graduates that they were not

prepared for dental practice. Hence, they thought that dental practice management should be taught, and more time should be allocated for teaching this subject. This result is in contrast to a study where majority of graduates are prepared for dental practice(Manakil, Rihani, & George, 2015).

Table 4: Dental practice preparedness compared with various aspects of dental practice

Question related to practice management	P value
How I classify my /or my staff's ability to retain patients:	0.847
Regarding the observation and respect to appointment times, I consider my punctuality to be	0.553
How do you rate your practice management and administrative knowledge?	0.849
How do you rate your marketing knowledge?	0.295
How do you rate your knowledge of the fixed and variable expenses related to your future Practice?	0.049
In my future practice I will consider use of caps, masks, gloves, safety glasses and apron; I evaluate my personal protection as:	0.014
In my future practice I will maintain the quality and organization of data; I consider my patient records maintenance skills to be:	0.768
Taking into consideration the above-mentioned factors, regarding my professional life, I consider that planning strategies to achieve my future goals is	0.089

The dental faculty should strive to produce good general dentist(Willis, 2009). Dental practice management is considered as a soft skill and competencies related to practice management have been suggested by American dental education association(Willis, 2009). The dental practice management is included in currently implemented curriculum (Bridges, 2014) and future curriculum iterative process includes practice management in their intended plan(McLoughlin, Zijlstra-Shaw, Davies, & Field, 2017). Here in Pakistan, the revised curriculum of Bachelor of Dental Surgery included competencies related to practice management that states general dentist should be

competent in matters related to practice management and also proposed to incorporate dental practice into fifth year of Bachelor of Dental Surgery. Yet the curriculum was silent how practice management will be taught, specific time allocation and assessment related to practice management was missing (Paudel & Sharma, 2014). So, competencies related to dental practice management would have remained to paper as they were in currently implemented curriculum. Moreover the suggested books in reading list do not address local needs and the future curriculum designer need to address this issue (Adnan). Dental practice management can be horizontally or vertically integrated into dentistry curriculum. Currently dental practice is taught a separate module during final year (Bridges, 2014), either in earlier years as definitive subject or as “selectives” (Goldstein, Lee, & Clark, 2018). In our context, dentistry related law can be introduced early in dental curriculum. Various topic related to dental practice may be distributed to various clinical subjects. However curriculum designer may include practice management as independent subject and it should be formally assessed as done in other countries (Bridges, 2014; Willis, 2009). The General Dental council has set an aim that learning outcome should set so that future dentist should be prepared to give utmost importance to patient safety and be able to run independent practice (work as part of dental and healthcare team) from day of their registration (Turner et al., 2012). Comparable aim should be incorporated to dental curriculum; practice management teaching may help them to become confident in their future practices. Conclusion: Fresh graduates may have gained knowledge and skill related to dentistry, but they have not been taught practice management which deals with putting this knowledge and skills into practice. There is no statistically significant difference in knowledge of graduate who think they are ready for private practice from those who think they are unprepared for private practice. Impact: The outcome of this can be that curricular designers may consider allocating time for teaching practice management. The impact will be that graduates may be better able to prepare themselves for private practice. Moreover, it was found that female fresh graduate wants to start practice after a break this may lead to greater loss of workforce. Limitation: This was a single institution study; the sample size was small and mostly respondent were female graduates. It is recommended that a multicenter study incorporating larger sample should be carried out. Thus, we will be able to develop better insight of problem. Recommendations: In future, the curriculum designer may consider incorporating practice management as separate subject and start teaching this subject early during degree program. Teaching practice management as part of other subject may have taken away emphasis on practice management and its discretion

of subject specialist whether to teach or assess knowledge related to practice management. It is required that governing bodies ensure that college implement curriculum changes as previously they missed the opportunity to teach practice management. Moreover, structure of house job need overhaul to better prepare graduates for challenges which they will face in their practice.

Notes on contributor: Dr Muhammad Imtiaz explored this idea, carried out necessary literature search. He modified the questionnaire, collected and analyzed the data and presented the results. He discussed results in light of available literature and drew conclusions based on results of this study. Dr Rehan Ahmed Khan supervised this research, and did final proof reading.

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Declaration of interest:

The authors report no conflict of interest.

Author’s contribution:

- Dr. Imtiaz Muhammad : Conception and design of the work; & the acquisition, analysis, & interpretation of data for the work
- Dr. Rehan Ahmed Khan : Critical Review and final approval of the version to be published

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