New dental graduates Satisfaction regarding acquired competencies during BDS course


Abstract
Objectives
To assess the level of job satisfaction during BDS course among the new dental graduates according to their views including existing barriers and ways of further improvement.

Materials and methods
This was a cross sectional type of descriptive study and was carried out for one year. In depth interview were performed using interview schedule among twenty new dental graduates those were very interested and willing to participate in this study.

Results
Among them 96 new graduates were passed from non-government and 55 in government dental colleges. Of them 53.3% were female and 46.7% were male. Satisfaction level on acquired competencies was not in desired level in Oral and maxillofacial surgery, orthodontics and some competencies in prosthodontics. Corresponding teacher, senior doctor and medical officer also by available patient and instrument and materials, good academic environment and good relation with teacher, causes much satisfaction. Main causes of dissatisfaction includes Less availability of the patients and instruments, lack of supervision and feedback in the clinical ward, insufficient practical classes and lack of competent instructors in all level.

Conclusion
New qualified dentists were more or less satisfied on their acquired competencies in most of the clinical areas. This may be due to having sufficient clinical exposure, experience and teaching time during their undergraduate course. There are several causes of satisfaction and so many causes of dissatisfaction. Co-operative and helpful teachers and senior doctors were very important issue for causing satisfaction. More teacher supervision and more patients for practice is recommended by them.

Key Words:

Introduction
Satisfaction is a well researched topic in both academic and non-academic settings. In academic settings, students’ satisfaction data helps colleges and universities to make their curriculum more responsive to the needs of a changing student body. It is well known that the most important product of educational institutions is qualified graduates. Students must understand the value of their education and be satisfied with their overall experience. Thus, satisfied students (with the curriculum) are likely to exert more effort in their educational studies by taking actions such as regularly attending their classes and becoming more involved in their coursework and institution. This suggests that while students’ satisfaction plays a particularly important role in improving student learning outcomes, it should not be perceived as the only factor that affects student’s performance. This is often achieved by the acquisition of knowledge, development of cognitive skills, interpersonal and clinical skills. Also described the development of personal qualities as an important part of achieving competencies. This study was planned to search the answer of the research question- What are the levels of satisfaction of newly passed dental graduates with their acquired competencies from their BDS course? With the objective to assess the level of satisfaction of the newly passed dental graduates of their acquired competencies from their BDS course the study was carried out.

Methodology
This was a cross sectional type of descriptive study and was carried out for one year in newly passed dental graduates of seven (07) dental outdoors of Dental College / unit and one
Dental pharmacology special emphasis was given to drugs used in dentistry for the treatment of dental diseases. It was found that majority of the graduates obtained sufficient competency in prescribing appropriate antibiotics for treatment and prevention of infections (77.8%). Proper knowledge regarding sterilization and disinfection is (64.4%) and in using local anesthesia (85.9%) of the doctors achieved sufficient competency. Another study done by Bovnes SG (2011) found that educational preparedness and perceive knowledge on local anesthesia related topics (local anesthesia administration, local anesthetic pharmacology and local anesthetic complications) is relatively higher, the results of this study were very similar with the results of the present study. Another study by Firmstone V. R, (2004) found regarding sterilization & cross infection, experience was at baseline.

Dental public health
In the present study it was found that majority of the newly passed graduates were satisfied with their acquired competencies in giving oral hygiene instructions(82.7%) which can control and prevent dental disease. But in the community and preventive program, which can reduce the incidence of oral disease in the community, only (40.3%) of newly passed graduates were satisfied with their acquired competency. Moreover, on promoting oral and systemic disease prevention, (43.6%) were not satisfied with their acquired competency. Majority of the graduates, who were satisfied with their competencies in giving oral hygiene instructions, easily acquired the competencies from their own hospital. On the other hand they need to go other places and areas from their hospital for achieving the competencies in community and preventive programs. There were less community based programs rather than hospital based programs although our BDS dental curriculum is focused on competency based and community based (BDS Curriculum, 2007). These may be a probable explanation why the majority of newly passed graduates were not satisfied with their acquired competencies in community and preventive programme.

Another study done by Eduardo Bernabé (2006) showed that dental graduates of the Faculty of Stomatology at the Universidad Peruana Cayetano Heredia perceived themselves more competent in performing some dental public health functions than others. Promotion of general and oral health through health education was the function with the highest self-perceived score. The elaboration of the socioeconomic-cultural diagnosis as well as the oral health diagnosis of the community, the implementation of preventive interventions, and the incorporation of dental practice into personal and community development were the functions with the second highest self-perceived score. The higher scores since the dental public health learning experiences put a higher emphasis on these activities at the undergraduate level. A study conducted by Widstrom E, Martinsson T, and Nilsson B (1988) for Swedish and Finis graduate it was found that, respondents felt most competent in preventive dentistry.
Periodontology and Oral pathology

Periodontology is that branch of dentistry which concern with diagnosis and treatment of diseases of the supporting structures of the teeth. In the present study it was found that majority of the graduates have acquired sufficient competencies on idea about the condition of the periodontium from their institutes regarding measurement of periodontal pocket (67.8%) and measurement of tooth mobility and furcation involvement of tooth (77%), diagnosis of plaque (94.6%) etc. Moreover, they have acquired competencies in non-surgical procedure for periodontal treatment (60%) that they need in their daily practice. Whereas, (38.1%) of the respondents were satisfied with the acquired competencies in management of common oral anomalies.

A study conducted by Darby IB et al. (2005)\textsuperscript{13} confirms that most graduates were confident to diagnose and treat gingivitis and initial periodontal disease. Another study done by Logan R, Baron J, and Swann c (2009)\textsuperscript{16} for evaluation of an oral pathology, found that they were very much positive in diagnosis, management and treatment planning in oral pathology. Relatively high confidence expressed in periodontal disease which was also reported by Wanigasooriya N (2004)\textsuperscript{17}. The results of these studies are very similar with the results of the present studies.

Prosthodontics

It is the branch of dentistry dealing with construction of artificial appliances designed to restore and maintain oral function by replacing missing teeth with removable or fixed prosthesis. One of the important steps for making prosthesis is taking impression of dentulous or edentulous jaw. The most commonly used impression material for dentulous jaw is alginate whereas impression compound is for edentulous jaw. In the present study it was seen that the newly passed dental graduates were satisfied with their acquired competencies in taking impression of dentulous jaw with alginate (94.7%) and making partial denture prosthesis (75.7%). On the other hand they were not satisfied with their acquired competencies in taking impression of an edentulous jaw (29.5%) and also making removable complete denture prosthesis (28.6%) for complete missing teeth restoration. Unavailability of patient, complicated impression technique, difficult manipulation of impression material and elaborate procedure are the probable explanation of the result. Several factors may contribute to such disparity. These include the ADEA finding that only 18.7% of graduating dental students felt well prepared in prosthodontics, the small number of accredited prosthodontics faculty, lack of an established mentorship program, lack of an advanced graduate program, misconception of the potential specialty income, and lastly, a strong correlation between the perception of the specialty and enjoyment of challenging/complex dentistry and laboratory work which are some of the fundamental components of the practice of prosthodontics. Another study conducted by Matilda Dhima Some (2012)\textsuperscript{18}, found that although 76% of the respondents enjoyed complicated dentistry, and 59% liked laboratory work, one-fourth of them were indifferent to the experiences they had with prosthodontics-trained faculty. Additionally, only 9% of the respondents perceived the details of the specialty of prosthodontics to be very well known.

Conservative dentistry and Endodontics

In the present study most respondent felt that they were satisfied with their acquired competencies in this subject from their institutes. They have achieved all the competencies in the management of dental caries (90.7%), restoration of teeth by direct and indirect materials and methods(89.2%), restoring endodontically treated teeth (86.3%), management of aesthetic problem with tooth defect (60.5%), management of pain of pulpul origin (92%), performing uncomplicated non-surgical anterior (89.3%) and posterior endodontic therapy (63.7), management of common (66.4%) and complex endodontic complications (38.5%) etc. Availability of the patient, personal interest of the graduates and more effort given by the teachers may explain why they have achieved most of the competencies in this subject. However, in the present study, it was seen that not all of the newly graduates were satisfied with their acquired competencies in performing hypersensitivity test (44.9%), management of complicated non-surgical (44.0%) and surgical endodontic therapy (20.7%). Unavailability of the patient and as most of the cases is treated by senior or post graduate doctors, the satisfaction with their acquired competencies were comparatively low in those selective cases.

A study conducted by Widstrom E, Martinsson T, and Nilsson B (1988)\textsuperscript{19} for Swedish and Finis graduate found that the respondents felt most competent in cariology. The results of this study were very similar with the results of the present study. Another study done by Gatley S. (2009)\textsuperscript{20} stated that the aim of dental schools to produce graduates competent in root canal treatment as well as endodontic treatment so that they will be able to define the qualities that make a student competent.A study was conducted by Gina Arena (2007)\textsuperscript{21} found that they were most confident with amalgam restorations and anterior endodontics, the results of this study were very similar with the results of the present study. Another study done by Lindemann R A and Jndrychowski J (2002)\textsuperscript{22} found that the students were more familial in esthetic restoration.

Dental radiology

Majority of the respondent were satisfied with their acquired competencies in interpreting finding in the intraoral x-ray (73.3%) and to identify x-ray film position of the tooth like upper and lower jaw and right or left of the X ray film (68.6%).

Oral and Maxillofacial Surgery

In the present study it was seen that majority of the newly passed dental graduates were satisfied with their acquired competencies in performing the non – surgical extraction of permanent erupted teeth (72%) and dealing with post
orthodontics in the present study was seen that more than 50% newly passed dental graduates were not satisfied with their acquired competencies in uncomplicated space analysis and maintenance, management of simple 48(33.3%) and complex malocclusion 55(36.9%) which is necessary to achieve proper mastication, normal occlusion as well as aesthetic by using a range of removable appliance. Lack of knowledge about how a treatment plan should carried out, lack of resources, scarcity of faculty, difficulty in obtaining ideal limited treatment patients and less effort given by the teachers may explain why they are not fully satisfied with their acquired competencies in this subject from their institute. However, their skill is limited on making some appliances like Adams, labial bow, spring former, palatal finger spring, self-supporting buccal spring and posterior bite plate etc. A similar study conducted by Widstrom E, Martinsson T, and Nilsson B (1988) for Swedish and Finis graduate found that the respondents felt less competent and they felt weakest in oral surgery. According to Patel J and Fox K (2006), surgical extraction of teeth is one of the areas that dental practitioners feel least prepared for by their undergraduate training. Another study conducted by Lindemann R A and Jrdrychowski J (2002) found that neither group showed improvement on third molar extraction skills which is also similar with the results of the present study. Honey J, Lynch CD, Burke FM and Gilmour ASM (2011) done a study in Oral surgery in Cork University, they found that the confidence level was very little in dental emergencies. A very similar result was found in the present study.

Orthodontics

In the present study, it was seen that more than 50% newly passed dental graduates were not satisfied with their acquired competencies in performing surgical extraction of permanent erupted teeth (45.5%) and impacted teeth (29.5%), management of dental emergencies that may occur during dental treatment (37.4%), diagnosis (36%) and management (17.3%) of TMJ dysfunctions, management, regarding management of intraoral hard and soft tissue lesion of traumatic (30%), non-traumatic origin (28.1%), management of intraoral soft tissue lesion of traumatic origin (20.8%), performing haemostatic agent application (31.5%), diagnosis (14.1%) and treatment (10%) of trigeminal neuralgia and management of facial paralysis (6.7%) etc. Very few of the newly passed graduates achieved competencies regarding management of the Salivary gland diseases 14(9.4%) Unavailability of the patient is the probable explanation why they were not satisfied with their acquired competencies in those cases. But may be another important probable cause was teacher and logistic support also. A study conducted by Widstrom E, Martinsson T, and Nilsson B (1988) for Swedish and Finis graduate found that the respondents felt less competent and they felt weakest in oral surgery. According to Patel J and Fox K (2006), surgical extraction of teeth is one of the areas that dental practitioners feel least prepared for by their undergraduate training. Another study conducted by Lindemann R A and Jrdrychowski J (2002) found that neither group showed improvement on third molar extraction skills which is also similar with the results of the present study. Honey J, Lynch CD, Burke FM and Gilmour ASM (2011) done a study in Oral surgery in Cork University, they found that the confidence level was very little in dental emergencies. A very similar result was found in the present study.
The opinion was more co-operative teacher, more patients to practice on, availability sterilized instruments and materials in the clinical ward, more number of medical officers in the OPD, increased logistic support and merging with modern dentistry. Practical classes were one of the important factor for achieving competency, no political attachments of students or students politics, development or improvements of OPD and prosthetic lab, maintain of logbook properly, more community based programme and also good educational environment on required to achieved those competencies.

After qualitative and quantitative analysis there were some similarities in some of the subject with fewer competencies. In Oral and Maxillofacial surgery and Orthodontics the respondent the respondent felt less satisfied from their competencies. And the rest of the subjects with competencies the graduates felt satisfied with their achieved level.

**Limitations of the study**
This study was conducted only in the dental and dental units of medical colleges and university of Dhaka city due to financial constraints, so the result do not represent the opinion of all dental graduates of Bangladesh.

The study population was selected conveniently which also reduce the representativeness of the findings. If they were selected randomly it would be big job to establish communication with all the selected graduates and there were chance that all of them might not agree to participate in the study.

Some of the respondents were busy with their professional work. They did not give enough time to response in the questionnaires.

During in depth interview most of the doctors were unwilling to spent sufficient time. These might introduce inaccurate data.

Due to the unfamiliarity of these educational issues in some cases doctors might response inaccurately.

**Conclusion**
From this study the respondents reported that they have acquired greater practical experiences in few disciplines during working with patients in their course. The majority of graduates were satisfied on their acquired competencies in basic subjects but the level of satisfaction was relatively low in clinical subjects in their BDS course. This was due to the help acquired from the corresponding teachers, senior doctors and medical officers and also by available patient, instrument and materials. Furthermore, the respondents desired to acquire more skills in orthodontics, oral surgery and prosthodontics. According to their opinion, less availability of the patients and instruments, lack of supervision and feedback in the clinical ward, insufficient practical classes and lack of competent instructors in all level are the responsible factors and moreover they need a structured and systematic intern period, so that the graduates were not satisfied at desired level in many of the desired competencies.

**References**


