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DENTAL EMERGENCY RESIDENCY PROGRAM

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ABSTRACT

Dental Emergency by definition is a specialized field of study which deals with acute emergent and urgent dental conditions, as well as dental trauma. Most emergency physicians and dentists face dental emergency cases, yet may feel uncomfortable due to inability to adequately deal with the patient as whole, emergency practitioners may lack certain dental related skills, and dentists may not be able to handle the other related medical conditions that the patient suffers from, this poses a management dilemma plus the fact that the emergency rooms in emergency department usually not equipped to treat dental emergency patients. So, as a way of bridging the gap, we proposed in this thesis a residency program which offers either specialist an opportunity to merge both fields into one, creating a more holistic and collaborative approach to patient care. Since the stated educational program is a residency geared toward specialty training and is a subdivision of emergency medicine, clinical dentistry and oral maxillofacial surgery, the theme implements an integrated, objective and competency- based curriculum. The main educational goal is to develop the required knowledge and skills for practical application and to act as a consultant in clinical cases related to the field of emergency dentistry. As a planned educational activity, curriculum implements an objective, competency-based approach, with competency defined as: the blend of skills, abilities, and knowledge needed to perform a specific task. Educational activities are divided into blocks or cycles organized according to the clinical rotations and distributed throughout the three years training period. Each resident is also required to complete a research project for publication as a pre requisite for graduation.

KEYWORDS: Dental Trauma, Dental Emergency, oral maxillofacial surgery, competency.

INTRODUCTION

Dental Emergency by definition is a specialized field of study which deals with acute emergent and urgent dental conditions, as well as dental trauma. Allowing either advanced general dentist or general dental practitioners or graduates from medical colleges to obtain a more grounded understanding when dealing with such unique patients.[1]

It is well known that although the number of emergency visits that are related to dental or oral maxillofacial trauma is relatively low as compared t other more commonly encountered problems, failure to recognize and adequately treat such conditions results in significant morbidity with a high cost of care (The American college of Emergency Physicians. www.acep.org).[2]

Most emergency physicians and dentist face such cases, yet may feel uncomfortable due to inability to adequately deal with the patient as whole, emergency practitioners may lack certain dental related skills, and dentists may not be able to handle the other related medical conditions that the patient suffers from, this poses a management dilemma. As a way of bridging the gap this residency program offers either specialist an opportunity to merge both fields into one, creating a more holistic and collaborative approach to patient care.[3,4]

In this thesis we will introduce the proposal to establish new program under the title of, Dental Emergency. Dental Emergency by definition is a specialized field of study which deals with acute emergent and urgent dental conditions, as well as dental trauma.

Since the stated educational program is as residency geared toward specialty training and is a subdivision of emergency medicine, clinical dentistry and oral maxillofacial surgery, the theme implements an integrated, objective and competency- based curriculum. The main educational goal is to develop the required knowledge and skills for practical application and act as a consultant in clinical cases related to the field of dental emergency.[5]

Teaching Strategy

Problem based learning

Knowledge in the medical field changes so rapidly that by the time student's graduate, many are already behind in the latest medical knowledge. Therefore, our curriculum is based on a teaching strategy that would encourage self-direct learning, developing high-level of intellectual abilities, and integrating knowledge and skills. PBL is a didactic strategy in which

the students, organized into groups, develop projects geared towards the desired goals (Chang, 2010).

It is a student-centered instructional strategy in which students collaboratively solve problems and reflect on their experiences. PBL is based on the educational theories of Vygotsky, Dewey, and others, and is related to social-cultural and constructivist theories of learning and instructional design (Lepinski, 2010).

TEACHING METHODS

Lecture/ Discussion

It is an oral presentation used to teach a particular subject. A simple lecture does not allow students to interact with the lecturer. Yet, a lecture/discussion method allows the teacher and his students to interact throughout the lecture. In another words this method may also be referred to as a large group discussion. Hence, this method would require the use of different instructional aides similar to the lecture only method (Sajjad).

Brainstorming

It is a teaching technique in which a teacher elicits a number of responses for a problem that is to be solved. In this technique, there may be more than one correct answer so students can be spontaneous. The teacher can write all student answers and response on the board (Instructional Methods Information, 2010).

Debate

This teaching technique presents an issue to the class and students must take a side toward problem or issue. This debate can be used with whole class or it can be used with small groups in the class (Judy McKimm, 2007).

Cooperative Learning

Cooperative learning is a technique by which students work together toward a common goal. A task may be presented to the class. The class may be divided into small buzz groups that will work together to come to a conclusion on particular problem (Judy McKimm, 2007).

Clinical Rotation

Students are going to perform their clinical rotation through the whole two year program, in which the graduate student will be assigned to the Division of Oral & Maxillofacial Surgery in the affiliated institution. Every student wil attend, assist or operate during their clinical

sessions, operating room sessions and ward-rounds. The goal of this rotation is to expose the student to different surgical procedures such as extraction, biopsy, frenectomy, releasing tongue-tie, etc.

Students Presentations

Student presentations are individual attempts at providing the class with information about a health topic that has been researched in-depth. It may be in the form of oral reports or any other form in which information is conveyed (Sajjad).

Case Study

The students are presented with a record set of circumstances based on actual event or an imaginary situation and they are asked: to diagnose the problem, provide solutions, give justification to those solutions and how to apply them. This method is basically used to develop critical thinking and problem-solving skills, as well as to prevent students with real-life situations (Judy McKimm, 2007).

Assignment Method

Written assignments help in organization of knowledge, assimilation of facts and better preparation of examinations. It emphasizes on individual pupil work and the method that helps both teaching and learning processes (Sajjad).

Curriculum Implementation and Management

All residency program related activities and training takes place in a tertiary hospital teaching unit under the supervision of the program director, through whom all educational and clinical commitments are coordinated. Clinical rotations are supervised by the perspective advisor of the department the fellow is rotating in. The resident will also be supervised by senior board certified staff members and will also be responsible for guiding interns and other junior related trainees.

Below is a general lay-out of the basic curriculum Implementation Structure

Rotation	Duration	Cycle theme	Training facility	Training Supervisor
Emergency Medicine	9 months	Basic concepts in Emergency medicine	Affiliated Teaching Hospital Community Health	Emergency Medicine Program Director

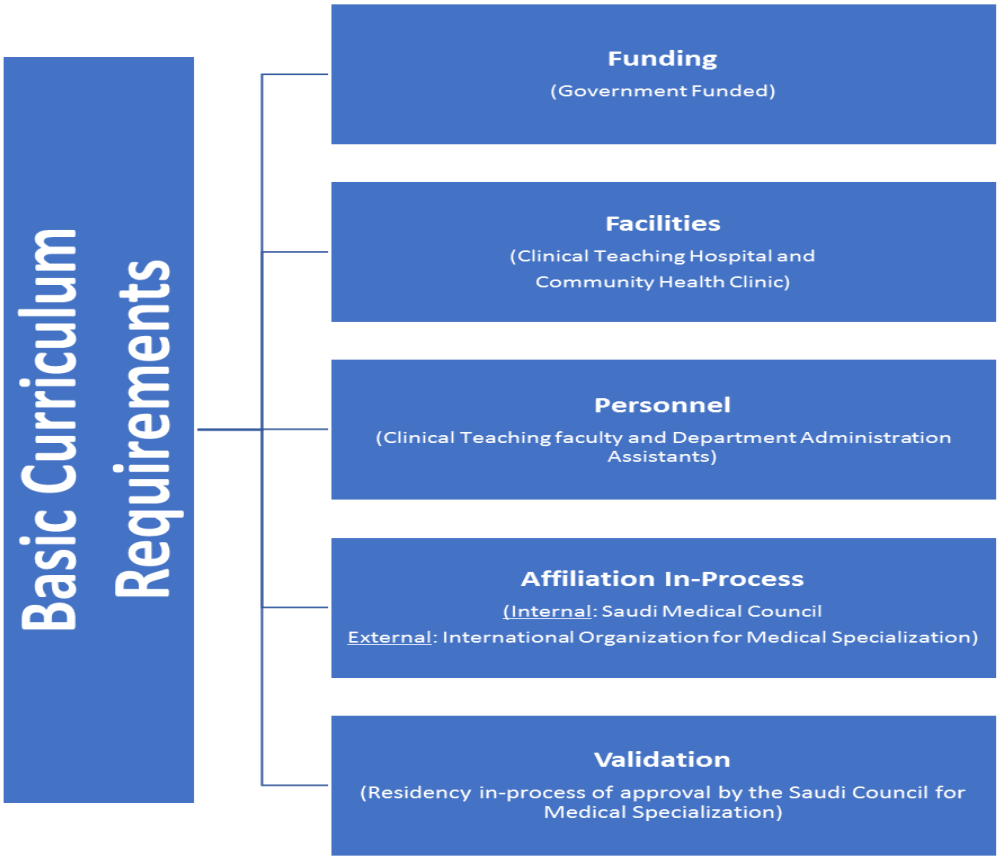
			Emergency Clinic	
Adult Maxillofacial Surgery	8 months	Dental Emergencies and Trauma + An introduction to oral Maxillofacial Surgery	Affiliated Teaching Hospital Community Health Emergency Clinic	Adult Oral Maxillofacial Program Director
Pediatric Oral Maxillofacial Surgery	6 months	Basic and Advanced Pediatric Dental Emergencies and Trauma + An introduction to Pediatric Oral Maxillofacial Surgery	Affiliated teaching Hospital Community Health Emergency Clinic	Pediatric Oral Maxillofacial program Director.
Advanced General Dentistry	3 months	Advanced General Dentistry	Affiliated Teaching Hospital (Dental Clinics)	AGD Program Director
Internal Medicine	3 months	Basic and Advanced Internal Medicine courses	Affiliated Teaching Hospital Community Health Clinic	Internal Medicine Program Director
Anesthesia	2months	Regional and General Anesthesia and IV Sedation.	Affiliated Teaching Hospital	Anesthesia Program Director
Elective	1month	Clinical rotation selected with input from fellowship program director.	Affiliated Teaching Hospital	Fellowship Program Director
Research	4 months	Project selected for the purpose of providing a basic understanding of evidence-based medicine concepts + Providing a literary publication for graduation.	Affiliated Teaching Hospital Research Center Other: Depends on activities provided, e.g. Journal club and evidence-based activities.	Fellowship Research Coordinator

***Note**

✓ All activities are coordinated through the residency program director.

- ✓ Community related work is included within the rotations and arranged by the corresponding block advisor.
- ✓ Residents should be released from clinical duties during the specified academic day, which is twice a week.

Curriculum Key Components



DISCUSSION

Why Dental Emergency? Because of the increasing number of the dental emergency cases presenting to emergency facilities and the limited availability of practitioners to deal with some of the unique case presentations.

The idea of developing this curriculum stems from the fact that patients require combined acute care when presenting at the emergency department, and this should be offered by professional knowledgeable in dealing with emergent dental conditions adequately. Usually, the dental department assigned general dentist to cover the dental emergency cases, as well as a maxillofacial division assigned one of their resident to cover the emergency cases that comes to emergency department from maxillofacial point of view.[9]

But, there is a shadow area that lack converges among these two specialists, which usually does not take what it deserve as emergency case. Clear example of this condition, acute dental pain (Acute Pulpitis) which commonly comes to emergency department. This condition to be treated by the dentist will require a dental chair in emergency department to do proper root canal treatment (Pulp extirpation and temporary filling), and this is usually not offered by emergency department. So, the patient will be given analgesic and sent to the dental department and the second days to take the nearest possible appointment which usually takes from few days to few months.

For the same scenario, the maxillofacial surgery resident cannot handle this patient, because there is no scope of his specialty, at the same time the emergency physician has no clue what to do with these cases due to lack of knowledge in dental field.[11]

So, clearly we can see a lot of similar dental cases (Like minor dental trauma, small peri-apical abscess and so on) that comes to emergency department and do not take proper management due to the following reasons:

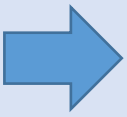
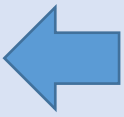
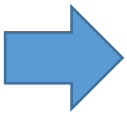
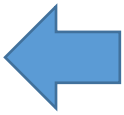
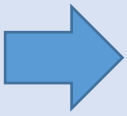
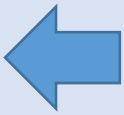
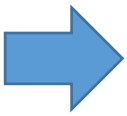
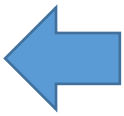
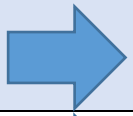
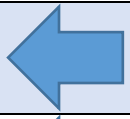
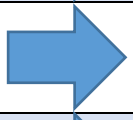
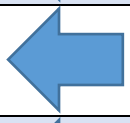
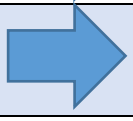
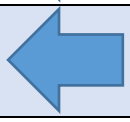
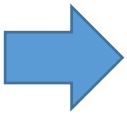
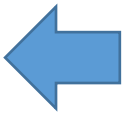
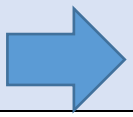
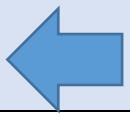
1. Lack of logistic support at emergency department, i.e., well equipped dental clinic.
2. Lack of assigned specialist at emergency department who is trained to deal with these cases and has well dental and medical background.
3. Those cases have not been addressed well by other specialties (dental, Maxillofacial, Emergency Medicine).
4. Lack of integration between the dental and emergency departments interim of addressing these cases.
5. The increase number of population which has not been supported by enough dental services.
6. The lack of preventive medicine and awareness among the community that might help decrease the number of emergency cases.

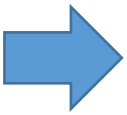
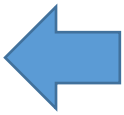
This situation guided us to propose a new specialty (Dental Emergency) that fills up this gap and reflect a response to the real need in patient care and improve the co-operation between the dental and emergency department.

Force Field analysis is a simple but powerful technique for building an understanding of the forces that will drive and resist a proposed change. It consists of a two column form, with driving forces listed in the first column, and restraining forces in the second. The field diagram was derived from the work of social psychologist Kurt Lewin. According to Lewin's

theory, human behavior is caused by forces- beliefs, expectations, cultural norms, and the like – within the "Life Space" of an individual or society. These forces can be positive, urging us toward a behavior, or negative, propelling us away from a behavior. A force field diagram potrays these driving forces and restraining forces that affect a central question or problem. A field diagram can be used to compare any kind of opposites, actions and consequences, different points of view, and so on. (Force Field Analysis, 2011).

Force Analysis diagram is as follows:

S. No.	DRIVING FORCES			RESTRAINING FORCES
1	The patient's clinical need for the services that offered by this program products			The lack in the education system, where the postgraduate studies did not address this issue.
2	The overload of the emergency walk-in visit on the booked out-patient clinic			The efficiency in the out-patient booking system improvement, when each patient served properly in planed amount of time
3	The frustration that usually felt by the ER physician as well as the patient when come with these complains			The Level of patient satisfaction when he has been served promptly
4	The need for co-ordination and integration between the departments of the hospital to optimize the patient care level.			The lack of the integration between the dental and emergency department
5	The excess in the applicants for postgraduate studies.			Unavailable posts for scholarship
6	The strategic plan that pinpoint the patients need and plan for a solution			Lack in the strategic planning
7	The economy growth is booming due to increase in national income			The availability of fund for this program (salaries, equipment, facilities, so on)
8	The presence of local licensing and accreditation organization (Saudi Health Specialties Commission)			Legislative procedure which might prevent presence of this specialty
9	The increase in level of awareness among the medical specialties of			Objections which might be raised by some dental specialties like advanced

	integration rather than competition			general dentistry and maxillofacial surgery, due to conflict of interest in cases coverage
10	The availability of different specialties which have their own teachers, facilitate the process of teaching			Since this program considered new specialty, it give a feeling of ambiguity among the teachers
Results				

From the above diagram we can see clearly that there is a balance between forces. Since each one of it has the opposite direction. But the need always wins the situation. And we should remember the saying: "Need is the mother of invention".

The need for this new specialty is growing in parallel with increase in number of dental emergency visits to the emergency department. So our proposal considered to be the new born of this program horizon.

CONCLUSION

We reached to the end of this proposal, where we discussed the need for our community to the new program (Dental Emergency Residency Program) based on the methods mentioned in the article. As well, we have written the components of the curriculum for this program, and explained the academic and didactic components, teaching strategy and methods and assessment methods.

But, we feel at the end of our proposal that further assessment for our community health need in regard to this program is recommended in further study.

A Health Needs Assessment (HNA) is a systematic method of identifying unmet health and health care needs of a population and making changes to meet those unmet needs. It provides information:

1. To improve health
2. For service planning
3. For priority setting and
4. For policy development

We suggest using the three ways to conduct the Health Assessment (Comparative, Corporate, and Epidemiological) to give more reliable justification to the authorizing agency for this

proposed program. We suggested a sample of open ended questionnaire with the related health specialties (Advanced General Dentistry, Oral Maxillofacial Surgery, Emergency Medicine, and Pedodontist).

Since that, the Saudi Health Commission for health specialties is the authorizing agency for such program; we read their conditions for application for such program.

WE knew it is not an easy process to complete this mission, but the thousand mile road start with one step.

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