The Influence of Dentist’s Knowledge on the Quality of Oral Health Care Giving to Disabled Patients in Saudi Arabia (AL-Qassim Province as a Pilot Study)

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Received October 20, 2018; Revised November 01, 2018; Accepted December 03, 2018

Abstract  Objective: The aim of this study is to examine the relationship between dentist knowledge toward disability and the quality of dental care provided to disabled patients. Methods: This Cross sectional pilot study used a descriptive analytic method by using a survey and test the hypothesis. The study sample was recruited from dentists working and studying in al Qassim Region SAUDI ARABIA. A questionnaire survey was designed to find out the opinions of dentists concerning disabled patients, submitted to dentists and students in al Qassim region. The form was filled by approximately 100 dentists and 60 students. The questionnaire was distributed randomly, excluding dentists interested in disabled patients. The SPSS program was used to analyse the collected data. Results: Approximately 95% of the dentists think that the lack of required dentistry academic subjects regarding to disability affect the quality of oral health care of disabled patients. And approximately 90% of the students think that the lack of required dentistry academic subjects regarding to disability affect the quality of oral health care of disabled patients. The majority of doctors agree that the Absence of elective academic subjects concerning disability leads to misunderstanding to the treatment needs. Additionally, the study results showed that Mental (45%) and physical (44%) disabilities shown to be the most treated cases by dentists, however, psychological disabilities cases (3%) were reported as treated cases, as well as social disabilities cases (1%). The rest 7% of cases were reported as all kinds of disabilities. Conclusions: This research highlight that knowledge and communication skills can make dentists and dental students more willing to provide a high-quality oral health care to disabled patients and to reduce the difficulty of treating them.

Keywords: dentists, knowledge, quality, oral health care giving, disabled, patients

Cite This Article: Faisal Saad Al-Harbi, and Daij Hussain Al-Daiji, “The Influence of Dentist’S Knowledge on the Quality of Oral Health Care Giving to Disabled Patients in Saudi Arabia. (AL-Qassim Province as a Pilot Study)” International Journal of Dental Sciences and Research, vol. 6, no. 6 (2018): 148-154. doi: 10.12691/ijdsr-6-6-2.

1. Introduction

“It is ideal to believe that everyone in this country should have regular oral health care; however, the reality is very different, especially for the disabled. There are several reasons why this is the case.”

What is disability?

Disability implies: the failure to work in typical or normal way [1]. The Americans with Disabilities Act (ADA) of 1992 characterizes an incapacity or disability "as a physical or mental impairment that generally restricts at least one noteworthy life exercises, for example, thinking about one's self, performing manual errands, strolling, seeing, hearing, talking, breathing, learning and working." Several conditions that may enable one to qualify as disabled are orthopedic, visual, discourse and hearing debilitations, cerebral paralysis, solid dystrophy, numerous sclerosis, mental impediment, and particular learning inabilities. More subtle debilitations incorporate epilepsy, tumor, coronary illness, diabetes, enthusiastic sickness, tranquilize compulsion, and liquor abuse. Formative incapacities happen amid the period when most body frameworks of a tyke are creating before birth, during childbirth or before the age of 22 years and generally endure forever.

Those with formative incapacities regularly have a few impedances and may have confinements in learning, correspondence and living freely. Cerebral paralysis and mental hindrance are precedents of formative incapacities. Gained incapacities are the consequence of infection, injury or damage to the body and incorporate spinal string loss of motion, appendage removal and joint inflammation. The two classifications of incapacities may require the guide of a parental." The Commission on Dental Accreditation (CODA), a part of the ADA in charge of setting the benchmarks for dental instruction, characterizes extraordinary requirements patients as "those patients whose restorative,
physical, mental, or social circumstances make it important to change ordinary dental schedules so as to give dental treatment to that person [2].

As indicated by the World Health Organization gauges, people with disabilities involve 10% of the populace in created nations and 12% of that in creating nations [3]. The number of inhabitants in Saudi Arabia is expanding quickly, and obviously the quantity of people with extensive variety of extraordinary social insurance needs. Last measurements demonstrate that around 8% of the populace in Saudi Arabia have some sort of inability [4].

The quantity of crippled in the Kingdom has achieved 720,000, around 4 percent of the Saudi populace, as per the Social Affairs delegate in Madinah. The service spends an aggregate sum of about SR 1.6 billion every year to support the incapacitated. Those restored at all focuses in the nation number 11,645° [5].

Current arrangements for disabled individuals in Saudi Arabia and general states of mind about their issues are altogether different from most Western nations. The administration and its laws do offer a few administrations and assurance (principally for Saudi nationals with physical abilities) concerning availability, convenience and combination of individuals with incapacities into all segments of life (counting instruction, work, transportation and medicinal consideration). Be that as it may, there is no enactment disallowing victimization disabled individuals or directing the arrangement of access. The Saudi government is intending to offer private managers motivations to contract 100,000 crippled individuals, as indicated by nearby media. Around 183,000 impaired Saudis are enrolled as searching for work in the nation and around 100,000 of them were fit for working on the off chance that they were given appropriate preparing and direction, a counsel to the Ministry of Labor said. Many had secondary school and college instruction.

While in Islam the word 'disability' was said in the Qur'an or Hadiths (religious writings of Islam), in an immediate and backhanded way. Too, the idea of Muslims having ineptitudes or unique needs and how they interfaced in the public eye can be found since the commencement of Islam. The conviction of Muslims is that people are made with various capacities and abilities with the goal for a Muslim to center around their capacities and show thankfulness as opposed to center around the incapacity. "A Muslim has the privilege to enhance the circumstance of their disability through petition, medicinal, educational and backing assets." [6]. All in all, Muslim consideration suppliers want to stay with the person in need consistently and like to have exercises that include the entire family.

For some reasons, these classifications of individuals do not get enough and legitimate dental consideration, even individuals with mental hindrance and other formative incapacities are such a low need. Studies have demonstrated that individuals with disabilities have poorer oral wellbeing than the all-inclusive community [7].

Dentists are not constantly capable or willing to consider patients whom they view as troublesome. Again, and again patients are named as requiring "Extraordinary need" when actually this implies common needs are not frequently being met [8].

Before, people with extreme incapacity were regularly ignored by the dental calling on the grounds that of: (a) an absence of essential information in regards to the patient and fitting physical and/or mental administrations, (b) absence of experience, (c) accepted interruption of office schedule, (d) assumed requirement for unique offices and types of gear. Furthermore, (e) lacking pay for increment time inclusion in treatment. Waldman, 2002° But after 50 of experience, said Waldman: why is dental care for people with mental retardation and other developmental disabilities (MR/DD) especially still such a continuing low priority? May be because these concerns continue, but with added signification. Waldman, 2002° [9].

Dental screening checks and oral consideration preparing for individuals with unique needs ought to be made effortlessly and accessible. Care designs ought to incorporate tooth-brushing and dietary issues for all customers who have their very own characteristic teeth. There are huge preparing issues for dental specialists ought to be investigated to create individual aptitudes in complete correspondence, disability mindfulness and states of mind which esteem individuals with inability. The issue is as yet unrecognized to give the best possible dental consideration to persistent with incapacity. In a Turkish report distributed in the British diary of formative disabilities [10], demonstrates that 40% of the dental specialists in turkey feel the requirement for a specialized curriculum in regards to individuals with incapacity while just 17% trust this to be a pro field.

In Kingdom of Saudi Arabia, extremely restricted research has been led on the pervasiveness and rate of inability, and the greater part of them were on crippled kids [11] was done to pull in consideration identified with this issue. Alhammad NS, Wyne AH 2010, study presumed that the caries experience of cerebral paralysis kids in Riyadh is high, and that not very many of these kids have great oral cleanliness [12]. Al-Qahtani Z, Wyne AH 2004, study demonstrates that Caries predominance and seriousness in gatherings of female youngsters with inability were high, and the quantity of kids with great oral cleanliness was low [13].

In 1957, a course of concentrate in dental consideration for crippled youngsters was moderately new to the dental school educational modules, it was not viewed as a basic piece of dental school educational programs even as of late as mid-1970s. In 1979 National Conference on Dental Care for Handi-topped Americans recognized that "one of the major neglected wellbeing needs in the United States is satisfactory dental consideration for the incapacitated." And considerably more as of late, a 1999 article in Special Care in Dentistry noticed that "people with disabilities require extensive dental administrations and not simply lip service. In December 2005 "the general dental chamber of extraordinary Britain endorsed, on a basic level, the foundation of a claim to fame of (uncommon consideration dentistry).

While the Curriculum foundation in 1993, the Academy of Dentistry for Persons with Disabilities lined up the pilot ventures with an overview of all U.S. what's more, Canadian dental schools to decide the measure of educational modules time gave to the consideration of patients with extraordinary necessities. The normal number of address hours committed to the dental administration of people with disabilities in a run of the mill four-year educational modules was 12.9 hours, and fourteen schools detailed less than five long periods of time. The normal clinical
guidance per understudy was 17.5 hours. Thirty-two schools revealed less than ten hours in the educational modules (or five patient appointments).

In 1999, a second follow-up study demonstrated a real diminishing in the time spent by undergraduates in the instructive and clinical periods of consideration for patients with uncommon necessities. Fifty-three percent of dental schools announced that they gave less than five long periods of educational preparing in exceptional consideration dentistry. Clinical guidance being taken care of by patients with unique needs comprised 0 to 5 percent of a pre-doctoral understudy's chance in 73 percent of the reacting dental schools. "The consequences of these two investigations plainly show that, amid their pre-doctoral instruction, current dental school graduates do not pick up the vital aptitude to treat the exceptional needs patient." And the inquiry will in any case remain; are dental schools enough setting up their graduates for the truth that there are a large number of grown-ups are suffering from extreme incapacities and they require oral medicinal services. In Saudi Arabia "There were no structured dental teaching programs and courses, or even a specific lecture for the undergraduate dental students in any of the schools, to ensure adequate preparation during the basic science foundation and clinical experiences to provide dental care for children with special needs" [14]. Number of dental universities in Saudi Arabia is expanding, and additionally number of patients with inability, In Qassim area alone there are four dental schools, would that be able to ensure that the nature of oral recuperate.

The aim of this study is to examine the relationship between dentist knowledge toward disability and the quality of dental care provided to disabled patients.

2. Materials and Methods

2.1. Study Design

Cross sectional pilot study, descriptive analytic method by using a survey and test the hypothesis.

2.1.2. Population of the Study

The sample was recruited from dentists working and studying in al Qassim Region SAUDI ARABIA.

2.1.3. Study Instruments

A questionnaire survey was designed to find out the opinions of dentists concerning disabled patients, submitted to dentists and students in al Qassim region.

Based on a Turkish study (The evaluation of the approach of Turkish dentists to oral health of disabled patients: a pilot study) which was submitted by Gazi University, Faculty of Dentistry, Department of Pediatric Dentistry and approved by the Turkish Dental Association was presented to the dentists attending two Expo Dental Symposia and Exhibition organizations which were held in 1999, the questionnaire was designed.

The form was filled by approximately 100 dentists and 60 students. The questionnaire was distributed randomly, excluding dentists interested in disabled patients.

Nineteen questions were presented in the questionnaire. Eight of the questionnaires filled by dentists were rejected because they were not fully completed, while 5 of the filled questionnaires by students were rejected because they were not fully completed. Questionnaires were totally collected at the late of 2015.

Hospitals and universities which took part in this study are in the following list

Dentists and students who participated in the study either work or study in the following institutions:

1. Dental departments in (hospitals or private clinics):
   Al Rass Hospital, king Fahad specialist Hospital,
   Buriadah Central hospital, Bukiria Hospital.
2. Private clinics: Al Etni private dental center, Al Sharq private dental center, el Raqia private dental center.
3. Dental schools: Al Qassim university and Al Qassim Private colleges.

2.2. Methodology

A Cross sectional pilot, descriptive analytic method by using a survey and test the hypothesis was followed. A Questionnaire was designed based on another Turkish research (The evaluation of the approach of Turkish dentists to oral health of disabled patients: a pilot study) and modified in order to meet objectives of our research. Statistical method followed was based on using Microsoft Excel 2010 in analysis and Fisher's Exact Test to measure the validity and reliability.

2.2.1. The Sample

One hundred dentists were randomly chosen from all categories of dentistry working in al Qassim region, in addition to 60 students in their fourth, fifth or internship year.

Inclusion criteria
- Dentists from all categories working in dental colleges, main hospitals, main PHC's and private dental clinics.
- Students in their fifth, fourth or internship year in al Qassim region.

Exclusion criteria
- First-, second- and third-year students in dental schools were excluded from the sample due to lack of theory and practical exposure.

2.2.2. Ethical Approval

The ethical approve was accepted from Al Qassim university college of dentistry.

3. Results and Observations

3.1. Section 1: General Information

3.1.1. Distribution of Population

In the present study, a total of 100 individuals, 100 dentists working in Al Qassim region health affairs (hospitals and dispensaries) and as lecturers in dentistry colleges in the region, and 60 dentistry students studying in the three main colleges of dentistry in al Qassim region, only fourth, fifth grade and internship students selected for this study (practical years).
A questionnaire was designed to find the opinions and influence of their knowledge and practice on the oral health care giving to disabled patients.

Phone calls to deans or vise deans in AL Qassim region: regarding structural programs of dentistry.

3.1.2. Sample Characteristics

The sample consisted of dentists and students. A percentage of 65% of the dentists were males while 35% were females. On the other hand, most of the students were females. Only 5% of the students were non-Saudi and the rest of them were Saudi, in contrast to dentists who had a percentage of only 7% Saudi dentists and he rest of the sample was non-Saudi.

Specialties of dentists involved in the survey were 11 on number, 18% were prosthodontics, 17% were general practitioners, 7% were endodontics, 4% were oral pathologist and periodontists, 8% were orthodontics, 10% were endodontist, 5% maxillofacial surgeons, 2% operative dentists and 3% oral radiologist.

While students participated in the survey varied in their academic level. A percentage of 44% of the students were in the fourth year, 36% of them were in fifth year and 20% were in their internship level.

3.2. Section 2: Knowledge

Table 1 is presenting data collected from this section and based on the results displayed in this table the results are summarized below.

| Question                                                                 | Students Opinion* | Dentists Opinion* |
|--------------------------------------------------------------------------|-------------------|-------------------|
|                                                                          | Strongly Agree    | Agree             | Undecided | Strongly Disagree | Disagree | Strongly Agree | Agree             | Undecided | Strongly Disagree | Disagree |
| lack of required dentistry academic subjects regarding disability will affect the quality of oral health care of disabled patients? | 19%               | 25%               | 6%        | 2%                | 3%       | 44%             | 39%               | 3%        | 4%                | 0%       |
| Absence of elective academic subjects concerning disability leads to misunderstanding to the treatment needs. | 22%               | 29%               | 7%        | 2%                | 4%       | 39%             | 47%               | 3%        | 4%                | 0%       |
| Having sufficient academic hours in regarding to the disability helped me to treat disabled patients in my dental practice? | 14%               | 15%               | 16%       | 8%                | 2%       | 29%             | 38%               | 5%        | 10%               | 1%       |
| The availability of frequent internal courses will improve the quality of treatment needs for disabled patient? | 17%               | 27%               | 5%        | 4%                | 1%       | 46%             | 42%               | 4%        | 0%                | 0%       |
| Taking an international dental treatment courses for people with disabilities will improve the quality of oral health care giving to them? | 13%               | 28%               | 9%        | 1%                | 1%       | 25%             | 47%               | 10%       | 7%                | 0%       |
| The need of essential pre-graduate dental courses concerning disability will help me improve the quality of oral health care giving to disabled patients. | 21%               | 23%               | 3%        | 4%                | 1%       | 30%             | 56%               | 6%        | 0%                | 0%       |
| Post-graduate workshops concerning disability are important to help me relief their treatment needs. | 21%               | 23%               | 3%        | 4%                | 1%       | 33%             | 47%               | 9%        | 1%                | 0%       |
| Reading articles online regarding disability will help me improve my experience towards disabled patients. | 12%               | 25%               | 12%       | 3%                | 1%       | 32%             | 51%               | 2%        | 1%                | 0%       |
### Table 1: Students and Dentists Opinion on Lack of Disability Programs in Dental Curriculums

| Question                                                                 | Students Opinion* | Dentists Opinion* |
|-------------------------------------------------------------------------|-------------------|-------------------|
| Lack of publications and books concerning disability in your region,   | Strongly Agree    | Strongly Agree    |
| will affect the quality of oral health care giving to them              | Agree             | Agree             |
|                                                                          | Undecided         | Undecided         |
|                                                                          | Strongly Disagree | Strongly Disagree |
|                                                                          | Disagree          | Disagree          |
| Clinical dental practice experience helped me diagnose and treat         | 12%               | 24%               |
| disabled patient.                                                       | 19%               | 51%               |
|                                                                          | 16%               | 10%               |
|                                                                          | 5%                | 8%                |
|                                                                          | 1%                | 1%                |
| Avoiding the treatment of people with disability will help me save      | 13%               | 33%               |
| time and effort.                                                       | 18%               | 45%               |
|                                                                          | 8%                | 12%               |
|                                                                          | 12%               | 0%                |
|                                                                          | 11%               | 42%               |
| My knowledge in the prevention of dental disease and the improvement    | 14%               | 34%               |
| of oral hygiene status helped me improve the quality of oral health     | 23%               | 47%               |
| care giving to them.                                                    | 14%               | 4%                |
|                                                                          | 0%                | 3%                |
|                                                                          | 1%                | 1%                |
| Having special communication skills will help me improve the quality    | 27%               | 45%               |
| of oral health care giving to disabled patients.                        | 19%               | 41%               |
|                                                                          | 5%                | 5%                |
|                                                                          | 0%                | 0%                |
| Obtaining any information from the patient or relatives will help me    | 20%               | 44%               |
| improve the quality of oral health care giving to them.                 | 22%               | 41%               |
|                                                                          | 5%                | 2%                |
|                                                                          | 0%                | 3%                |
|                                                                          | 2%                | 0%                |
| Elicit adequate information about the condition of disabled patient     | 21%               | 39%               |
| from his own medical physicians will help me improve the quality of     | 20%               | 51%               |
| oral health care giving to them.                                        | 6%                | 1%                |
|                                                                          | 3%                | 0%                |
|                                                                          | 2%                | 0%                |
| My attitude and behavior toward disabled patients will affect the        | 24%               | 47%               |
| quality of oral health giving to them.                                  | 22%               | 39%               |
|                                                                          | 4%                | 3%                |
|                                                                          | 1%                | 2%                |
|                                                                          | 2%                | 1%                |

* The data presented are approximate. It is calculated with respect to the sample size, any missing data is forming an unpresented category.

### 3.2.1. Curriculums

Based in the Vice dean of Qassim Private Colleges statement, there is no structural dental program for disability, however few lectures are there as a part of periodontics and community subjects, also the academic hours are less than 5 hours for dentistry.

Approximately 95% of the dentists think that the lack of required dentistry academic subjects regarding to disability affect the quality of oral health care of disabled patients. And approximately 90% of the students think that the lack of required dentistry academic subjects regarding to disability affect the quality of oral health care of disabled patients. The majority of doctors agree that the Absence of elective academic subjects concerning disability leads to misunderstanding to the treatment needs. The majority of dentistry students agree that the Absence of elective academic subjects concerning disability leads to misunderstanding to the treatment needs.

The majority of doctors agree that the academic hours of disability subject should be sufficient in the colleges of dentistry and they believe that will enhance the dentist's knowledge and that will facilitate easy and effective treatment to patients of disability. A percentage of 10% did not agree about this issue, which was a valuable point to start further research. A small sample of were discussed about this issue. Unlike the students, they believe that basic subjects such as operative dentistry, should be given more focus than disability.

Most of dentistry students confused that the academic hours of disability subject should be sufficient in the colleges of dentistry and they believe that this will enhance the dentist's knowledge and it will facilitate easier and more
effective treatment to patients of disability. After making a discussion with a small sample of the students, it was discovered that this point was not understood well by the students, and because of these statistics were not dependable.

3.2.2. Courses

The majority of doctors agree that the availability of frequent internal courses and will have its influence on the quality of treatment need for disabled patient which was the same for students. While the majority of the doctors participating in this research agree that attending international courses will enhance the quality of oral health care giving to disabled patient and this point was the same for students.

A percentage of 0% of doctors and 5% of students participating in this research disagree with that the need of essential pre-graduate dental courses concerning disability will improve the quality of oral health care giving to disabled patients. While, a percentage of 90% of doctors, and the same ratio for students, decided that Post-graduate workshops concerning disability is very important to be held.

Treatment of disabilities by dentists was one of the issues which were questioned within the survey. Most of the densities who took part in the survey (about 55 in number) had reported that they were exposed to disabilities cases treatment while 23 dentists had reported that they did not treat disability cases. In contrast to students where only small number (6%) experienced treating disabled patients in their college clinics.

3.2.3. Experiences

Most of the dentists treated about 1 to 10 cases in their experience life. While more than 5% treated between 26-50 cases in their career as it is shown in Figure 1.

3.2.4. Communication Skills

A percentage of 0% of doctors and 3% of students participated in this study disagree with the point of having special communication skills that can help improve the quality of oral health care giving to disabled patients. While 95% agree and 5% undecided for both dentists and students. A percentage of 95% of dentists while 92% of the students agreed with that obtaining any information from the patient or relatives and will help improving the quality of oral health care giving to them.

A percentage of 95% of all doctor participants and 90% of students agreed that taking adequate information about the condition of disabled patient from his own medical physicians and will help improving the quality of oral health care giving to them.

A percentage 97% of all dentist's alert to the shortage of publications and books concerning disability in Al Qassim region, and their impact on their knowledge about disability. While unlike the dentists, students had shown less alert to the shortage of publications and books concerning disability in Al Qassim region.

Most of dentists participating in this study give their opinion to agree that Clinical dental practice experience is very helpful in diagnosing and treating disabled patients. While unlike dentists, students show different views about the importance of clinical dental practice experience and their impact on diagnosing and treating disabled patients, more than 10% of students thinks that clinical experience alone is not useful and will harm the disabled patient.

Approximately 60% of dentists disagree that the avoiding of treating people with disability could save time and effort of the dentists. Approximately 20% agree on this topic. Talking about students. 4% of students participating in this study agree with that avoiding of treating people with disability and how it could save time and effort of the dentists, 12% disagree and 8% undecided.

Most of the dentists agreed that the knowledge of the prevention of dental disease and the improvement of oral hygiene status and how it could improve the quality of oral health care giving to disabled patients and this was the same for students.

3.2.5. Limitations of the Study

- **Human limits:**
  A Sample of 160 dentists from all categories, interns and students in their forth & fifth year students from dental schools who studied academic hours in disability was recruited.

- **Place limits:**
  Hospitals, Dental Colleges and Private dental clinics among Qassim region only.

4. Conclusion

This research highlight that knowledge and communication skills can make dentists and dental students more willing to provide a high-quality oral health care to disabled patients and to reduce the difficulty of treating them.
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