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Knowledge, Attitude and Behavior of Dentists Toward Management of Special Needs Patients in Benghazi City

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الملخص

ذوي الاحتياجات الخاصة فئة مهمة في المجتمع لم يتوفر لهم خدمات مناسبة وجيدة في معالجة الأسنان. الملخص: صحة الفم لهذه الشريحة تتأثر بنقص مهارات أطباء الاسنان في تقديم الخدمات العلاجية لهم.

الأهداف: تحديد مستوى معلومات وتوجهات وسلوكيات أطباء الاسنان الليبيين في معالجة ذوي الاحتياجات الخاصة.

دراسة وصفية مقطعية تهدف لمعرفة معلومات وتوجهات وممارسات أطباء الاسنان في مختلف عيادات بنغازي وشملت العينة اطباء ليبيين في العيادات العامة والخاصة بمدينة بنغازي وعددهم 234 طبيب وطبيبة. تم تجميع البيانات باستخدام استبيان صمم خصيصا للدراسة وتم تعديله واختباره من قبل المشاركين بالدراسة. النتائج: حجم العينة 234 مشارك منهم 32.1% ذكور و67.9% اناث. أكثر من نصف المشاركين ليس لديهم معلومات جيدة في كيفية التعامل مع شديدي الإعاقة، حوالي 63% كانوا مدركين للصعوبات التي تواجه طبيب الأسنان في تقديم الخدمة لمثل هؤلاء المرضى، وأكثر من 66% يعتبروا المحاضرات هي المصدر الرئيسي لمعلوماتهم، وكذلك أظهرت الدراسة ان معظم الأطباء يعتقدوا بان ليس بالضرورة ان كل ذوي الإعاقة الذهنية يحتاجوا الي تحضيرات دوائية مهدئة قبل العلاج وأن أغلبهم يعتقد بأن التواصل الجيد مع المرضى سبب أساسي في نجاح العلاج ومعظمهم كانوا لا يشعرون بالثقة التامة اثناء تعاملهم مع هؤلاء المرضى كذلك 90.2% منهم يستخدموا الطرق السلوكية الغير دوائية وحوالي 90% غير قادرين على معالجة المرضى ذو الإعاقة الذهنية في عياداتهم، حوالي 70% منهم لا تتوفر لديهم الإمكانيات لمعالجتهم. الخلاصة: بصفة عامة أغلب أطباء الأسنان المشاركين في الدراسة كانت لديهم معلومات جيدة فيما يتعلق بالصعوبات التي تواجه طبيب الاسنان في حين ان هناك بعض القصور في المعلومات لديهم حول كيفية التعامل مع المرضى شديدي الإعاقة الذهنية. كذلك هناك بعض المعتقدات الإيجابية في بعض المواضيع مثل انه ليست بالضرورة استعمال الادوية المهدئة للأشخاص ذوي الإعاقة الذهنية قبل علاجهم إضافة الي ان التواصل الجيد بين الطبيب وذوي الاحتياجات الخاصة لها دور فعال في العلاج بينما لوحظ بعض المعتقدات السلبية مثل عدم شعورهم بالثقة الكافية تعاملهم مع هؤلاء المرضى. وبالرغم من ضعف الإمكانيات في عيادات الأسنان الا أن الدراسة لاحظت بعض الممارسات الجيدة للأطباء مثل استعمالهم لطرق سلوكية غير دوائية لتهيئة المريض لجلسات العلاج.

الكلمات المفتاحية:

ذوي الاحتياجات الخاصة، طب اسنان ذوي الاحتياجات الخاصة، معلومات، توجهات وممارسات الأطباء الليبيين.

Abstract

Background: Special needs patients (SNPs) are one of the underserved dental patient worldwide. A compromised oral health condition amongst SNPs has been associated with shortage of skills of dental professionals in management. Objective: to determine the level of knowledge, attitudes and behaviors of Libyan dentists towards caring for SNPs. Methods: A cross sectional study including Libyan dentist in public and private dental clinics in Benghazi. Data were collected from a representative sample by using a modified questionnaire. Results: In the total sample (234), 32.1% of participants were males and 67.9% were females. More than half of them lacking knowledge about dealing with severely mentally disabled patient while more than 63% of dentists know major barriers in treating SNPs and more than 66% of respondent consider lecture as main source of their knowledge about special care dentistry.

Most of them do not believe that all mental disabled patients need sedation before treatment, majority of respondent believe that the communication between dentist and special needs patients will be effective in treatment, and most of dentists did not feel confident in providing care for them. 90.2% of respondent use non-pharmacological method of behavior control rather than sedation and general anesthesia .Around 90% of participants cannot manage mentally disable patients in their clinics with around 70% did not have the facilities for treating SNPs at their dental clinics.

Conclusion: Dentists were lacking knowledge about dealing with severe mentally disabled patients, meanwhile they had a good knowledge regarding major barriers in treating SNPs. They had a positive attitude that they believe not all mental disabled patients need sedation before treatment and the communication between dentist and special needs patient will be effective in treatment while they had a negative attitude that they did not feel confident in providing care for them, they cannot manage mentally disable patients in their clinics. There is a good issues that dentists use of non-pharmacological methods to prepare them for dental visits.

Keywords: Special needs patients, Special Needs Dentistry, knowledge, attitudes and behaviors of Libyan dentists .

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1. INTRODUCTION

The provision of high quality dental care for children with special needs (CSN) presents a challenge for the dental profession.1 The Commission on Dental Accreditation (CODA) defines dental patients with special needs as those patients whose medical, physical, psychological, or social situations make it necessary to modify normal dental routines in order to provide dental treatment for that individual.2

A disabled person presents challenges that requires special preparation before the dentist can provide acceptable care. In addition parental anxiety concerning the problems associated delays dental care until significant oral disease has developed .3

Facilitating access to dental services for the person with disability requires support at levels, including locating appropriate care providers, assisting with transportation or arranging for mobile dental services, determining availability of financial resources, and overcoming fear and anxiety. 4 It is also influenced by knowledge, attitude and behavior among the dental team.5 Greater efforts to improve access to dental care for poor and more disabled patients with special health care needs are more specifically needed.6

Special Needs Patients (SNPs) have also demonstrated a higher prevalence of oral disease and greater un-met dental needs compared to the general population.7

The majority of dentists revealed lacking of clinical skills contributes to the challenges while treating SNPs. This can also be due to the insufficient training during undergraduate course. Successful treatment for those patients depends on the dentist's ability to manage the patient with appropriate behavior management techniques as cooperation is often lacking in individuals with severe disability.8

The dentists who reported being prepared to treat individuals with Developmental Disabilities (DD) had more positive attitudes toward their educational experiences and their instructors' behavior in the treatment of individuals with DD, compared to dentists who reported not being prepared to treat individuals with DD.9

It has shown that professional attitudes towards SNPs, and willingness to treat them, increase with training in this field. At present, this training has a low priority in many dental schools.10

Furthermore, Special Needs Dentistry (SND) can be defined as a branch of dentistry that deals with the oral health and related problems of individuals severely affected by physical or intellectual disability or by profound psychiatric or complex medical issues.11

Dentists traditionally have been reported as being hesitant to provide services to people with disabilities, the reasons for this hesitancy are numerous and range across physical barriers in their practices, and lack of education, however identification of such barriers can be the first step in addressing the deficiencies.12

Furthermore treatment of disabled persons is very difficult and time consuming. It requires a special psychological approach and often pre medication. If the necessary cooperation is not achieved conscious sedation or, in serious cases, general anesthesia can be used .13

Given the access to care problems for many SNPs, it seems crucial to revise dental curricula and provide more informative and clinical education concerning the treatment of SNPs.14

2. Methodology

A cross-sectional survey was conducted from September 2017 to January 2018 including public and private oral health clinics of dentists in Benghazi city. Proportional stratified random sampling was used to choose participants from each clinic which was estimated by a sample size calculation according to Krejcie–Morgan.15 and found to be 234 Data collected using predesigned questionnaire, first part was for respondent's socio-demographic background as age, gender, experience, degree, specialty and clinic. The Second part aims to gather respondents' knowledge of dentists about special needs patients on eight statements. The attitude of dentists concerning the special needs patents on eight statements, the last dimension of behavior of dentists with special needs patents on ten statements. Chi-square test of proportions was used to compare differences in proportions between the groups, all analyses were performed by Microsoft Excels2010, and using SPSS version 23 statistical significance was set as α =0.05.

Result: It is important to introduce the background of respondents participating in the survey to understand the level of the respondents (figures 1, 2, 3).

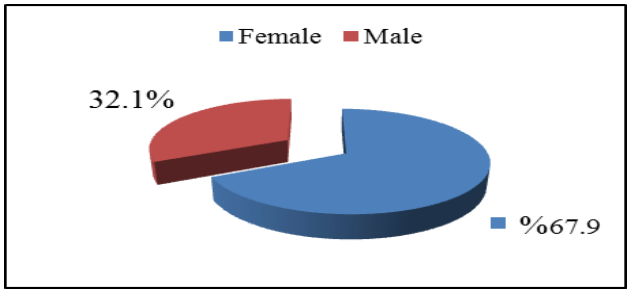


Figure 1: Gender distribution of the participants.

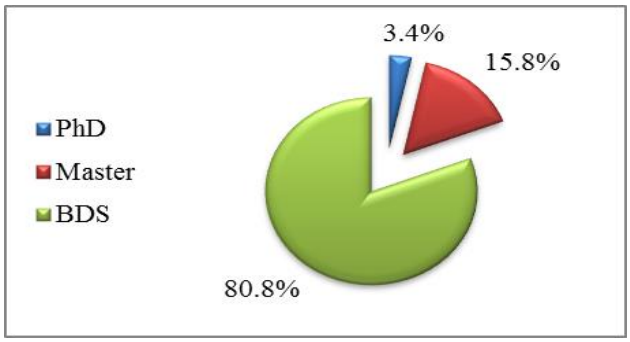


Figure 2: Degree groups' distribution of the participants.
***BDS = Bachelor Dental Science, *Ph.D. =Philosophies Doctor.**

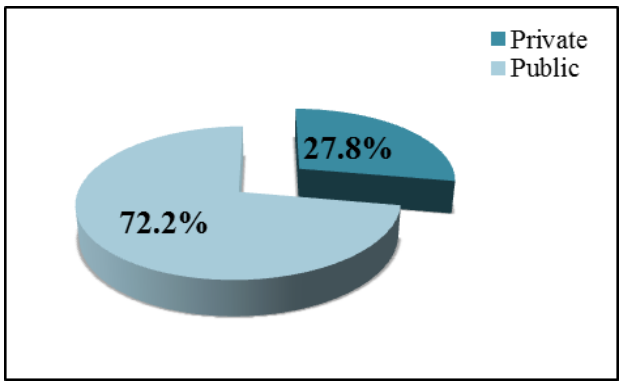


Figure 3: Clinic type distribution of the participants.

Knowledge of dentists concerning the special needs patients

Table 1: Descriptive statistics related to dentist's knowledge

Questions	Classification	Number	Percentage
1. Dealing with severely mentally disabled patient	As normal patient	62	26.5
	As a normal patient with special precautions	77	32.9
	Using sedation	64	27.4
	Under general anesthesia	31	13.2
2.Major barriers in treating special health care needs patient	- Communication difficulty	45	19.2
	Facilities availability	22	9.4
	Financial barrier	19	8.1
	Combination	148	63.2
3. Source of knowledge about special care dentistry	Lectures	155	66.2
	Training	30	12.8
	Internet	25	10.7
	Combinations	24	10.3

Attitude of dentists concerning the special needs patients

Table 2: Descriptive statistics of dentist's attitude concerning SNPs.

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Std.
1.You think that all mentally disabled patients need sedation before treatment.	25 10.7%	54 23.1%	41 17.5%	40 17.1%	74 31.6%	2.64	1.405
2 .You believe that the communication between dentist and special needs patient could affect treatment outcome.	50 21.4%	83 35.5%	48 20.5%	37 15.8%	16 6.8%	3.49	1.187
3. You feel confident in providing care for SNPs	37 15.8%	42 17.9%	49 20.9%	51 21.8%	55 23.6%	3.14	1.392

Behavior of dentists concerning the special needs patients

Table 3: Descriptive statistics related to dentist's behaviour

Questions	Answers	Number	Percentage
1. Do you use non-pharmacological method of behavior control rather than sedation and general anesthesia?	- Yes	211	90.2
	- No	23	9.8
2. Can you manage mentally disabled patient in your dental clinic?	- Yes	31	13.2
	- No	203	86.8
3. Are the facilities for treating SNPs available at your dental clinic?	- Yes	73	31.2
	No	161	68.8

Demographic characteristics association with knowledge

Table 4: Dealing with severe mentally disabled patient according to gender

Gender	As normal patient	As a normal patient with special percussions	Using sedation	Under general anesthesia	Total
Female	40	62	35	22	159
	25.2%	39.0%	22.0%	13.8%	100%
Male	22	15	29	9	75
	29.3%	20.0%	38.7%	12.0%	100%
Total	62	77	64	31	234
	26.5%	32.9%	27.4%	13.2%	100%
p-value = 0.011 df = 3 11.220 =2 χ					

Table 5: Major barriers in treating special health care needs patient according to clinic type

Clinic type	Communication difficulty	Facilities availability	Financial Barrier	Combination	Total
Private	17	1	9	38	65
	26.2%	1.5%	13.8%	58.5%	100.0%
Public	28	21	10	110	169
	16.6%	12.4%	5.9%	65.1%	100.0%
Total	45	22	19	148	234
	19.2%	9.4%	8.1%	63.2%	100.0%
X 2 = 12.123 df = 3 p-value = 0.007					

Table 6: The source of knowledge about special care dentistry according to age group

Age Group	Lectures	Training	Internet	Combination	Total
26-30 year	25	4	4	11	44
	56.8%	9.1%	9.1%	25.0%	100.0%
31-35 year	41	3	3	5	52
	78.8%	5.8%	5.8%	9.6%	100.0%
36-40 year	29	8	2	2	41
	70.7%	19.5%	4.9%	4.9%	100.0%
41year or more	60	15	16	6	97
	61.9%	15.5%	16.5%	6.2%	100.0%
Total	155	30	25	24	234
	66.2%	12.8%	10.7%	10.3%	100.0%
p-value = 0.004 df =9 24.408=2 χ					

Demographic characteristics association with attitude

Table 7: All mentally disabled patients need sedation before treatment according to clinic type

Clinic Type	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Private	8	9	6	11	31	65
	12.3%	13.8%	9.2%	16.9%	47.7%	100.0%
public	17	45	35	29	43	169
	10.1%	26.6%	20.7%	17.2%	25.4%	100.0%
Total	25	54	41	40	74	234
	10.7%	23.1%	17.5%	17.1%	31.6%	100.0%
p-value = 0.006 df = 4 14.425 =2 χ						

Table 8: The effectiveness of communication between dentist and special needs in treatment according to gender

Gender	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Female	36	51	35	30	7	159
	22.6%	32.1%	22.0%	18.9%	4.4%	100.0%
Male	14	32	13	7	9	75
	18.7%	42.7%	17.3%	9.3%	12.0%	100.0%
Total	50	83	48	37	16	234
	21.4%	35.5%	20.5%	15.8%	6.8%	100.0%
p-value = 0.045 df = 4 = 9.764 2 χ						

Table 9: Feeling confident in providing care for SNPs according to Degree

Degree	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Total
B.D.S.	24	35	40	43	49	191
	12.6%	18.3%	20.9%	22.5%	25.7%	100%
Master	11	4	7	8	5	35
	31.4%	11.4%	20.0%	22.9%	14.3%	100%
Ph.D.	2	3	2	0	1	8
	25.0%	37.5%	25.0%	0.0%	12.5%	100%
Total	37	42	49	51	55	234
	15.8%	17.9%	20.9%	21.8%	23.5%	100%
χ2 = 13.584 df = 8 p-value = 0.093						

Demographic characteristics association with behavior

Table 10: Use of non-pharmacological method of behavior control rather than sedation and general anesthesia according to experience

Experience Group	Yes	No	Total
< 5 years	19	2	21
	90.5%	9.5%	100%
5-10 Years	78	8	86
	90.7%	9.3%	100%
11-15 Years	54	4	58
	93.1%	6.9%	100%
16-20 Years	31	4	35
	88.6%	11.4%	100%
21+	29	5	34
	85.3%	14.7%	100%
Total	211	23	234
	90.2%	9.8%	100%
χ2 = 1.60 df = 4 p-value = 0.808			

Table11: Management of mentally disabled patient in dental clinic according to gender

Gender	Yes	No	Total
Female	15	144	159
	9.4%	90.6%	100.0%
Male	16	59	75
	21.3%	78.7%	100.0%
Total	31	203	234
	13.2%	86.8%	100.0%
p-value = 0.012 df = 1 6.279 =2 χ			

Table 12: Facilities for treating SNPs according to clinic type

Clinic type	Yes	No	Total
private	26	39	65
	40.0%	60.0%	100%
public	47	122	169
	27.8%	72.2%	100%
Total	73	161	234
	31.2%	68.8%	100%
χ2 = 3.25 df =1 p-value = 0.07			

3. Discussion

Knowledge, attitude and behaviors of dentists have been identified as the three most important objectives in the treating people like SNPs. This study measured these three components of dentists in Benghazi city toward management of special needs patients. Internationally, it has been noticed that there is a lack of clinical training in the management of people with special needs at both undergraduate and postgraduate levels. Also lack of education regarding the Special Needs Dentistry (SND) which consider to be the greatest barrier to achieving oral health outcome for this group.

Provision of oral health care to SNPs requires specialized knowledge. The results of this study revealed that the dentists lacking knowledge about how to deal with severe mentally disabled patient with regard to treatment selection according to gender. It can be seen that 77 (32.9%) of dentists select the option as normal patient, while 62 (26.5%) select the option as a normal patient with special precautions. The dentists' selected using sedation were 64 (27.4%) and a small number of dentists selected under general anesthesia 31 (13.2%), which considered as the correct answer. This result indicates that most of the dentists have less than half percentage of dealing with the issue of how treated severely mentally disabled patient. Therefore, it can be inferred from Chi square test results indicates that the differences observed in the dentists according to gender is statistically significant (p-value 0.011). It can be concluded that females were having less knowledge than males of chosen the correct options. This Disagree with result of study conducted by (Bindle et al, 2015)8

The source of knowledge about special care dentistry come from several ways, among age groups of dentists in this study, it has been found that the main source of knowledge about special care dentistry come from lectures of about 155 (66.2%), while only 30 (12.8%) from training followed by 25(10.7%) from internet and 24(10.3%) from all of these sources. This reflects that most of the dentists of all ages have interested in lectures than any other source of knowledge. The Chi square test results indicates that the differences observed in the dentists according to age groups is statistically significant (p-value =0.004) with association of about CC=0.307 more observed in age group (31-35 years). This leads them to becoming highly dependent on lectures knowledge about special care dentistry while majority of them not depending on other sources of knowledge like training or internet among all age groups of dentists .This is in consistent with what was found by(Casamassimo et al 2004)16

A comparison among private and public clinic regarding knowledge about major barriers in treating SNPs revealed that 17(26.2%) of private clinic dentist select communication barriers as major cause of barrier in treating SNPs compared to28 (16.6%) of public clinic. While 1 (1.5%) of private clinic dentist select facilities availability compared to21 (12.4%) of the public dentist. About financial barrier was selected by 9 (13.8%) of private clinic compared to 10 (5.9%) of public. Combination of all these barriers were selected by 38 (58.5%) of private dentist compared to 110 (65.1%) of public dentist. The results suggest that there were statistical significance (p-value = 0.007). This was similar to study of (Edwards and Merry 2002)12, and was inconsistent to the findings of (Milano and Seybold 2002)17 who reported that the financial barrier is the major obstacle.

In the present study the attitude of dentist towards certain issues in dental practice with SNPs, revealed that most of the dentists in both types of clinics have highest disagreement about the statement that all mental disabled patients need sedation before treatment. In comparison of the different opinions or attitudes according to clinic type, it is found that 31(47.7%) of private clinic dentist strongly disagreed versus 43(25.4%) of public. It can be inferred from Chi square test results indicates that the differences observed in the dentists according to clinic type is statistically significant (p-value = 0.006). This is the same as what was reported by (Mochizuki et al 2007)18 .While it is not matched with study conducted by (Pantucek et al 2008)13

Good communication of dentists is very effective in treatment of SNPs. Majority of dentists in this survey agreed that the

communication between dentist and SNPs will be effective in treatment in comparison between male (61.4%) and female dentists (54.7%) , it seems that male dentists express more positive attitude towards effectiveness of communication in treatment of those groups Therefore, it can be inferred from Chi square-test results indicates that the differences observed in the communication between dentists and SNPs according to gender is statistically significant (p-value =0.045). This is in agreement with (Bindle et al 2015)8

Many dentists have been reported to have low confidence in their ability to treat patients with special needs. A lack of confidence amongst dentists leads to a reduction in providing care to SNPs in practice. In this study 62.5% of PhD dentists, 42.8% of Master group and 30.9% of BDS group were feeling confident in providing care to SNPs. It can be inferred from Chi square test results indicates that the differences observed in the dentists according to degree is statistically not significant (p-value =0.093).This was supported by studies conducted by (Smith et al2010)19

The use of sedation and general anesthesia, apart from the extra cost, also carries some risks which may not be easily managed by untrained dentists. Majority of dentists surveyed used the non-pharmacological method of behavior control more frequently than sedation and general anesthesia. In this study with regard to the use of non-pharmacological method for patient behavior control rather than sedation and general anesthesia according to experience ,it was noticed that 211 (90.2%) of the respondent were using non pharmacological method while only 23 (9.8%) were not using such methods. In relation to years of experience (11-15y) group were using this method (non-pharmacological) by 54 (93.1%). The Chi square test results indicates that the differences observed in the dentists according to experience was statistically not significant (p-value =0.808) this was agree with study conducted by (Oredugba and sanu 2006) 20

General dentists who were not exposed to SNPs during their practice were less likely to treat these patients in their clinic than those with such experience .The dentists' behavior regarding management of mentally disabled patient in dental clinic according to gender. It can be observed that the percentage of female that cannot manage mentally disable patients in dental clinic were about 144 (90.6%) compared to 59 (78.7%) of male. This show that the respondents are mostly unable to manage mentally disable patient in their clinic. Therefore, it can be inferred from Chi square test results indicates that the differences observed in the dentists according to gender is statistically significant (p-value =0.012).This study consistent with another studies by (Bershadsky and Kane 2010)21 and Casamassimo et al (2004)16

Poor facility accessibility is probably a factor in patient failing to seek care. In the current study availability of facilities for treating SNPs were inquired according to clinic type. It can be seen from data that 39 (60%) of dentists in private clinics reported that good facilities for treating SNPs were not available in their clinics compared to 122 (72.2%) of those in public clinic. It is clear that facilities were less available in public clinic than private although Chi square test results indicates that the differences observed in the dentists according to clinic type statistically not significant (p-value =0.07).

4. Conclusion:

This study revealed that the dentists had a good knowledge regarding certain issues like, major barriers in their management with predominance of dentists in public clinic, meanwhile they were lacking knowledge about dealing with severe mentally disabled patients. A significant differences were noticed between male and female dentists regarding how to deal correctly with sever mentally disabled patient, females were having less knowledge than males. Majority of dentists in all age groups depend upon lectures as the main source of their knowledge which more observed in age group (31-35 years).

The attitude of the dentists included in this study were positive in different concerns like the need of using sedation in treatment of all mentally disabled patient ,the effectiveness of communication between dentists and mentally disable patient .The dentists were having negative attitude towards the feeling confident in providing care to them. Most of the BDS dentists were not feeling confident in treating SNPs compare to higher degrees who were feeling more confident with a significant difference.

Some good behavior of what were recorded in this study like using of non-pharmacological methods, majority of dentists with 11-15 years' experience were using non-pharmacological methods to control behavior. The majority of dentists cannot manage mentally disabled patients, More than 90% of female dentists cannot manage mentally disable patient with significant difference with male dentists. There were lacking of facilities in the clinics. Most of the dental clinic were lacking the facilities for treating SNPs with predominance of public dental clinic.

5. Recommendation:

It is hoped that modification of the present undergraduate curriculum concerning management of special needs patients might be increase a new dentist's knowledge, promoting dentists education and providing training qualified team for concerning with different types of SNPs undertaking investigation and inspection and inquiries of any instruments and equipment's needs for disable people of dental clinic, future researchers will be able to carry out the issues highlighted by present study, ministry of social solidarity support.

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