O R I G I N A L   A R T I C L E

Awareness of restorative dental treatment as shown by nursing students in Ibadan

Wiedza o stomatologii rekonstrukcyjnej wśród studentów pielęgniarstwa w Ibadanie

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Abstract

Aim of the study. *To determine the level of awareness of nursing students in Ibadan, South Western Nigeria, of restorative dental treatment.* ***Material and methods.*** *Well-structured pre-tested questionnaire was submitted to the three randomly selected schools testing the level of awareness of dental treatment and restorative materials.* ***Results.*** *Of the 302 respondents, almost all (99.0%) were aware of the dental profession, but as many as 77.5% of them had never visited a dentist. The majority (87.4%) were aware of the possibility of replacement of a missing tooth, only 66.2% were aware of the possibility of restoration of a broken tooth, while a little above half (53.6%) were aware of the possibility of restoration of a discoloured tooth. Only 30 respondents (9.9%) believed that a broken tooth can improve facial beauty, five respondents (1.7%) believed that missing teeth can improve facial beauty, while only 42 respondents (13.9%) believed that both broken and missing teeth can improve facial beauty (p–value<0.0001). More than four-fifth of the respondents (84.4%) knew the use of removable dentures, 25.2% knew the use of dental amalgam, 17.2% were aware of a dental bridge, 23.5% knew the use of composite, 27.5% knew the use of dental crown in restorative dentistry.* ***Conclusion.*** *The majority of respondents had never visited a dentist for any routine dental check-up. Many of them have poor knowledge of basic*

Streszczenie

Cel pracy. *Zbadanie poziomu wiedzy studentów pielęgniarstwa w Ibadan (południowo-zachodnia Nigeria), na temat materiałów stomatologicznych.* ***Materiał i metody.*** *Poprawnie skonstruowany i wstępnie przetestowany kwestionariusz, został przekazany do trzech losowo wybranych szkół w celu sprawdzenia poziomu wiedzy o leczeniu stomatologicznym i materiałach odtwórczych.* ***Wyniki.*** *Spośród 302 respondentów, prawie wszyscy (99,0%) posiadają wiedzę na temat zawodu lekarza dentysty, ale aż 77,5% z nich nigdy nie odwiedziło gabinetu stomatologa. Większość (87,4%) była świadoma możliwości uzupełnienia brakującego zęba, tylko 66,2% wiedziało o możliwości odbudowy złamanego zęba, a nieco ponad połowa (53,6%) była świadoma możliwości przywrócenia koloru zęba. Tylko 30 badanych (9,9%) uważa, że złamany ząb może poprawić wygląd twarzy, pięciu badanych (1,7%) uważa, że brakujące zęby poprawiają urodę twarzy, podczas gdy tylko 42 respondentów (13,9%) uważa, że zarówno złamane, jak i brakujące zęby mogą poprawić wygląd twarzy (p <0,0001). Ponad cztery piąte badanych (84,4%) wiedziało o możliwości stosowania protez ruchomych, 25,2% wiedziało o stosowaniu amalgamatu, 17,2% miało świadomość zastosowania mostu stomatologicznego, 23,5% wiedziało o wykorzystaniu kompozytu, 27,5% wiedziało o możliwości odbudowy braków poprzez korony dentystyczne.* ***Wniosek.***

restorative dental treatment; this is a strong indicator that they lack the basic knowledge of clinical dentistry. In order to improve the clinical acumen and versatility of nurses, regular training courses on basic clinical dentistry should be incorporated into the curriculum of all kinds of nursing programs in Ibadan, and even in Nigeria at large. This will help in empowering nurses in educating, and counselling of individuals with oral health problems to seek early and professionally-delivered oral health care. This eventually will go a long way in reducing the prevalence of oral health problems and the complications of delayed dental treatment that is commonly reported in Nigerian population.

Większość respondentów nigdy nie odwiedziło dentysty nawet w celu rutynowej kontroli stanu uzębienia. Wiele osób słabo zna podstawowe materiały stosowane do leczenia stomatologicznego. Wskazuje to, że brakuje podstawowej wiedzy z zakresu stomatologii zachowawczej. W celu poprawienia wszechstronnej wiedzy pielęgniarek, powinny zostać wprowadzone do programów nauczania we wszystkich rodzajach opieki w Ibadan, a nawet w Nigerii w ogóle, regularne szkolenia z zakresu podstawowej opieki stomatologicznej. Pomoże to w polepszeniu jakości kształcenia pielęgniarek i poprawi poradnictwo dla osób z problemami zdrowotnymi w jamie ustnej, przyczyniając się do wcześniejszego korzystania z profesjonalnej opieki stomatologicznej. To w dalekiej perspektywie wpłynie na obniżanie częstości występowania problemów zdrowotnych w jamie ustnej i powikłań powodowanych późnym leczeniem stomatologicznym, co jest obecnie powszechnie notowanym zjawiskiem w populacji Nigerii.

Introduction

Oral health can be described as the state of being free from diseases affecting the mouth.[1] Oral health has been said to affect the general well-being, quality of life, and the development of man.[1-3] Neglect or abuse of the normal state of oral health can result in dental caries, periodontitis, tooth loss, tooth fracture, oral cancer, and salivary gland disorders, to mention a few.[1]

There has been an appreciable increase in oral health awareness among the Nigerian population, as in other developing countries.[4,5] This can be attributed to the vigorous oral health promotion programmes embarked upon by the World Health Organization, coupled with the collaborative effort of the Nigerian government.[4-6]

Despite the increased level of oral health awareness in the country, a high prevalence of oral health-related problems still exists.[4] This may be due to the existing barriers to health care delivery to the Nigerian population, some of which include inadequate dental personnel, ignorance, stress of getting a dental treatment done, fear of receiving dental treatment, and poverty.[7-12]

To reduce the high prevalence of oral health problems in Nigeria, the health care givers therefore have their roles to play. The World Health Organization has recommended that oral health should be included into the national and community health programmes in order to reduce the burden of oral diseases.[13] In an African country like Tanzania, various health workers have been educated and recruited for the creation of national oral health awareness.[14,15] These health workers were trained to be the primary source of information on oral health maintenance and oral disease prevention delivered to the Tanzanian communities.[14,15]

In Nigeria, the knowledge of nurses, primary health care workers, and even medical doctors on oral health care have been found to be poor.[16-19] This is because the majority of them did not receive any training on oral health and only very few felt the need to get their knowledge on oral health updated.[16] Inadequate knowledge of oral health has also been reported among a population of nursing, medical, and physiotherapy students in Nigeria.[20,21]

The aim of this study is to determine the level of awareness of nursing students in Ibadan, South Western Nigeria, on restorative dental treatment. This study population do not receive any training on basic clinical dentistry.[22] The basic knowledge of restorative dentistry by nurses is of importance

because they constitute one of the first line of caregivers in our society, and this will guide them when giving advice to the general population, whenever their advice on oral health matters is sought.

Materials and methods

Study area

This study was conducted in Ibadan, the capital of Oyo state, South Western Nigeria. Ibadan is the largest city in West Africa, and is a home to many tertiary institutions. Among these tertiary institutions were the five nursing schools.

Participants

Out of the five nursing schools in Ibadan, only three institutions were randomly selected to participate in this study. These three institutions were: School of Nursing, University College Hospital (UCH), Ibadan; School of Perioperative Nursing, UCH, Ibadan; and School of Nursing and Midwifery, Eleyele, Ibadan. The population of all the nursing students in each of these three institutions were obtained and the sample size was determined.

Ethical approval

The ethical approval to conduct this study was obtained from the Oyo State Ministry of Education, Ibadan, Nigeria.

Study tool

The instrument used for data collection was a well-structured pre-tested questionnaire. The questionnaire had four sections: A, B, C, and D. Section A served to obtain information about the socio-demographic characteristics of the participants, section B – information about participants' awareness of dentists, and the possibility of restoration of a defective or missing tooth, section C – participants' awareness of the standard materials/devices used in restorative dental treatment, while section D obtained information about the knowledge of participants on the use of the standard materials/devices used in restorative dentistry.
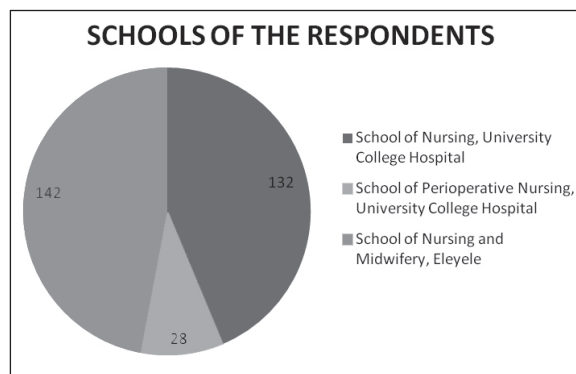

Fig. 1. *Institutions of respondents that participated in this study.*

Data collection and analysis

Three hundred and ten students participated in this study. Verbal informed consent was sought from each participant. Out of the 310 questionnaires filled by the participants, eight (8) were discarded because they were not properly filled, so finally the data provided by 302 respondents were analysed.

Collected data was entered into the Statistical Package for Social Science (SPSS) version 16 software for analysis. Frequency distributions of all variables were obtained and illustrated using frequency tables, and charts. Comparison between qualitative variables was done using the Chi-square test and a p–value of <0.05 was considered statistically significant.

Results

Of the 302 respondents, 142 (47.0%) were students from the School of Nursing and Midwifery, Eleyele, 132 (43.7%) were students from the School of Nursing, UCH, while the remaining (9.3%) were students from the School of Perioperative Nursing, UCH (Figure 1).

The majority of the respondents were females (271/302, 89.7%), also 90.7% (274/302) of them were single. More than three-fourth of them (238/302, 78.8%) were in the General Nursing programme. Those from the School of Perioperative Nursing had an average age of 28.5 years, and they were averagely older than those from the other two nursing schools [p–value<0.0001] (Table 1).

Almost all the respondents (99.0%) were aware of the dental profession, but as many as 77.5%

Table 1. Socio-demographic characteristics of respondents

Characteristics (n=302)	GN [N*=238]	PN [N**=28]	MW [N#=36]	P-value (X²)
Gender				
Male	26 (10.9)	5 (17.9)	0 (0.0)	0.05
Female	212 (89.1)	23 (82.1)	36 (100.0)	
Mean age (in years)	20.8	28.5	26.5	<0.0001
Marital status				
Single	228 (95.8)	19 (67.9)	27 (75.0)	<0.0001
Married	9 (3.8)	7 (25.0)	9 (25.0)	
Divorced	1 (0.4)	2 (7.1)	0 (0.0)	

n – total number of all the respondents; N*– total number of respondents studying general nursing (GN); N**– total number of respondents studying perioperative nursing (PN); N# – total number of respondents studying Midwifery (MW).

Table 2. Awareness of respondents about dentist and the possibility of the restoration of a defective tooth

Variables	Yes (%)	No (%)
Do you know who a dentist is?	299 (99.0)	3 (1.0)
Have you visited a dentist before?	68 (22.5)	234 (77.5)
Have you had any restoration placed on your teeth before?	23 (7.6)	279 (92.4)
Do you have a missing tooth?	28 (9.3)	274 (90.7)
Are you aware of replacement of missing teeth in the mouth?	264 (87.4)	38 (12.6)
Do you have a broken tooth?	39 (12.9)	263 (87.1)
Do you know if a broken tooth can be restored?	200 (66.2)	102 (33.8)
Do you have a discoloured tooth?	58 (19.2)	244 (80.8)
Do you know if discoloured tooth can be restored?	162 (53.6)	140 (46.4)
Have you felt the need to restore/replace a tooth at any time?	52 (17.2)	250 (82.8)
Has anybody advised you to restore/replace a tooth before?	41 (13.6)	261 (86.4)

of them had never visited a dentist before. The majority (87.4%) were aware of the possibility of replacement of a missing tooth, only 66.2% were aware of the possibility of restoration of a broken tooth, while a little above half (53.6%) were aware of the possibility of restoration of a discoloured tooth. Fewer than one-tenth (9.3%) had a missing tooth, close to one-fifth (19.2%) had tooth discolouration, while fewer than one-fifth (12.9%) had a broken tooth. Close to one-fifth of the respondents (17.2%) had felt the need to restore/replace a tooth in the past, while a little above the thirteen percent (13.6%) had previously been advised to restore/replace a fractured/missing/discoloured tooth (Table 2).

Table 3 shows the comparison between the opinion of the respondents on the aesthetic implication of a broken tooth and that of a missing tooth. Only 30 respondents (9.9%) believed that a broken tooth (but not a missing one) can improve

Table 3. Comparison between the opinion of respondents on the aesthetic effect of missing and broken tooth on facial beauty

		Missing tooth can improve facial beauty.			P – Value (X²)
		Yes	No	IDK*	
Broken tooth can improve facial beauty	Yes	42 (13.9)	30 (9.9)	7 (2.3)	<0.0001
	No	5 (1.7)	119 (39.4)	7 (2.3)	
	IDK*	11 (3.6)	26 (8.6)	55 (18.2)	

IDK* – I don't know.

Table 4. Comparison between the claimed awareness and actual knowledge of respondents on the common restorative devices/materials

Restorative devices/materials	Claimed awareness (n=302)			Actual knowledge (n=302)			P – value (X²)
	Yes	No	NS**	Yes	No	IDK*	
Removable denture	247 (81.8)	38 (12.6)	17 (5.6)	255 (84.4)	12 (4.0)	35 (11.6)	<0.0001
Dental amalgam	72 (23.8)	1 (0.4)	229 (75.8)	76 (25.2)	19 (6.3)	207 (68.5)	<0.0001
Bridge	92 (30.5)	163 (54.0)	47 (15.5)	52 (17.2)	64 (21.2)	186 (61.6)	<0.0001
Composite	71 (23.5)	171 (56.7)	242 (80.1)	66 (21.9)	27 (8.9)	209 (69.2)	<0.0001
Crown	145 (48.0)	114 (37.7)	43 (14.2)	83 (27.5)	50 (16.6)	169 (55.9)	<0.0001

n – total number of respondents; NS** – not sure; IDK* – I don't know.

facial beauty, five respondents (1.7%) believed that missing teeth (but not a broken one) can improve facial beauty, while only 42 respondents (13.9%) believed that both broken and missing teeth can improve facial beauty (p–value<0.0001).

More than four-fifth of the respondents (84.4%) knew the use of removable dentures, 25.2% knew the use of dental amalgam, 17.2% were aware of a dental bridge, 23.5% knew the use of composite, 27.5% knew the use of a dental crown in restorative dentistry (Table 4).

Discussion

The level of awareness of oral health within the Nigerian population is on the increase, and this is in accordance with the current trend on oral health awareness globally.[4-6] Despite the general increase in the level of awareness of oral health in our society, the total number of people visiting dentists for dental care is small compared to the total Nigerian population.[7-9] This similar trend is also seen among our respondents, as virtually all of them were aware of a dentist but the majority (77.5%) had never visited one before (Table 2). Many factors are believed to contribute to why many Nigerians do not routinely visit dental clinics, including inadequate dental personnel, ignorance, stress of getting a dental treatment done, fear of receiving dental treatment, and poverty.[7-12]

Among our study population, 12.9% of them had fractured teeth while only 9.3% had missing teeth (Table 2). There have been documented reasons why partially dentate young adults do not get a dental prosthetic replacement, and these include ignorance of the possibility of a prosthetic replacement, misinformation, and lack of money.[23] These reasons may also apply to those with teeth fracture as well. The importance of early dental restoration needs to be emphasized among our study population because of the complications associated with late presentations of these oral health conditions. This is necessary because it has

been found that some Nigerian patients tend to present late at restorative dental clinics after serious complications had already set in.[24]

In clinical dentistry, edentulous space and tooth fracture are regarded as pathological conditions that should be restored. The majority of our respondents were of the belief that a missing tooth and a fractured tooth does not improve facial beauty (Table 3). In a study conducted among some American college students, it was established that individuals with missing anterior teeth were rated lower on several social characteristics than those with apparently complete set of teeth.[25] It shows that individuals with such pathological conditions tend to be faced with the problems of being socially discriminated against.

Furthermore, a significant proportion of our respondents were not aware of the possibility of restoration of a missing/fractured/discoloured tooth (Table 2). Also, many of them lack knowledge of the available restorative dental treatment options (Table 4). This indicates a general poor knowledge of the scope of dentistry. A similar finding has also been documented even among medical doctors in Nigeria where they exhibited poor knowledge of the scope of the dental specialties.[17]

Nigeria is a country that has many communities with no or inadequate dental personnel.[26] It has been reported that nurses are one of the first line personnel that are sought for provision of health care in our society,[27] hence knowledge of basic clinical dentistry is needed by nurses so that they can educate and adequately advise people with oral health care needs to seek the service of a dentist.

Furthermore, the population-dentist ratio is extremely high in Nigeria; hence the dental workforce is not adequately staffed.[26] In order to reinforce this weak dental workforce in Nigeria, we suggest that all nurses and other health workers be educated on basic oral health care in order to aid adequate oral health care delivery to the Nigerian populace. This can be done by adopting the Tanzanian approach in which health workers were trained on oral health education and awareness.[13,14]

A way to increase the number of advocates of oral health awareness creation is to educate all the nurses-to-be on basic general dentistry, as they will eventually join the work force of health care providers after graduation.

Conclusion

The majority of our respondents had never visited a dentist for any routine dental check-up. Many of them have poor knowledge of basic restorative dental treatment; this is a strong indicator that they lack the basic knowledge of clinical dentistry.

In order to improve the clinical acumen and versatility of nurses, regular training courses on basic clinical dentistry should be incorporated into the curriculum of all kinds of nursing programs in Ibadan, and even in Nigeria at large. This will help in empowering nurses in educating, and counselling of individuals with oral health problems to seek early and professionally-delivered oral health care. This eventually will go a long way in reducing the prevalence of oral health problems and the complications of delayed dental treatment that is commonly reported in Nigerian population.[24]

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