Dental anxiety: investigative and management techniques often employed in a cross section of Nigerian Specialist Dental Clinics

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Abstract

Background: Information on the pattern of dental anxiety management in Nigeria is currently not available.
Aim: The study was designed to determine the awareness and frequency of application of dental anxiety assessment questionnaires as well as the current pattern in the management of dental anxiety in Nigeria.
Methods: The cross-sectional study was conducted using structured questionnaires distributed among dental residents and house officers in Nigerian dental schools. Information requested included demographic variables, frequency of presentation of dental anxiety, awareness and frequency of application of dental anxiety questionnaires. The respondents were also asked to rate the frequency of application of the outlined dental anxiety management techniques on a 5-point Likert scale. The median score and the range for each technique was determined and compared between the malc and female respondents.
Results: A total of 96 questionaires were sent out to dental surgeons of all grades. Response was obtained from 86 giving a response rate of 90%. Only 23 (26.7%) respondents were aware of dental anxiety questionnaires while only 13 (15.1%) have seen the instrument applied. The percentage of patients with dental anxiety was estimated by the respondents to be <20%. Behaviour therapy was the most frequently employed dental anxiety management technique. The female respondents employ behaviour therapy and intramuscular sedation more frequently.
Conclusion: The awareness and frequency of application of dental anxiety questionnaires appeared poor. Behaviour therapy was the most frequently employed dental anxiety management technique. It appears the female respondents employ behavior therapy and intramuscular sedation more frequently.

Keywords: Dental anxiety questionnaires, Anxiety management, Nigeria

Introduction

Fear and anxiety on the part of dental patients is a well-known phenomenon [1,2]. Fear is sudden, while anxiety is prolonged fear [1,2]. All too often, a planned visit to the dentist is looked up to with a degree of dread and foreboding. This is referred to as dental anxiety [3]. Unlike fear, anxiety and its associated symptoms are most often anticipatory in nature; that is, they are often felt when a stimulus is not present or readily identifiable [4,5]. The intensity and nature of dental anxiety varies from one individual to another [6] to the extent that patients with severe dental anxiety/fear tend to come in as emergency patients only [2]. It has also been

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reported that dentists recognize various degrees of dental anxiety in their patients [7]. There are those who are relaxed, those who are anxious and those who are dentally phobic[7]. It has, therefore, been suggested that the adoption of formal psychometric measures would be of benefit for accurate assessment of a patient's dental anxiety from initial contact [2,8].

In clinical dental practice, assessment questionnaires and indices are routinely used as part of patient assessment, diagnosis, treatment planning and evaluation of treatment outcomes [9]. Clinical assessment of dental anxiety level unlike the use of dental anxiety index is subjective [10, 11], and may therefore, not be useful for diagnosis and inter professional communications. Besides, there has been far from perfect agreement between patients' self-reports and clinicians ratings of patients' dental anxiety in validation studies [10,11]. It has also been reported that clinical diagnosis of dental fear may be difficult to make in children who have developed coping mechanisms [12].

A variety of dental anxiety assessments questionnaires have been described and applied for diagnostic and research purposes [6,10-14]. Those that have been described for adults include: Corah's Dental Anxiety Scale; Getz Belief Index; Modified Dental Anxiety Scale; Dental Fear Survey; Spielberger State Trait; and Anxiety Inventory [6,10-14]. On the other hand, for child patients, the inventory may include: Visual Analogue Scale; Venham Picture Scale; Frankl Scale; Children's Dental Fear Picture Test; and Corah's Dental Anxiety Scale [6,10-14]. Probably the most well known questionnaire designed to assess dental anxiety in adults is Corah's Dental anxiety Scale [6] while observational and behavioural rating scales like Frankl are said to be the most frequently used measures for diagnosing dental fear in children [13]. Anxiety assessment by questionnaire provides information for the dentist and may also confer psychological benefits for the patients[14]. The adoption of these instruments has been generally recommended [8,15-16]. Their use in specialized clinics[17] and research studies has been reported [18-20].

Twenty per cent of dentists are said to use the adult dental anxiety indices [6], but the awareness and frequency of application of these instruments among dental practitioners in Nigeria have not yet been reported. Also, a previous report [6] suggests that male dental practitioners were more likely to use an anxiety assessment questionnaire, but it is not yet clear whether gender differences impact upon the choice of dental anxiety management techniques. The current study was therefore designed to determine the awareness and frequency of application of dental anxiety assessment questionnaires as well as the current pattern in the management of dental anxiety in Nigeria.

Materials and Methods

The cross-sectional study was conducted in specialist clinics of three out of four established dental training institutions in Nigeria: Lagos University Teaching Hospital (LUTH,) University College Hospital, Ibadan (UCH) and Obafemi Awolowo University Teaching Hospital Complex (OAUTHC). University of Benin Teaching Hospital (UBTH) was excluded on the ground of poor logistics. A structured anonymous questionnaire adapted from the one employed by Dailey *et al* [6] in an earlier study was employed as instrument for data collection. Dental house officers and residents were the target groups. The Consultants were excluded because our experience has revealed a poor response from this cadre of staff.

The questionnaire requested for information about the demographic variables of the respondents, their awareness of dental anxiety instruments and sources of their knowledge, individual experiences on the

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application of different dental anxiety inventories, their ability to reliably assess dental anxiety and the instrument to be employed. The respondents were also asked to estimate the percentage of their patients who have dental anxiety and to indicate the frequency of application of each of the outlined dental anxiety management techniques on a 5-point Likert scale: Always = 5; Often = 4; Sometimes= 3; Rarely = 2; Never = 1.

The questionnaire was pre-tested among Ibadan dental residents for clarity before they were distributed by hand to the respondents in the aforementioned study centres. Respondents who failed to return their questionnaires following three verbal reminders were excluded from the study. The consent of all the participants was sought at the beginning of the study and utmost confidentiality of results was guaranteed. The sample size was determined by convenience.

Data management

The data was entered into a micro computer and analyzed using Microsoft Excel. The median score and the range for each dental anxiety management technique on a 5-point Likert scale was determined and compared between the male and female respondents.

Results

Eighty six out of 96 dental surgeons who were given the questionnaire to fill in their views returned the completed questionnaires (90% response rate). Forty nine respondents (57%) were males and 37 (43%) were females. Almost an equal number of respondents 42(48.8%), and 40 (46.5%) belong to the age range of 20-29 and 30-39 years, respectively.

Almost all the respondents 81(94.2%) encountered anxious patients in their practice. Twenty three (26.7%) were aware of dental anxiety questionnaires but only 13 (15.1%) have previously administered the instrument. About one third of those who were aware of dental anxiety questionnaires appeared to have been taught either in a lecture or seminar, the rest seemed to have acquired the knowledge through self-efforts. Most of the respondents (81.4%) estimated the percentage of patients who have dental anxiety in clinical practice as less than 20%. Out of the 24% of the respondents who indicated that they could reliably assess the level of anxiety in their patients, only 11% claimed they will depend on dental anxiety indices while the rest (13%) claimed they would depend on their clinical acumen.

Frankl scale appeared to be the most popular dental anxiety scale among the respondents (Figure 1). All the respondents who were familiar with the Corah' scale appeared to have seen it applied whereas only half of those who were familiar with the Frankl scale appeared to have seen the instrument applied. Though some respondents were familiar with the Modified dental scale and Venham scales, none appeared to have previously seen them practically applied (Figure 1). Behaviour therapy was the most frequently employed dental anxiety management technique while hypnosis was the least frequently employed. It appears that behaviour therapy and intramuscular sedation were more often employed my female dentists (Table 1).

Table 1. Frequency of application of dental anxiety management techniques on a 5-point Likert scale

Management techniques	Males		Females	
	Median Score	Range	Median Score	Range
Behaviour therapy	3	2-5	4	3-5
Relative analgesia	3	1-4	3	1-4
Oral sedation	3	1-4	3	1-4
Intramuscular sedation	2	1-4	3	1-4
Intravenous sedation	2	1-4	2	1-4
General anaesthesia	2	1-4	2	1-4
Hypnosis	1	1-3	1	1-3

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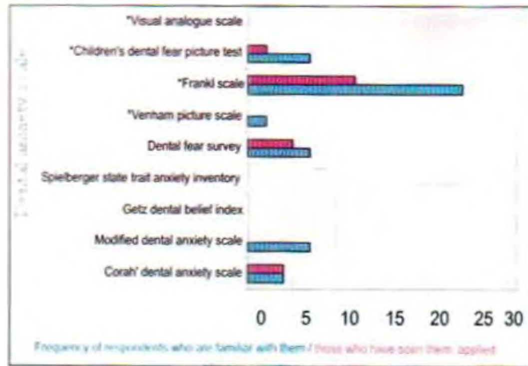

Key:

The darker bar charts represent frequency o f respondents who are familiar with dental anxiety scales while the lighter bar charts represent those who have seen them applied.

The dental anxiety scales with asterisk represent children dental anxiety scales

Figure 1. Different dental anxiety scales and the frequency of respondents who are familiar with and have seen them applied

Discussion

The result of this study shows that only a small percentage 23(26.7%) of the respondents were aware of such very important investigative and diagnostic tools like dental anxiety assessment questionnaires despite the fact that almost all the respondents, 81 (94.2%) had claimed that they encountered patients who have dental anxiety in their practice. About half of those who were aware of these instruments have previously seen them employed. This value supports the earlier literature [4] that stated that less than 20% of dental surgeons use the children dental anxiety indices while 20% of dental surgeons use the adult indices routinely in clinical practice. The reason for this observation is not yet clear but the result shows that about two- third of the few respondents who were aware of the instruments acquired the knowledge through self-efforts, that is, through reading of journals/textbooks or surfing of internet. It could, therefore, be deduced that the subject is not currently being emphasized in the dental schools and so its significance is not yet appreciated.

Dailey *et al*[6] had similarly attributed the lack of popularity of these tools to lack of its awareness on the part of the majority of dentists. In addition, it has also been reported [14] that there is anecdotal evidence that some practitioners worry about giving their patients dental anxiety assessments which they thought could cause the patients to unnecessarily focus upon "specific anxiety-provoking stimulus" during treatment. The same report also suggests that the time taken to discuss a patient's fears prior to treatment is of concern to some dentists. However, there is scientific evidence that these concerns are not justified[14].

Most of the respondents indicated that the percentage of patients who have dental anxiety in clinical practice is less than 20%. This finding agrees with previous reports found in the literature [21,22]. However, it should be emphasized at this point that self-reports of frequency of presentation of dental anxiety in clinical dentistry is subjective and prone to over erupting [23]. Dental anxiety indices provide a more reliable data on the subject [23]. Though it appeared the reported prevalence of dental anxiety is low, the possible negative influences the few individuals with the condition may have on the rest of the population cannot be overemphasized. This is because, fear could be subjective [2,24-26]. For instance, if a patient simply heard an uncomplimentary remark about dental treatment without a negative personal experience, they could develop dental anxiety. Furthermore, it is very important to identify and manage patients with dental anxiety because the condition is said to be more prevalent among individuals with high needs

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of oral health care [23].

Only 11% of the respondents indicated that they could reliably measure dental anxiety in their patients using anxiety indices. This result suggests that the knowledge of the respondents about dental anxiety indices is grossly inadequate. The respondents were more familiar with children dental anxiety scales (Figure 1). This may not be unconnected with the fact that most of the studies conducted in this environment on dental anxiety were done on children [5,10,27-28]. The pattern of management of dental anxiety as recorded in the current study did not reveal any departure from the reported practice worldwide [25,29-33]. Behaviour therapy and relative analgesia were the most commonly employed techniques respectively while hypnosis constitutes the least frequently applied technique. Majority of patients with dental anxiety gradually introduced to dental treatments using behaviour management techniques become relaxed and cooperative patients who readily accept most operative procedures [31]. Unfortunately, there still remains a minority who refuse treatment despite receiving the above therapy [30]. Some form of sedation may be required for such patients [31]. The result of the current study also suggests that behaviour therapy and intramuscular sedation were more frequently applied by the female respondents. Considering the small sample size employed for this study, a further study incorporating a larger sample size and a wider area of coverage is suggested before a conclusive deduction could be made.

Conclusion

The awareness and frequency of application of dental anxiety questionnaires appeared poor. Behaviour therapy was the most frequently employed dental anxiety management technique. It appears that female respondents employ behaviour therapy and intramuscular sedation more frequently.

Conflict of interest

None declared.

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