

## DENTAL ANXIETY SCALE IN EXODONTIA PATIENTS

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### ABSTRACT

**Objectives:** The objectives of the study were to determine the frequency of dental anxiety, its age, gender distribution and to find out the fear of local anesthesia amongst patients reporting for extraction to the Department of Oral and Maxillofacial Surgery Khyber College of Dentistry Peshawar.

**Material and Methods:** Questionnaires were constructed with questions directed at covering the necessary variables and using the International Dental Anxiety Scale to determine the anxiety level of the patients. The study was carried out in the Department of Oral and Maxillofacial Surgery Khyber College of Dentistry over a period of 4 months.

**Results:** A total of 200 patients were questioned in this study and out of these 27% were phobic. Severe anxiety was noted in 14.5% of patients, 19.5% were moderately anxious, 28% mildly anxious and 11% were not anxious at all. The ratio of phobic female patients was greater than males, 5.75:1.

**Conclusion:** Our study showed high frequency of phobia. This highlights the need for implementation of integrated dental care to patient's treatment. This will ensure patients comfort and will bring a positive increase in dental attendance of patients.

**Key Words:** Dental phobia, Dental anxiety scale, Local anaesthesia.

### INTRODUCTION

Phobic disorders are defined as persistent, unreasonable or intense fears of situations, circumstances or objects.<sup>1</sup> Dental phobia is classified among "specific phobias" according to the international classification of mental and behavioral disorders.<sup>2</sup> The impact that dental anxiety and phobia can have on people's lives is wide ranging and dynamic. Such patients often experience negative thoughts and feelings, sleep disturbances and problems in social life.<sup>3</sup> Most importantly this fear often leads to avoidance of dental visits leading to poor oral health.<sup>4</sup> Dental anxiety can be a part of general anxiety states, multiple fears or mood disorders and it can also be acquired by conditioning through previous traumatic experiences and vicarious learning.<sup>5</sup> The idea of a vicious cycle of dental fear, according to which dental phobia, delayed dental visiting, increased dental problems and form a linked chain feeding back into the fear experience has been reported in literature many times.<sup>6</sup>

Dental phobia has been established as the most common disorder among specific phobias.<sup>7</sup> Although data on frequency of dental phobia in Pakistan is not available, in western societies dental phobia is reported to be high particularly among female population leading to negative influence on regular dental visits and oral health.<sup>8,9</sup> According to the 2009 adult dental health survey in UK, every one in five women and one in ten men suffer from extreme dental anxiety even before they sit in dental chair.<sup>10</sup>

The objectives of the study were to determine the frequency of dental anxiety, its age and gender distribution, and also to find out the fear of local anesthesia among patients reporting for extraction to the Department of Oral and Maxillofacial Surgery Khyber College of Dentistry, Peshawar.

### MATERIAL AND METHODS

The present survey was carried out in the Department of Oral and Maxillofacial Surgery, Khyber College of Dentistry from 1<sup>st</sup> September to 15<sup>th</sup> November 2010. The study population consisted of adults with a minimum age of 18 years reporting to the Department of Oral and Maxillofacial Surgery for extraction. A total of 200 patients were randomly se-

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lected in this study. The information was gathered by taking history using Modified Dental Anxiety Scale (MDAS)<sup>11</sup>. The MDAS contains 5 multiple choice items dealing with the patient’s subjective reactions to the dental situations: (a) anticipating visit to dental clinic; (b) waiting in the dentist’s waiting room; (c) waiting in the dental chair for the drill; (d) waiting in the dental chair for scaling; (e) waiting in the dental chair for local anesthetic injection. Each question has five scores ranging from “not anxious”, to “extremely anxious”, in an ascending order from 1 to 5. Each question thus carries a possible maximum score of 25 for the entire scale. Cut off is 19 or above which indicates a highly anxious person, possibly suffering from dental phobia.

Study protocol and the use of data for research were fully explained to the patients to get an informed and understood consent. No clinical examination was done for the study. No radiological or biochemical investigations were carried out. The data collected was analyzed by using Microsoft Excel 2007 edition.

**RESULTS**

Two hundred patients were questioned in this study, amongst these 89 were males and 111 were females. On the basis of dental anxiety scale, 54 (27%) were phobic (Figure-1). Among the phobic patients, 8 (15%) were males and 46 (85%) were females, with male to female ratio of 1:5.75 (Figure-2). Highest phobia rate was noted in age group 18-33 (94%), age group 35-49 (86%), and age group 50 and above (80%) in decreasing order of frequency (Table-1). Regarding fear of local anesthesia injection 73 patients (36.5%) were phobic, 14 (7%) very anxious, 40 (20%) slightly anxious and only 33 (16.5%) were not anxious at all (Figure-2).

**DISCUSSION**

Despite the advances in dentistry, fear of dental procedures and pain still persists globally and is a major obstacle to successful dental treatment. Dental anxiety has been well described in western world however in developing countries studies on the topic are scarce. This study is the first of its kind in region. In this study dental anxiety was more prevalent among female patients. This is in accordance with studies done in India<sup>12</sup>, Brazil<sup>13</sup>, Israel<sup>14,15</sup> and Nigeria.<sup>16</sup> It is an established fact that dental anxiety is strongly correlated with pain experience and people who over estimate

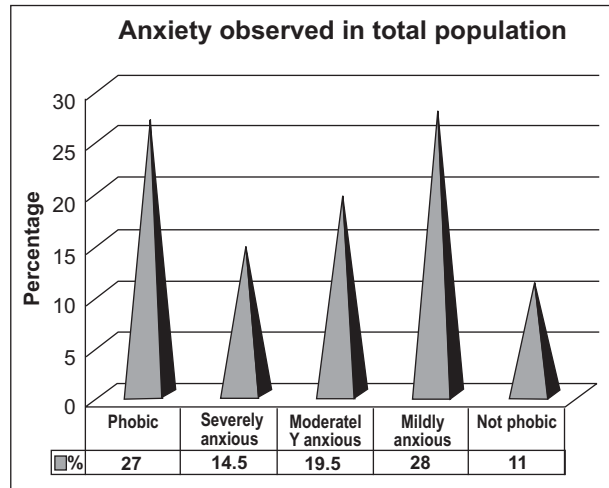


Fig. 1

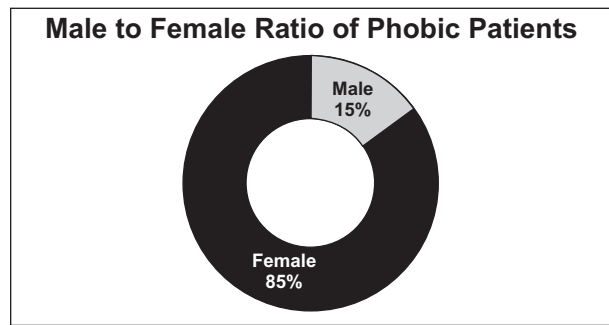


Fig. 2

**Table 1: Anxiety Observed In Different Age Groups**

S. No.	Age group	Total	Anxious	Non-Anxious	Percent-age
1	18-33	99	93	6	94
2	34-49	65	56	9	86
3	50 onwards	36	29	7	80

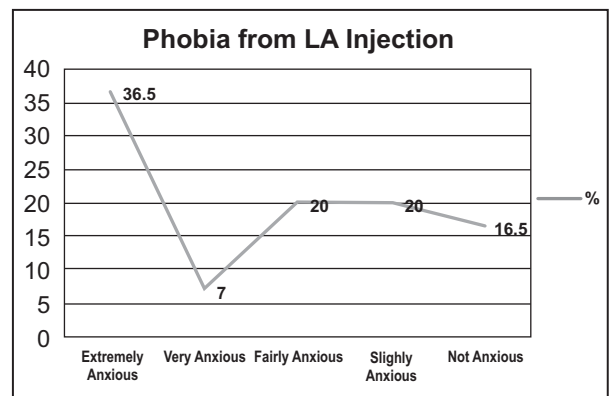


Fig. 3

their pain often end up suffering from dental anxiety.<sup>17</sup> Psychological studies indicate that women have a lower pain threshold than men, and low tolerance for painful stimuli and this may be the reason for gender difference in dental anxiety found in our study.<sup>18,19</sup> This high prevalence may also be due to the social oppression of females in this region. Women are not allowed to express their feelings and are often victims of domestic violence. According to a survey of Fikree and Bhatti<sup>20</sup> in Pakistan, 72% of physically abused women were anxious/depressed.

In the present study the rate of dental anxiety was high (94%) among adults aged 18-33, but decreased (80%) among older adults. Humphris et al<sup>21</sup> found that anxiety was four times greater in the younger age group (18-39 years) as compared to older population (60+ years). Similar findings were reported by Kumar<sup>22</sup> and Heaton.<sup>23</sup> Similarly Hagglin et al<sup>24</sup> in a longitudinal study on dental anxiety from 1968 to 1996 confirmed the hypothesis that dental anxiety decreases with age. This may be due to increased maturational status and the ability of individual to rationalize experiences with increasing age.

In this study, 89% patients suffered from anxiety, out of which greater percentage was of patients with mild anxiety (28%) followed by dental phobia (27%), moderate anxiety (19.5%), and severe anxiety (14.5%), while 11% of the patients were not anxious at all. This is a very high frequency rate and is in contradiction with studies done in other parts of the world, using the same dental anxiety scale. In India<sup>25</sup> severe anxiety was found in 25.8% while 1.2% patients were phobic. Similar results of anxiety were obtained in other countries like Sri Lanka (32%),<sup>26</sup> Brazil (28.17%),<sup>27</sup> Bulgaria (29.9%)<sup>28</sup> and Fiji (28% anxious, 13% highly anxious).<sup>29</sup> On the other hand prevalence of dental anxiety was relatively low in countries like China (10.5%)<sup>30</sup>, Britain (13%),<sup>31</sup> France (13.5%),<sup>32</sup> Russia (12.6%),<sup>33</sup> Lithuania (11.3%)<sup>34</sup> and Canada (5.8%).<sup>35</sup> These findings suggest that prevalence of dental anxiety is very high in our region. Reasons can be attributed to low literacy level, lack of awareness about dental procedures and high prevalence of general anxiety among population in this part of the world. As the study was carried out in public sector hospital, another cause for high prevalence of dental anxiety may be over burden of patients and lack of time by dentists for proper patient counseling.

Fear of local anesthesia injection was very high among patients in this study. High rate of phobia (36.5%) was noted while 20% patients had slight anxiety from local anesthesia injection. Similar findings have been reported by Nair<sup>12</sup> where 33.5% of population had high fear from local anesthesia injection. Similarly Peretz<sup>36</sup> and Erten<sup>37</sup> reported that feeling the needle was the most fearful stimulus, while it was reported as second most anxiety provoking stimulus by Armfield.<sup>38</sup> Injection phobia has often been strongly correlated with dental phobia, and some studies often group them under same category.<sup>39</sup> A genetic reason for injection phobia has been stated and the cardiovascular implications associated with local anesthetic injection are also well known.<sup>40</sup> These findings suggest that more studies are required to investigate dental anxiety and injection phobia in detail and proper measures should be adopted for management of such patients.

## CONCLUSION

1. The prevalence of dental anxiety among patients coming to Khyber College of Dentistry, Peshawar is alarmingly high.
2. Dental anxiety is more common among young population and particularly females.
3. The frequency of anxiety from local anesthesia injection is high among patients.

## RECOMMENDATIONS

The findings reported in this study indicate towards a potential problem and efforts are required to investigate dental anxiety among our population. Also dentists education on the matter is required that will result in proper management and greater patient comfort.

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