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### AWARENESS ON ANXIETY ASSOCIATED WITH FINGER PRICK METHOD AMONG DENTAL COLLEGE STUDENTS

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#### **ABSTRACT**

Anxiety is commonly defined as a variety of emotions such as nervousness, anticipation, expectations, worry accompanied with physiological arousal. Anxiety associated with finger prick method is an underrated disorder which needs more awareness in order to reduce its risks. Self-monitoring of blood glucose (SMBG) uses finger prick method. So the main aim of this study is to assess the awareness of anxiety associated with finger prick methods among dental students. A self-administered questionnaire was designed based on awareness. The questionnaire was distributed through an online survey monkey link. The study population included 100 students in a dental college. The results were collected and analysed. Collected data were represented in the pie chart. From the results, when asked the study population about which emotion they experience when pricking themselves, 2.70% answered that they feel excited, 64.86% answered that they were nervous and 32.43% upright answered that they were anxious. Anxiety is a major disorder among the majority of the world population. From this survey, it was evident that the majority of the population were aware about the anxiety associated with finger prick methods among the dental college students. A

more severe awareness must be spread among the people and anxiety prevailing individuals should seek help from professionals and work towards their betterment and well-being.

## INTRODUCTION

Anxiety is commonly defined by Freud as “something felt” due to various emotions such as nervousness, anticipation, expectations, worry accompanied with physiological arousal. (Newmark, 1972) Anxiety is popularly known as a physiological disorder which is accompanied by significant suffering and improper functioning. It is also a blend of various thoughts and feelings of one’s own and is characterised by a sense of uncontrollability and unpredictability over the possibility of an unfortunate life event (Safree, Sin and Dzulkifli, 2009). Self-monitoring of blood glucose (SMBG) uses finger prick method finger in which the finger is pricked in order to collect blood samples has aided diabetes management, principally by enabling patients and health professionals in striving for excellent glycemic control (Olansky and Kennedy, 2010). Without finger pricking, no self-measurement of blood glucose (SMBG) is possible. Patients use conventional lancets or the latest device designed uniquely for patients with diabetes to make this finger pricking procedure less painful (Heinemann, 2008).

There is another phenomenon which is needle phobia, clinically termed as Belonephobia strongly influences psychological behaviors. Physiological responses include heart palpitations, shortness of breath, panting, nervousness and fainting. In Nepal, first year MBBS students prick their own fingers for hematology practicals. They used to suffer from Belonephobia and pain due to finger prick (Roy *et al.*, 2014). According to Amy *et al.* 2014, anxiety to the finger prick method which is abbreviated as FPA is assessed by using the previously published injection anxiety measure with the questions being tailored to focus on the finger prick method (Shlomowitz and Feher, 2014). Many types of anxiety has been accounted for under situations similar to blood collection by finger prick. One of them is General anxiety disorder which is due to anxiety developed due to a particular dislike of certain objects, situations, people etc (Copeland *et al.*, 2012). Another type of anxiety is pre-donation anxiety (Ditto and France, 2006) which is experienced prior to blood donation. Severe Dental Anxiety (SDA) is a special type of anxiety which is experienced prior to receiving dental treatment (Jankovic *et al.*, 2014). Anxiety is measured using various anxiety scales, and EMAS is the first scale discovered (Endler *et al.*, 1989). Many researches focusing on determining the anxiety levels and blood glucose level in patients use the finger prick method in order to obtain the sample (Kaur *et al.*, 2013), (Badugu, Lakowicz and Geddes, 2003)

There hasn’t been any research done so far about the FPA among dental college students. This study aims to determine the awareness about association between finger pricking and anxiety among the dental population.

## MATERIALS AND METHODS

A self-administered questionnaire was designed based on awareness. The questionnaire contained various awareness and knowledge based questions

about the anxiety associated with finger prick method. The selected study population were asked to fill out the forms after reading each question thoroughly. The questionnaire was distributed through an online survey monkey link. The inclusion criteria included college students, age, sex and education whereas the exclusion criteria included height, weight and skin tone of the population. The study population included students in a dental college. The participants were explained about the purpose of study in detail. The questions were carefully studied and the participants marked the corresponding answers. The data was collected and statistically analyzed.

## RESULTS AND DISCUSSION

It is essential to be aware about anxiety and anxiety disorders not only related to finger pricking but anxiety in general. The results were obtained and represented in a pie chart.

According to this study, when asked the study population about which emotion they experience when pricking themselves, 2.70% answered that they feel excited, 64.86% answered that they were nervous and 32.43% upright answered that they were anxious [fig.1]. When asked if they felt anxious at the thought of pricking themselves, 81.08% answered positively [fig.2]. Majority of the study population that is 81.08% answered positively when asked if they were scared of the pain that would be caused due to the finger prick [fig.3]. The question rose such that if they would be prone to develop anxiety at the mere thought of hurting one's own self, about 69.44% answered positively [fig.4]. There have been many cases where the sight of blood would make the people uneasy, hence when asked if they feel uncomfortable at the sight of their own blood, the majority of the population that is 70.27 % answered negatively [fig.5]. When asked if they feel giddiness at the sight of their own blood, yet again the majority of the population that is 72.97% answered negatively [fig.6]. When asked if they feel anxious or uneasy about the sight of the lancet, 67.57% answered negatively proving that the lancet doesn't have much of an impact in developing anxiety due to finger prick [fig.7]. Majority of the study population, 62.16% answered negatively when asked if they were able to prick their finger by themselves with ease [fig.8] and complementing this question, when asked if they were comfortable with someone else pricking their finger, 81.08% answered positively [fig.9] proving yet again that people experience anxiety to hurt themselves and in this case, prick themselves.

In other studies, they state that the prevalence of injection phobia ranges from 7–22% of the general population, while the inability to self-inject may also be increasingly prevalent (Cox and Mohr, 2003). A study by Ann et al. proved that 9% of donors who experienced an unfortunate experience at their first blood donation did not return for a second donation (van Dongen *et al.*, 2013). In a research which analyses the anxiety prevalent among the adolescents who undergo capillary blood monitoring, 13.4% and 17% of adolescents reported state and trait anxiety scores respectively (Herzer and Hood, 2010)

Figure 1: Pie chart representing the percentage distribution of awareness based on the emotion experienced while finger pricking. 3% of the participants had answered 'excited' (blue), 32% had answered 'anxious' (dark green) and remaining 65% had answered 'nervous' (green).

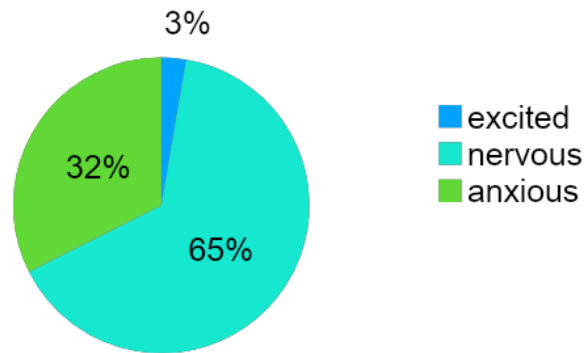


Figure 2: Pie chart representing the percentage distribution of awareness based on anxiety felt during finger pricking. Majority of the participants, about 81% had answered 'yes' (blue) and the remaining 19% had answered 'no' (green).

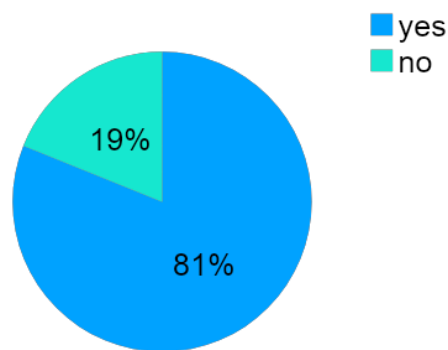


Figure 3: Pie chart representing the percentage distribution of awareness regarding if the participants are scared of the pain due to finger pricking. Majority of the participants about 81% had answered 'yes' (blue) and the remaining 19% had answered 'no' (green).

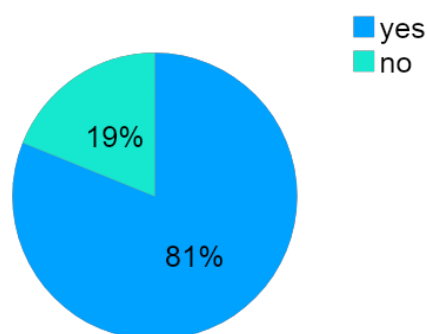


Figure 4: Pie chart representing the percentage distribution of awareness regarding the development of anxiety at the thought of hurting oneself. Majority of the participants, about 69% had answered 'yes' (blue) and the remaining 31% had answered 'no' (green).

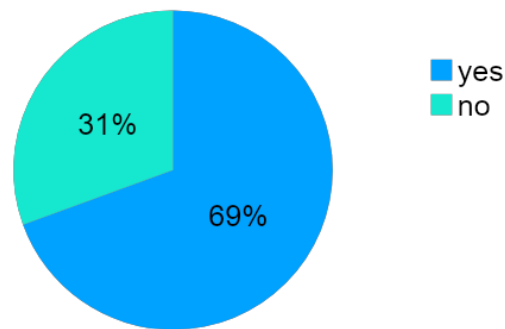
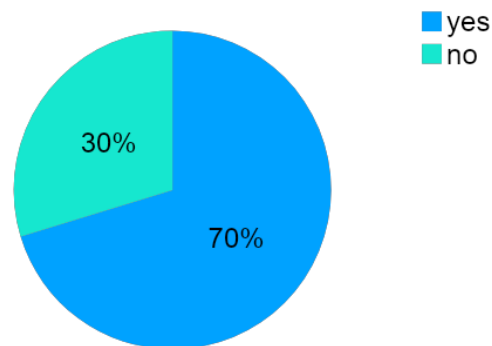


Figure 5: Pie chart representing the percentage distribution of awareness regarding feeling uncomfortable at the sight of their own blood. Majority of the participants, about 70% had answered 'yes' (blue) and the remaining 30%



had answered 'no' (green).

Figure 6: Pie chart representing the percentage distribution of awareness regarding experiencing dizziness at the sight of blood. Majority of the participants, about 73% of the participants had answered 'yes' (blue) and the remaining 27% had answered 'no' (green).

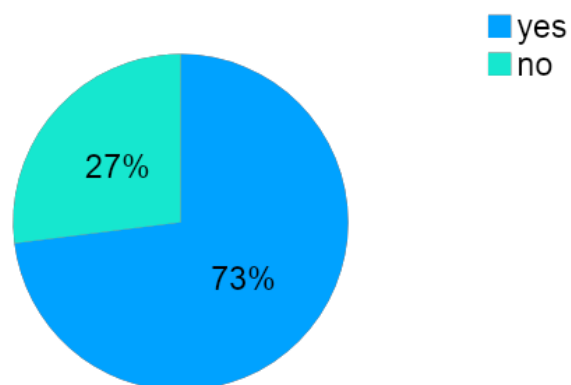


Figure 7: Pie chart representing the percentage distribution of the fact that if they had felt anxious at the sight of lancet. Majority of the participants, about 68% of the participants had answered 'yes' (blue) and the remaining 32% had answered 'no' (green).

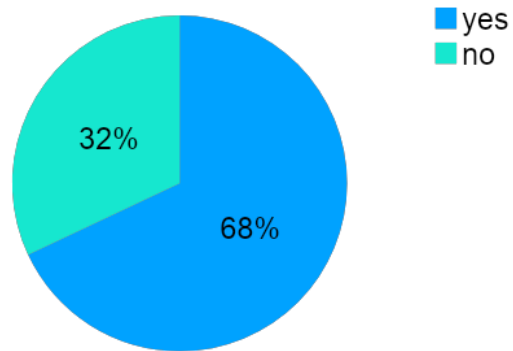


Figure 8: Pie chart representing the percentage distribution of the fact that if they were able to prick their finger by themselves with ease. 62% of the participants had answered 'yes' (blue) and the remaining 38% had answered 'no' (green).

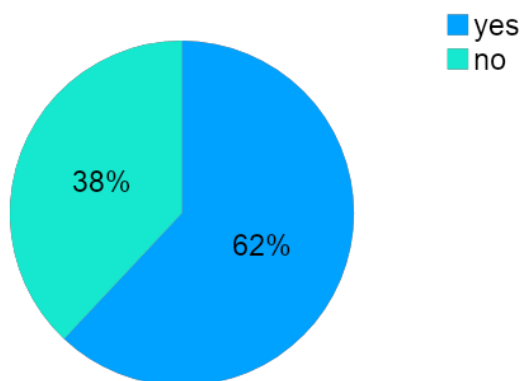
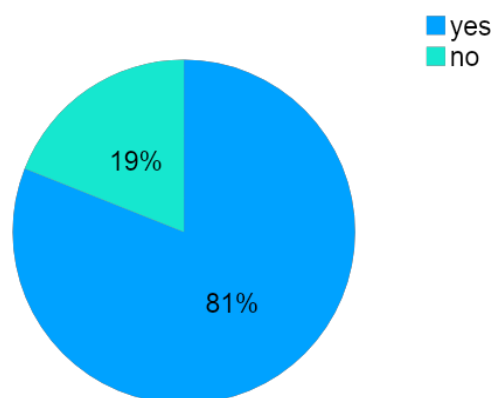


Figure 9: Pie chart representing the percentage distribution of the fact that if they were comfortable with someone else pricking their finger. 81% of the participants had answered 'yes' (blue) and the remaining 19% had answered



'no' (green).

## CONCLUSION

In certain under developed countries and races, anxiety and anxiety related illness is not given proper attention leading to greater consequences. This is due to lack of knowledge among people about this situation. From this survey, it is evident that the majority of dental populations were about anxiety associated with finger prick methods. Hence, proper awareness must be spread among the people and anxiety prevailing individuals should seek help from professionals and work towards their betterment and well-being.

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## CONFLICT OF INTEREST

The authors declare no conflict of interest

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