



INFLUENCE OF SOCIO-ECONOMIC STATUS (SES) ON DENTAL FEAR & ANXIETY (DFA) IN TOBACCO-USING CHILDREN

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Abstract

Introduction: Regardless of the technological and skilful advances in dentistry, DFA remains a predominant cause reducing dental attendance. When tobacco users are aware of the stigma associated with the habit and fear being criticized or penalized, this avoidance is heightened. DFA varies in accordance to different parameters: SES being an important one.

Aim: To examine the impact of SES on DFA in a sample of Ahmedabad's children who consumed tobacco.

Materials and Methods: In order to create two study groups of higher and lower SES; each with 100 children consuming tobacco, 1523 students between the ages of 11 and 12 from government and private schools underwent screening. The study used a self-report questionnaire with WBFPS to rate DFA. To analyse the data, SPSS software version 24.0 was utilized.

Results: 90% of higher SES tobacco users scored higher while 96% of lower SES tobacco users scored lower in the questionnaire used.

Conclusions: The level of SES was directly proportional to the DFA in children using tobacco.

Keywords: Fear, Anxiety, Socio-Economic Status, Tobacco, Children, Addiction

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1. Introduction

Children and adolescents frequently experience anxiety disorders which manifest as physical discomfort and violent temper tantrums. This vague presentation frequently results in time-consuming, intrusive, and pointless medical examinations including dental appointments which can be ruined by anxiety. DFA differs according to a multiplicity of variables, with SES playing a significant role since DFA is more likely to be influenced by culture [1]. Most of the time, when a person feels fear or anxiety, it is disproportionate to the actual risk that exists and interferes with everyday activities. This avoidance behaviour results in clinically high discomfort levels and functional impairments that lead to poor dental health [2,3,4]. Adding to the above conundrum, tobacco use is associated with disruptive and altered cognitive functions which can again alter the perception of a child and hamper his ability to make a right decision. The shame associated with its use causes the child to avoid dental professionals. As per the GYTS-4, India National Fact Sheet 2019, prevalence of tobacco use in Indian adolescents was found to be 8.5% [5]. Due to an inability to self-quantify problems encountered by children, measuring anxiety continues to be a challenge. The ability to internalize and distinguish between varied emotions is inadequate due to incomplete cognitive development in children. This makes it challenging for them to understand the construct being evaluated and have the capability to gauge the intensity of the emotional manifestation [6]. In order to prevent this, suitable pediatric management strategies like using pictorial representations should be put into place. This study examines the impact of SES background on DFA in a sample of tobacco using children from Ahmedabad, India by using the WBFPS.

2. Materials and Methods

In order to obtain a total of 100 tobacco users in both higher and lower SES groups, 1523 students of age 11 and 12 from 10 English-medium schools in Ahmedabad, India—3 government-run and 7 private—were examined for this comparative study. There were fewer students present on the day of the examination in the 3 government schools that were visited than there were in the 7 private schools. Tobacco users were more common in government schools than in private ones; therefore 100 of them could be easily found in 3 government schools as opposed to 7 private ones. Private schools had an annual fees of Rs 2 lakh per annum or more and hence the students there were categorically

placed in the high SES group. Government schools had students belonging to a lower SES background with minimal or no fees. According to The Right of Children to Free and Compulsory Education Act 2009, published in the Gazette of India Registered No. DL-(N)04/0007/2003-09, a "child belonging to disadvantaged group" means a child belonging to the Scheduled Caste, the Scheduled Tribe, the socially and educationally backward class or such other group having disadvantage owing to social, cultural, economical, geographical, linguistic, gender or such other factor, as may be specified by the appropriate Government, by notification; and a "child belonging to weaker section" means a child belonging to such parent or guardian whose annual income is lower than the minimum limit specified by the appropriate Government, by notification [7]. The modified Kuppaswamy SES Scale, which is often employed to evaluate SES in urban contexts, is similar to this [8]. Children aged 11-12 years consuming tobacco and with no previous exposure to a dental surgeon were included in the study while those with a physical or mental handicap were excluded from the study. The study employed a standardized, self-administered Wong Baker FACES Scale self-report template for a child in a questionnaire to analyse DFA by SES [Appendix 1]. Each child who consumed tobacco was given instructions on how to use the WBFPS to choose the response that best described how they would feel if they had to go to a dentist for the first time. As a tool for measuring anxiety or discomfort, the child was given the WBFPS (Wong Baker Faces Pain Scale) template in the aforementioned questionnaire, and the meaning of each face on the scale was explained. The WBFPS is a horizontal scale with six hand-drawn faces that run from 0 to 5, with the smiling "no hurt" face on the left and the sobbing "hurts worst" face on the right [9]. There was only one answer to the questionnaire. The simplest linguistic structure was employed to ensure that even the youngest subjects could understand it. Responses were graded based on each participant's input. Before the interview was conducted, the relevant institution heads and the parents of the schoolchildren granted their approval. The institutional review board gave its ethical approval. The questionnaire was distributed to participants after explaining the purpose of the study and informing them that they had to complete the full document. Only students who consented to take part in the study were enrolled, and all participants provided written informed consent. If a participant in the study changed his mind, he was not required to finish the questionnaire. Students completed the

survey in front of the examiner, and they were not permitted to converse with one another while doing so. The participants in the study were kept anonymous, and they had no idea who the examiner was. The examiner answered the students' inquiries concerning the questionnaire and provided clarifications. After being carefully reviewed for accuracy and confidentiality, the questionnaire was collected back. The entire process was conducted in a separate classroom of the aforementioned schools with the supervision of their class teachers. Those who had successfully finished their interviews were then assigned to a separate classroom. This was done to prevent bias brought on by peer pressure. In order to evaluate the data, SPSS Version 24.0 was used. To determine significant mean differences, Chi square tests were utilized.

3. Results

Higher SES groups of children using tobacco scored more WBFPS values at 4 and 5, which accounted to 90% [Plate 1], while lower SES groups scored more WBFPS values at 0, 1 and 2 accounting to 96% [Plate 2]. Chi square test using Fisher's exact test at 5% level of significance yielded p value < 0.001. p value stood at <0.001 which means the DFA is statistically highly dependent on the SES of the child tobacco user.

4. Discussion

This study highlighted a highly significant statistical correlation between DFA and the SES of adolescents using tobacco. Since the children selected had never been to a dental visit before, the only measure through which a child would have had DFA was through a vicarious or a verbal transfer of DFA from parents, friends or multi-media. Higher the SES, higher was the DFA in those children. This might be the case because they would have had more pampering at home, making them less equipped to handle stress and anxiety than the lower SES group, who displayed a lower DFA score. Another aspect could be that individuals of the former group would be more likely than those of the latter to conceal this behaviour from family and authorities due to the guilt linked with their tobacco use. Due to their fear of getting caught, many of these high SES children would be deterred from obtaining dental care. Children's fear of dental care has been linked to major health issues, and it can last into puberty. This fear can make children act out during dental care. It is crucial to detect the nervous child as early as possible in order to prevent this kind

of disruptive behaviour, preferably using suitable pediatric management strategies [10]. The neurotoxic and neurological abnormalities associated with tobacco use during crucial adolescent development stages leads to impulsive behaviour related to tobacco use. Prolonged usage temporarily improves cognitive function, but when abstinence is observed, there is a loss in frontal cortex function. According to the tobacco-induced neurotoxicity of adolescent cognitive development (TINACD) theory, executive functioning changes, which is especially noticeable in stressful or emotionally charged situations. The model suggests that early adolescence which is a time of significant neurodevelopment, is the period when nicotine dependence starts to have the most noticeable negative consequences on the brain [11]. Children who consume tobacco are aware of the stigma and ridicule associated with use and hence will always try to hide evidences of this habit from schools and professionals. Fear and anxiety will emerge for a variety of reasons, both personal and environmental, when the child is exposed to a healthcare professional. This makes it crucial for doctors to comprehend the importance of scoring DFA in tobacco-using youngsters according to various socioeconomic parameters.

Anxiety is usually a derivative experience based on memory traces of past pain or fear, whereas fear can either be an essentially determined (primary) emotion or a derivative (secondary) experience based on preceding pain. Thus, the primary experience is always one of pain. The sensation of pain is a sign that the body's integrity has been compromised in respect to the outside world or that a part of it is functioning improperly in relation to other sections of the body [12]. The nervous system's over-stimulation as a result of the body's physiological response to stress brought on by anxiety and fear results in an increase in cortisol and adrenaline. This results in sensitivity and pain felt either psychologically or physically. The understanding that fear and anxiety both cause psychological and emotional pain is important for it helps in grading the intensity of DFA using any of the relevant pain scales as the WBFPS used in this study which made it easier for the children to pictorially externalize their DFA. The stigma of tobacco use, which may result in ridicule, fines, and punishments, combined with a vicarious transfer of stress and anxiety associated with the first dental treatment, weighs heavily on children, particularly those from higher socioeconomic backgrounds. As a survival mechanism, lower SES group users cultivate a "devil-may-care" attitude by over-sensitizing to pain in their daily

routines. The study emphasizes a psychological component of behaviour that constitutes the DFA in tobacco using children. Dental professionals should tap into this knowledge using appropriate behavior modifying techniques in order to make dental care a safe zone for children across all strata irrespective of their habits or culture.

5. References

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Appendix 1: Questionnaire

Study of DFA by SES (Ahmedabad)

School name:

Grade & Division:

Age:

Wong-Baker FACES Pain Rating Scale



Explain to the person that each face is for a person who feels happy because he has no pain (hurt) or sad because he has some or a lot of pain. Face 0: is very happy because he doesn't hurt at all. Face 1: hurts just a little bit. Face 2: hurts a little more. Face 3: hurts even more. Face 4 hurts a whole lot. Face 5 hurts as much as you can imagine, although you don't have to be crying to feel this bad. Ask the person to choose the face that best describes how he is feeling.

Rating scale is recommended for persons age 3 years and older.

Brief word instructions: Point to each face using the words to describe the pain intensity. Ask the child to choose the face that best describes his own pain and record the appropriate number.

From Wong DL, Hockenberry-Eaton M, Wilson D, Winkelstein ML, Schwartz P: Wong's Essentials of Pediatric Nursing, 6/e

Special remarks:

Supervisor's sign:

Date:

Figures:

Plate 1: Percentage of DFA by WBFPS in high SES tobacco users

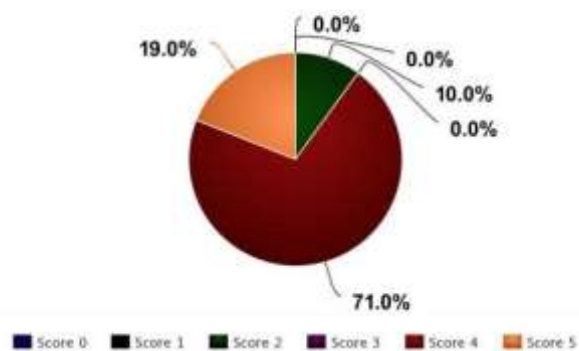


Plate 2: Percentage of DFA by WBFPS in low SES tobacco users

