

Awareness of Malocclusion and Behaviour towards Orthodontic Treatment among Nursing Students

Dr. Evan. A. Clement¹

(Assistant professor Department of orthodontics /Sathyabama Dental College & Hospital, INDIA)¹

Abstract

Background : It has been stated that malocclusion is the third most common oral health problem, which is caused due to various environmental and genetic factors. The lifestyle of a person is adversely impacted by malocclusion due to its psychological as well as other disturbances in eating, talking, and aesthetics. So the present study aims to assess the awareness towards orthodontic treatment among Nursing Students.

Materials and Methods: A total of 200 female Nursing Students between 18-24 years were included in the study. A pre-structured self-administered questionnaire consisting of 12 questions were given to the Nursing students to assess their knowledge and attitude towards Orthodontic treatment. **Statistical Analysis:** The survey data was collected and organized into Microsoft Excel spreadsheets (Microsoft Inc., USA), and the data was tabulated and computed in percentage using SPSS software version 21.0

Results: A total of 161 (80.5%) of female Nursing Students have come across the term Malalignment of teeth, 110 (55%) of the Students perceive that Malalignment is caused due to Genetic/Hereditary reason, 140 (70 %) Students perceive Malalignment is due to external habits (Thumb sucking/Tongue thrusting, lip biting etc). Among the 200 Nursing Students 155 (77.5 %) were aware that few teeth may have to be removed for proper positioning of irregular teeth during orthodontic procedure and 66 (33%) students were aware that the improper teeth can be corrected even after 40 yrs of age. 98 (49%) of students perceive that orthodontic procedures are expensive, 133 (66.5%) consider orthodontic treatment is a stressful procedure.

Conclusion: Findings confirmed that there is a positive awareness towards orthodontic treatment among Nursing Students, but specific misconceptions and barrier exist.

Key Words: Malocclusion, Orthodontic Treatment, Behaviour, Awareness, Nursing students

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I. Introduction

Occlusion is a manner in which the upper and lower teeth intercusate between each other in all mandibular positions and movements. It is a result of neuromuscular control of the components of the mastication systems namely: teeth, periodontal structures, maxilla and mandibular, temporomandibular joints and their associated muscles and ligaments¹. An individual's occlusal status is generally described by two major characteristics: intra-arch relationship, the relationship of the teeth within each arch to a smoothly curving line of occlusion and inter-arch relationship, the pattern of occlusal contacts between the upper and lower teeth². A physiologic occlusion differs from a pathological occlusion in which the components function efficiently and without pain, and remain in a good state of health³. It can be either normal occlusion or malocclusion. Specifically in this state the teeth remain firm, do not migrate or cause pain during and after contact. The temporomandibular joint and associated structures should function freely and without pain. In an epidemiological study, the terminology of occlusion encompassed all the occlusal variations ranged as ideal occlusion, normal occlusion and malocclusion.

The term “**irregularities of teeth**” as applied to teeth that were twisted or unevenly arranged, did not express the full meaning of these deformities⁴. The term “malocclusion” would be more expressive. The World Health Organization⁵, had included **malocclusion under the heading of Handicapping Dento Facial Anomaly**, defined as an anomaly which causes disfigurement or which impedes function, and requiring treatment “if the disfigurement or functional defect was likely to be an obstacle to the patient's physical or emotional well-being”.

Today malocclusion occurs in the majority of the population. It is neither a normal or unhealthy condition⁶. Malocclusion is an appreciable deviation from the ideal occlusion that may be considered aesthetically unsatisfactory thus implying a condition of imbalance in the relative sizes and position of teeth, facial bones and soft tissues (lips, cheek, and tongue)⁷. It is important not to equate the possession of

malocclusion with the need for a treatment instead it should be judged according to dental health, aesthetic or functional criteria namely: chewing, speech, breathing and swallowing⁸.

It has been stated that malocclusion is the third most common oral health problem, which is caused due to various environmental and genetic factors. The lifestyle of a person is adversely impacted by malocclusion due to its psychological as well as other disturbances in eating, talking, and aesthetics⁶.

Awareness is the state or ability to perceive, to feel or to be conscious. Planning for oral health is important, to have a basis for awareness regarding general health as an inseparable part. Indices and information related to malocclusion and treatment needs are available from all around the world. Malocclusion affects esthetics, the physical, psychological, and social life of a person. It is very important to take the orthodontic treatment, which mainly depends on knowledge and awareness of the person towards orthodontic treatment.^{9,10} So the present study was conducted to find out the awareness towards orthodontic treatment among Nursing Students.

II. Material and Methods

A total of 200 Female nursing Student between 18-24 years from Kattanam District of Kerala were included in the study. A pre-structured self-administered questionnaire consisting of 12 questions were given to the students after the clinical examination to assess their knowledge and attitude towards orthodontic treatment. The questionnaire was formulated which comprised of two parts: The **first portion** included the questions related to the demographic information of participants, such as age and gender, the **second portion** of the questionnaire comprised 12 questions, which was prepared based on other relevant studies.^{11,12} Six Questions related attitude and Six Questions related to knowledge towards orthodontic treatment were asked to participants.

Statistical Analysis

The survey data was collected and organized into Microsoft Excel spreadsheets (Microsoft Inc., USA), and the data was tabulated and computed in percentage using SPSS software version 21.0 .Chi-Square test was performed to calculate the frequency and percentage of awareness towards malocclusion and orthodontic treatment among female nursing students.

III. Results

The attitude, knowledge among Nursing Students towards malocclusion and orthodontic treatment was calculated and expressed in percentage (**Table 1**)

A total of 161 (80.5%) of female Nursing Students have come across the term Malalignment of teeth, and 110 (55%) of the Students perceive that Malalignment is caused due to Genetic/Hereditary reason, 140 (70%) Students perceive that Malalignment is due to external habits (Thumb sucking/Tongue thrusting,lip biting). In regard to the effects of Malalignment 103 (51.5%) of the Students perceive that improper alignment of teeth would affect mastication (Chewing problem), 90 (45%) perceive that Malalignment would lead to Mouth breathing. Out of 200 female students 170 (85%) perceive that proper orthodontic treatment would improve facial appearance.

Among the 200 female Nursing Students 155 (77.5%) were aware that few teeth may have to be removed for proper positioning of irregular teeth during orthodontic procedure, and 66 (33%) students were aware that the improper teeth can be corrected even after 40 yrs of age. 98 (49%) perceive that Orthodontic procedures are expensive, and 133 (66.5%) perceive Orthodontic treatment is a stressful procedure.

Only few participants 19 (9.5%) have undergone orthodontic treatment among the study sample, and 175 (87.5%) students were not willing to undergo orthodontic procedure if it take more than 2 years.

Table no 1- The attitude, knowledge among Nursing Students towards malocclusion and orthodontic treatment

		Yes	%	NO	%
1	Have you heard of the term Malalignment of teeth?	161	80.5	39	19.5
2	Do you think this Malalignment is caused due to Genetic/Hereditary reason ?	110	55	90	45
3	Do you think this Malalignment is due to external habits (Thumb sucking/Tongue thrusting,lip biting) ?	140	70	60	30
4	Do you think improper alignment of teeth would affect mastication (Chewing problem) ?	103	51.5	97	48.5
5	Do you think improper alignment of teeth could lead to alteration in breathing (Mouth breathing habit)?	90	45	110	55

6	Do you know that taking proper orthodontic treatment would improve your facial appearance?	170	85	30	15
7	Have you undergone orthodontic treatment?	19	9.5	181	90.5
8	Would you be willing to undergo orthodontic procedure if it take more than 2 years?	25	12.5	175	87.5
9	Are you aware that few teeth may have to be removed for proper positioning of irregular teeth?	155	77.5	45	32.5
10	Do you think orthodontic treatment is a stressful procedure?	133	66.5	67	43.5
11	Do you think orthodontic procedures are expensive?	98	49	102	51
12	Are you aware that the improper teeth can be corrected even after 40yrs of age?	66	33	134	67

Note: Data's are represented in frequency and percentage.

IV. Discussion

Malocclusion is third in the ranking of priorities among the problems of dental public health worldwide, surpassed only by dental caries and periodontal diseases^{13,14}. It is the second common dental disorder next to dental caries among children and young adults. About 30-40% children suffer from malaligned teeth, affecting proper functioning of dentofacial apparatus and aesthetics¹⁵. Across the globe the prevalence of malocclusion is considerably high in Europe (nearly 80%) among the Caucasian population and in African countries like Kenya, Nigeria and Tanzania it is ranging from 72 to 86%¹⁶. India being a large country with its multiracial and multiethnic inhabitants shows a definite variation in the prevalence of malocclusion from north to south region. The prevalence of malocclusion in India has reported wide variation from as low as 19.6% to as high as 96.05%¹⁷.

Role of Nurses as health educators play a key role in improving the health of the nation. This includes educating people to make decisions about their health care and treatment, disease prevention and Health care promotion. Nurses have the ability to incorporate oral health risk assessment, screening, application of fluoride varnish and oral health education into infant, child, adolescent and adult health. So the present study was conducted to find out, Attitude and Awareness towards orthodontic treatment among Nursing Students.

In the present study, Around 133 (66.5%) Nursing students perceive that orthodontic treatment is a stressful procedure, while 67(33.5%) students disagreed for the same. 175 (87.5%) students were not willing to undergo orthodontic procedure if it take more than 2 years. In a similar study done among Malaysian population only 4% of patients thought that the orthodontic treatment doesn't takes a long treatment timing¹⁹ Whereas in the present study only 19 (9.5%) participants had undergone orthodontic treatment, and only 25 (12.5%) students were willing to undergo orthodontic procedure if it take more than 2 years.

Among 200 nursing students 98 (49%) perceive that orthodontic treatment is expensive, while only 102 (51%) of the respondents disagreed for the same. These results were similar to the earlier studies where they have stated that financial restriction was found to be one of the barriers for the patients to undergo orthodontic treatment.¹⁸

A total of 161 (80.5%) of females Nursing Students were aware of the term Malalignment of teeth and 110 (55%) of the Students agreed Malalignment is caused due to Genetic/Hereditary reason, 90(45%) of the Students disagreed on the same.

Dental malocclusion is mainly influenced by the environmental factors especially due to the person's individuals Habits. 140 (70%) Students agreed that Malalignment is due to external habits (Thumb sucking/Tongue thrusting, lip biting) and 60(30 %) of the Students disagreed on the same.

In regard to the effects of malocclusion 103 (51.5%) of the Students were aware that improper alignment of teeth would affect mastication (Chewing problem), 90 (45%) were aware that malalignment would lead to Mouth breathing. Majority of the nursing students 170(85 %) were aware that proper orthodontic treatment would improve your facial appearance.

Among the 200 Nursing Students 155 (77.5%) were aware that few teeth may have to be removed for proper positioning of irregular teeth during orthodontic procedure and 66 (33%) students were aware that the improper teeth can be corrected even after 40 yrs of age.

The limitation of the study was that, it was performed among limited number of Nursing students pertaining to a single institution, future studies needed to be performed among large sample group.

V. Conclusion

The most important factors for not undergoing orthodontic treatment by patients is the *lack of awareness*, but the findings of the present study confirmed that there is a positive awareness towards orthodontic treatment among female Nursing students but specific misconceptions and barrier exist.

The students were significantly more concerned about the cost and duration of orthodontic treatment and majority of them were aware of the etiology and effects of malocclusion, and perceived that orthodontic treatment would improve facial aesthetics.

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