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RESEARCH ARTICLE

ORAL HEALTH STATUS OF UNDER GRADUATE DENTAL STUDENTS OF NOBEL MEDICAL COLLEGE TEACHING HOSPITAL (NMCTH), BIRATNAGAR, NEPAL.

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Abstract

Introduction: Oral health-related quality of life represents the subjective experience of symptoms related to oral conditions that have an impact on well-being. [1]The relation between the quality of life and oral health is defined as the evaluation, both from a personal and a medical point of view, of the way in which functional, psychological, social factors and traumatizing and uncomfortable experiences affect an individual's well-being.[2]The purpose of the study was to determine oral health status of under graduate dental students of Nobel Medical College Teaching Hospital, Biratnagar. **Method:** This pilot study was conducted at Nobel Medical College Teaching Hospital, Biratnagar, Nepal between February2016 –February 2017.The cases were evaluated for periodontal examination. The oral hygiene of six selected teeth was assessed using plaque index (PI) of Sillness and Loe (1964), gingival index (GI) of Loe and Silness (1963). Sterile dental mouth mirrors and explorers were used to assess plaque accumulation and William's periodontal probe to assess the gingival status. The Community periodontal index was used to assess the periodontal status with a CPI probe Subjects were considered as having periodontitis, if the CPI score was (3 / 4) and non-periodontitis if the CPI score was (0, 1, 2). **Results:** In the present study a good oral hygiene was observed in most of the subjects and majority of the under graduate students followed a good oral hygiene practice. **Conclusions:** Due to their profession, dental students are expected to exhibit meticulous oral hygiene procedures as compared to the general public. However, the results of the present study reveal that the oral hygiene practice of the under graduate dental students of Nobel Medical College Teaching Hospital is almost ideal.

Introduction:-

According to the World Health Organization (WHO), "Oral health means being free of diseases and disorders that affect the mouth and oral cavity."[3] Several factors including social [4], behavioural[5], and medical [6] seem to play a role in oral disease progression.

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Oral Health Related Quality of life has become a priority for specialists as late as the 1980's, and then they focused on evaluating the consequences of oral diseases on the life of the individual and the establishment of proper measures in order to cancel the negative effect of oral disease on the quality of life.[7]

The relation between the quality of life and oral health is defined as the evaluation, both from a personal and a medical point of view, of the way in which functional, psychological, social factors and traumatizing and uncomfortable experiences affect an individual's well-being.

The pathology of the dental-maxillary apparatus leads to the evaluation of the quality of life in report to oral health. In the purpose of evaluating this relation, there are now internationally recognized and adopted methods which materialize in social-dental indicators, designed for use on extensive social groups. These indicators are defined as "evaluations of the level to which oral status may perturb the performance of social functions and lead to major modifications of behavior such as work incapacity, school absence, parenting and home [6].

These indicators are considered essential complementary indicators to clinical analysis and measurable in relation to specific evaluation indicators of oral health

The First International Conference on Measuring Oral Health and Quality of Life took place in 1997, at North Carolina University (U.S.A.). Ten questionnaires were presented and validated as indicators for the measurement of the relationship between quality of life and oral health.[7]

The aim of this study was to assess the oral health status and periodontal disease of the under graduate dental students of Nobel Medical College Teaching Hospital

Methods:-
The present cross sectional study was conducted in department of Periodontology and oral Implantology. The data for this research was collected by interviews and clinical oral health examination by chief investigator. The patients were given information regarding their participation in the study and an informed consent of the patients was taken prior to the study. Institutional Ethical Approval was obtained from the Institutional Ethical review board (IERB)/research committee of Nobel Medical College Teaching Hospital prior to the commencement of the study.

190 under graduate dental students studying in Nobel Medical College Teaching Hospital were included in the study.

Clinical Examination:-
190 under graduate dental students studying in Nobel Medical College Teaching Hospital were examined for clinical periodontal examination. The oral hygiene of six selected teeth was assessed using plaque index (PI) of Silness and Loe (1964), gingival index (GI) of Loe and Silness (1963). The six teeth chosen were the maxillary right first molar, the maxillary right central incisor, the maxillary left first premolar, the mandibular left first molar, the mandibular left lateral incisor and mandibular right first premolar.

Sterile dental mouth mirrors and explorers were used to assess plaque accumulation and William's periodontal probe to assess the gingival status. The surfaces examined were the four gingival areas of the tooth i.e., distal-facial, facial, mesial-facial and lingual surfaces. Unlike the buccal (facial) surface, the lingual surface will be considered as one unit. Totaling the scores around each tooth obtained the plaque index and gingival index score for the area. If the scores around each tooth are totaled and divided by four, the plaque index and gingival index score for the tooth is obtained. Similarly totaling all of the scores per tooth and dividing by the number of teeth examined will give the plaque index and gingival index score per person.

The Community periodontal index was used to assess the periodontal status with a CPI probe. The teeth examined were 16, 17, 11, 26, 27, 31, 36, 37, 46, 47.

The two molars in each posterior sextant were paired for recording and if one is missing there is no replacement. If no index teeth or tooth were present in a sextant qualifying for examination all the remaining teeth in that sextant are examined and the highest score was recorded as the score for the sextant.

Subjects were considered as having periodontitis, if the CPI score was (3 / 4) and non-periodontitis if the CPI score was (0, 1, 2).

Statistical Analysis:-
Chi- square test was done to analyze the collected data.

Results:-

he results of the present study are shown in tables below.

Table 1:- Age Distribution

Characteristics	Frequency	Percentage
<20 Years	52	27.36
>20 Years	138	72.64
Total	190	100

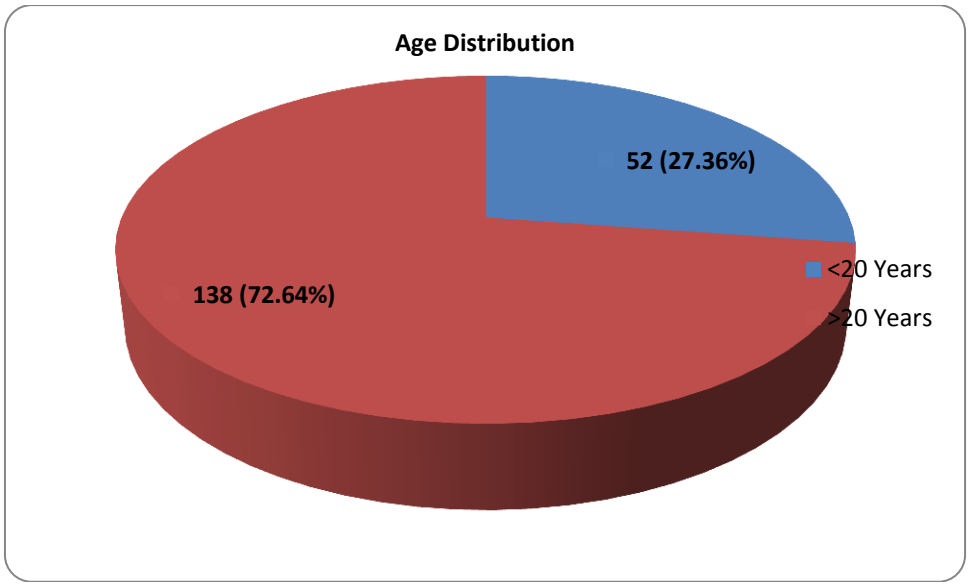


Table 2:- Sex Distribution

Characteristics	Frequency	Percentage
Male	36	18.94
Female	154	81.06
Total	190	100

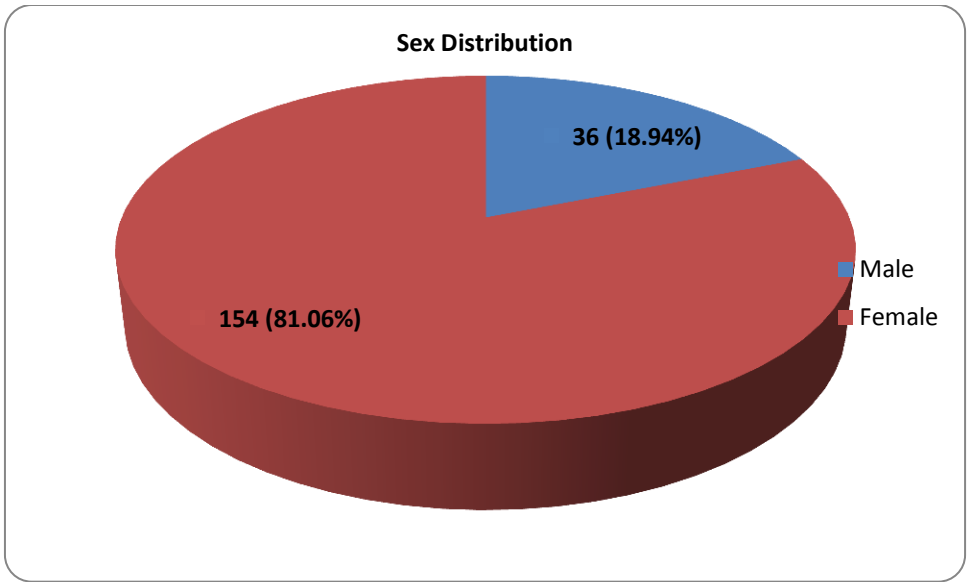


Table 3:- Device used for Brushing

Device	Frequency	Percentage
Tooth brush soft bristle	134	70.53
Tooth brush hard bristle	56	29.47
Total	190	100

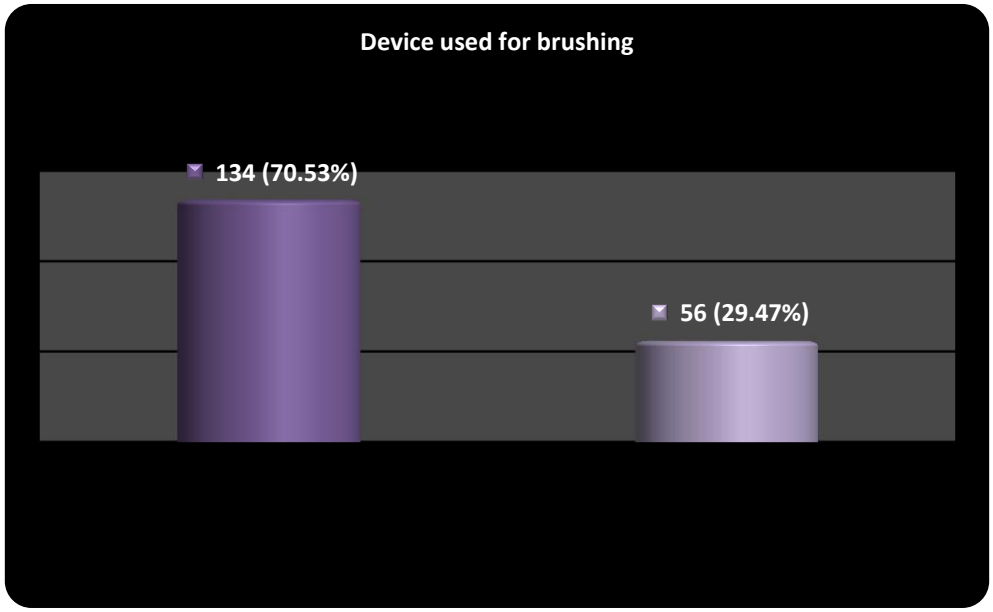


Table 4;- Frequency of Tooth Brushing.

Frequency of brushing	Frequency	Percentage
Once	59	31.05
Twice	122	64.21
More	9	4.74
Total	190	100

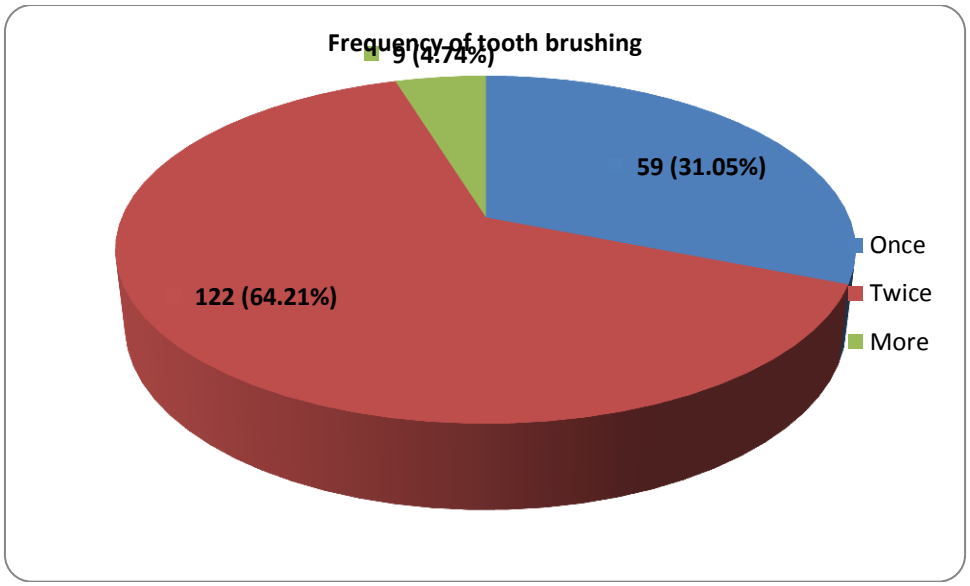


Table 5:- Method of Brushing.

Method of brushing	Frequency	Percentage
Bass	32	16.84
Modified Bass	154	81.06
Others	04	2.10
Total	190	100

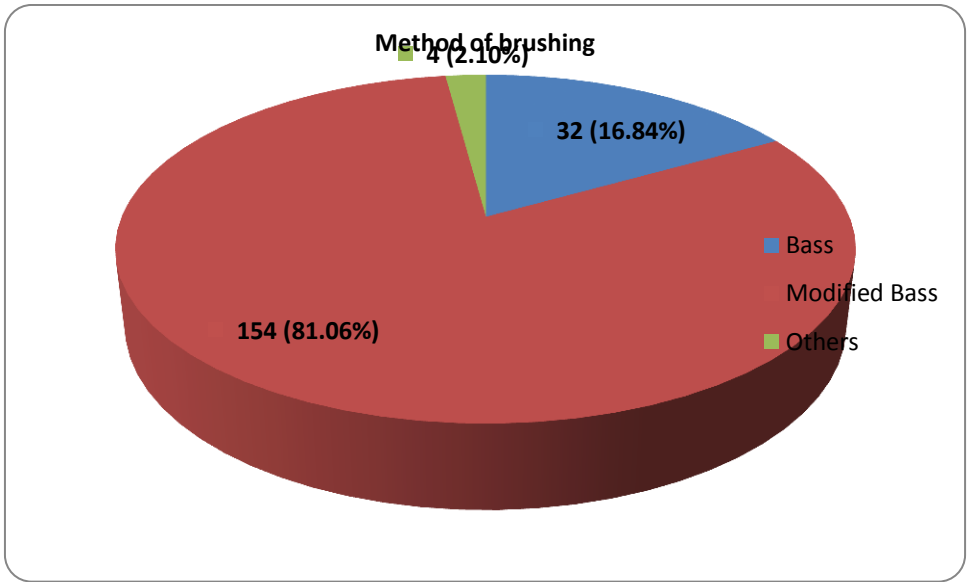


Table 6:- Smoking

Smoking	Frequency	Percentage
Yes	11	5.79
No	179	94.21
Total	190	100

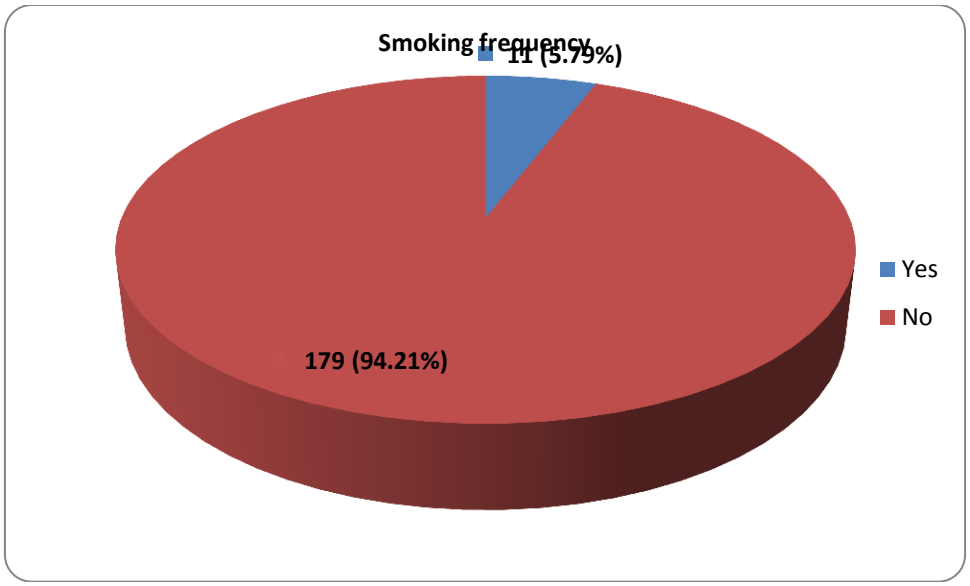


Table 6:- Plaque Index Score

PI Score	Frequency	Percentage
0-3	111	58.42
4-7	69	36.32
8-11	10	5.26
Total	190	100

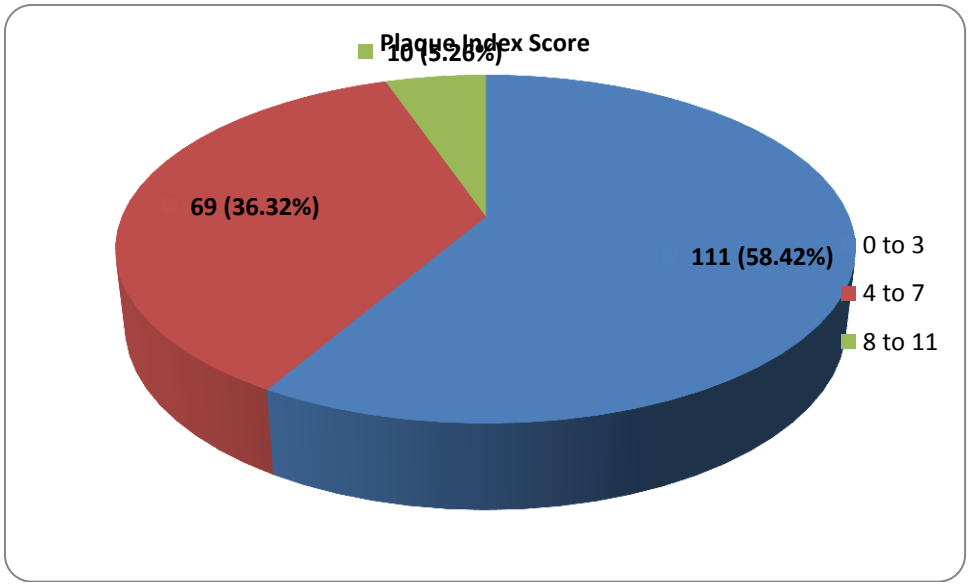


Table 7:- Gingival Index Scores.

GI Score	Frequency	Percentage
0-2	108	56.84
3-4	51	26.84
5-6	31	16.32
Total	190	100

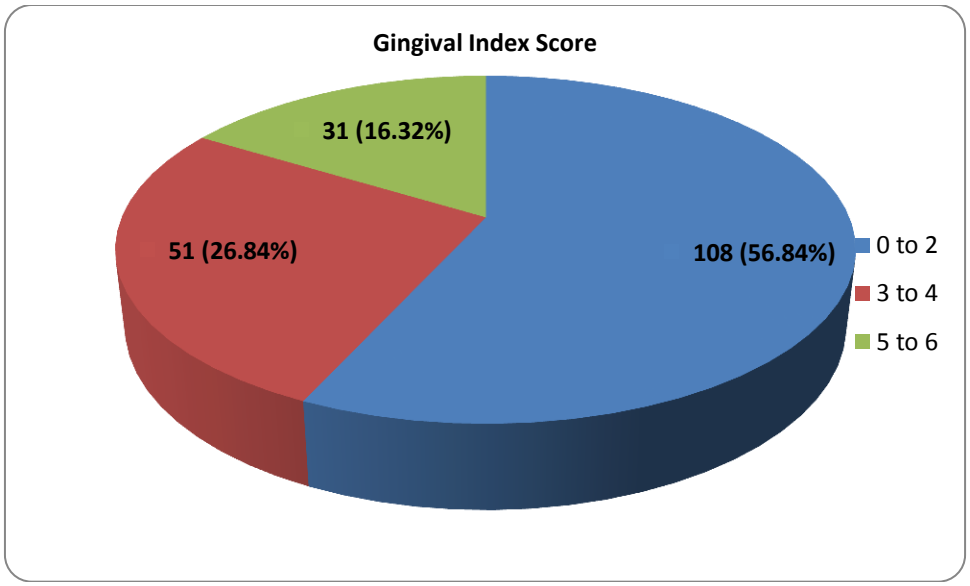


Table 8:- CPI Scores.

CPI Score	Frequency	Percentage
Mild	59	31.05
Moderate	116	61.05
Severe	15	7.90
Total	190	100

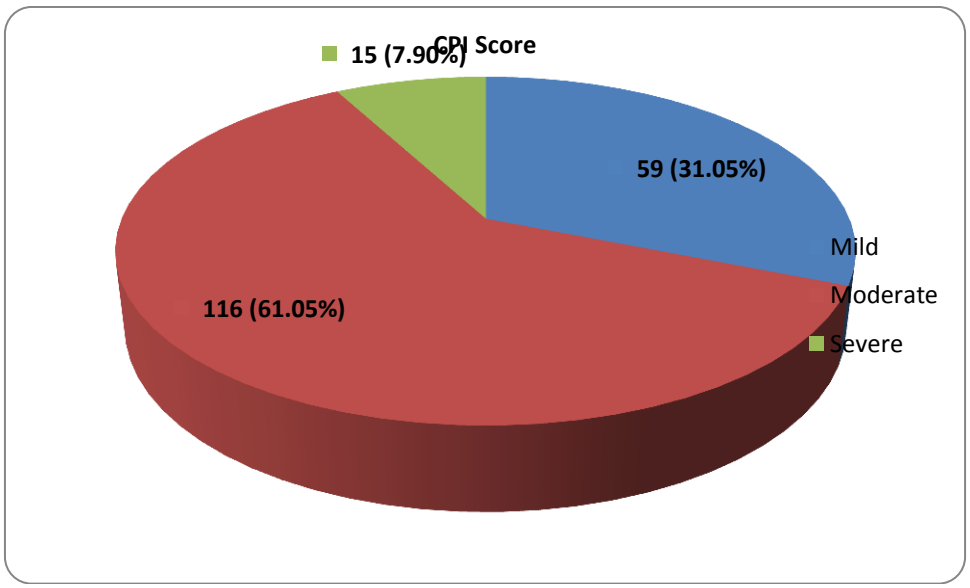
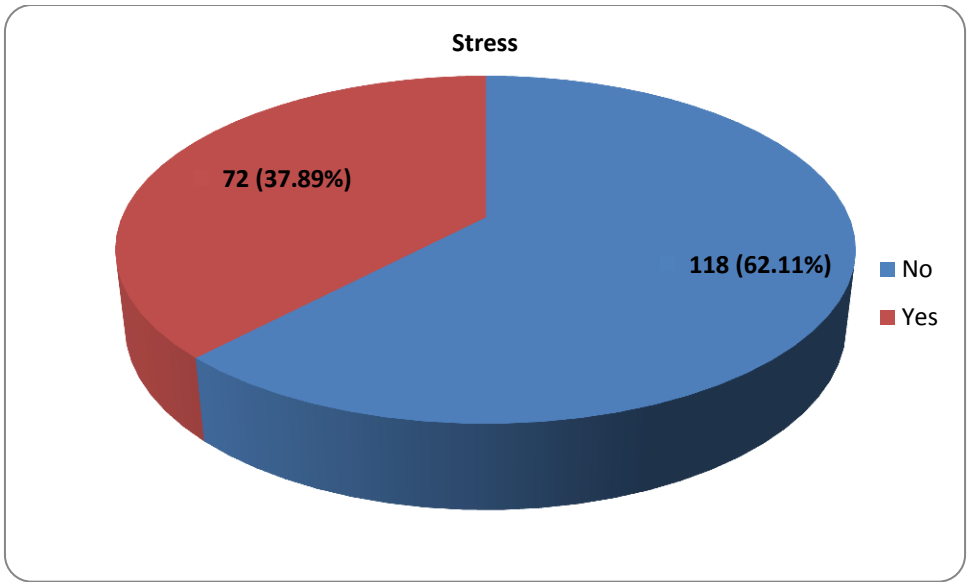


Table 9:- Stress.

Stress	Frequency	Percentage
No	118	62.11
Yes	72	37.89
Total	190	100



The present study comprised a total of 190 participants including 36 (18.94%) males and 154 (81.06%) females. In the study there were 52 (27.36%) participants with age less than 20 years and 138 (72.64%) participants with age more than 20 years..

All subjects were found to brush their teeth with toothbrush. 59 subjects (31.05%) brushed their teeth only once where as 122 subjects (64.21%) brushed their teeth twice daily. Similarly 9 subjects (4.74%) were found to brush their teeth more than twice daily.

Regarding brushing methods, 32 subjects (16.84%) brushed their teeth using bass method of tooth brushing, 154 (81.06%) use modified bass method of brushing where as 4 (2.10%) used other methods of brushing.

11 out of 190 (5.79%) subjects were found to be smokers and 179 subjects (94.21%) were non-smokers.

111 (58.42%) subjects had plaque score of 0-3, 69 (36.32%) subjects had plaque score of 4-7 and 10 (5.26%) subjects had plaque score of 8-11.

Similarly, 108 (56.84%) subjects had GI score of 0-2, 51(26.84%) subjects had GI score of 3-4 and 31(16.32) subjects had GI score of 5-6.

175 (92.10%) subjects out of 190 were found to have no periodontitis and only 15 (7.96%) subjects had periodontitis.

72 subjects (37.89%) out of 190 had stress and 118 (62.11%) were found to have no stress.

Discussion:-

Oral cavity being the mirror of our body also considered as window to the body as oral symptoms are prevalent in many systemic diseases.

Good oral health is considered to improve an individual's overall well being and health.[8]The dental communities play a pivotal role in uplifting behavioral change in our society. Literature in this regard has been lacking in this region of the country, and hence the need for the present investigation. It has been seen that health practices of doctors determine what they tell their patients. A similar tendency can be anticipated among dental practitioners as well. Dental health practices are learned from a number of sources of which professional learning is an important component.[9]

Oral hygiene practices:-
Majority of the subjects used toothbrush with soft bristles to brush their teeth. It is believed that filament stiffness can contribute to the traumatic potential of the toothbrush, but the influence of this factor is unclear. However, hard bristled brushes have been shown to be more effective in plaque removal than one with medium bristles.[10] Tooth brushing is considered as the primary mechanical means of removing substantial amounts of plaque in order to prevent oral disease, including gingivitis, dental caries and halitosis while also maintaining dental esthetics. It is also used as a means of delivering chemotherapeutic agents via dentifrice.

Frequency and technique of tooth Brushing:-
Majority of the subjects (64.5%) brushed their teeth twice daily. The results were in accordance with the studies of Ghasemi et al. (73%).[11]

Majority of the subjects (81.06%) used Modified Bass method for removing plaque, which is probably the most popular method taught today.
Brushing methods including Bass, Stillman's, Fones, Charter's, horizontal, vertical, scrub etc., have been taught for decades, with Bass and Roll method most commonly recommended.

However, no one method of brushing has been found superior to others.[10] Poyato-Ferrera et al. observed in a 3 min comparison between modified Bass and the normal brushing technique that the modified Bass method removed more supra gingival plaque for all sites and at all times examined, especially on the lingual surfaces which commonly show high plaque scores. [12]

However, the best method is one that suits the individual needs and abilities and it is the responsibility of the dentist to instruct the patient on performing the task thoroughly.

179 out of 190 subjects (94.21%) were non-smokers. This high percentage of dental students not consuming tobacco could be because of their knowledge regarding the consequences of tobacco consumption.

In the present study a good oral hygiene was observed in most of the subjects. This could be because of a positive attitude and adherence to good oral hygiene behavior is associated with better oral health.[13] Maatouk et al. (2006) emphasized that dental students achieved better oral health practices and status at the end of their course, highlighting the importance of dental studies on motivation and attitude towards treatment. [14]

Out of the total sample of 190 subjects, 15 were observed to have periodontitis and 175 of these had no periodontitis. It was also observed that a majority of the subjects who were examined belonged to higher socio-economic strata with higher levels of education, having good oral hygiene and minimal gingival inflammation. Most of the subjects examined belong to the university population of Nobel Medical College Teaching Hospital with high level of dental awareness and access to dental and medical health care facilities.

Majority (62.11%) of the students had no stress, this could be because undergraduate training does not have as high stressful environment as postgraduate studies in this country.

Similar studies on a larger scale can be conducted in different dental colleges of Nepal to give a broader perspective of the current scenario.

Conclusion:-
Due to their profession, dental students are expected to exhibit meticulous oral hygiene procedures as compared to the general public. The results of the present study support this and reveal that the oral hygiene practice of the undergraduate students of Nobel Medical College Teaching Hospital is almost ideal.

We, as dentists should educate our dental students and make them realize their role in disseminating positive oral health concepts to our patients and the general public but before this, we ourselves should follow the ideal regimen and act as role models for the society.

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