

**Knowledge Attitude and Practice on Dental Health in Basic Level Students of
Public and Private School of Kathmandu**

A Thesis

**Submitted to Department of Health and Population Education
In the Partial Fulfillment for Master of Education in Health Education**

**Submitted by
Sarada Yadav**

**Tribhuvan University
Faculty of Education
Central Department of Education
Health and Population Education Department
Kirtipur, Kathmandu
2023**

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त्रिभुवन विश्वविद्यालय
शिक्षाशास्त्र संकाय
स्वास्थ्य तथा जनसङ्ख्या शिक्षा विभाग

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This thesis entitled **Knowledge Attitude and Practice on Dental Health in Basic Level Students of Public and Private School of Kathmandu** has been prepared by **Sarada Yadav** under my supervision and guidance for the partial fulfillment of Master's in Health Education. This thesis report is the result of her own work. I recommend this thesis for acceptance and final evaluation.

Date: 28/1/2023

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Approval Sheet

This thesis entitled **Knowledge Attitude and Practice on Dental Health in Basic Level Students of Public and Private School of Kathmandu** Submitted by **Sarada Yadav** in partial fulfillment for the requirement of Master's Degree in Health Education has been approved.

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Declaration

I hereby declare that to the best of my knowledge this thesis is my original. No part of it was earlier submitted for the candidature of research degree to any university, college or educational institution. Whatever subject matter I have presented in this thesis report belongs to my own work.

Date: February 2023

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Sarada Yadav

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Sarada Yadav

Abstracts

This study entitled **Knowledge Attitude and practice on Dental Health in Basic Level Students of Public and Private School of Kathmandu**. At this time, it is a big problem in our country. The objective of the study is to find out the knowledge Attitude and care for an oral health situation. The specific objectives of the study are as follows: To identify the knowledge and attitude of the students towards oral dental health, to the practice care regarding oral dental health, to examine the problems of oral health. In a study, Theoretical Literature Review and Empirical Literature Review will be using a literature review. The total population of this study school students 6 to 8 grades. Public School Students 127, Private school Students 52, Total students 179 and 179 is selected as the census method respondent of the study. After constructing the interview schedule and observation checklist it was submitted to the supervisor for checking. The tool is pre-test in oral dental health status in basic school student's 6 to 8 class of Public school and Private school of Kathmandu.

From the study, it was found Average total, 66.48% of respondents (students) had good knowledge of oral health, including 66.68% from private schools and 69.09% from public schools. Students from both schools out of 75.98% have good knowledge that cleaning entire mouth is important for oral health, which includes 77.95% from public school and 71.15% from private school students, while 23.46% students believe that cleaning only teeth is important. And in total 65.67% student both private and public school practice to maintain their oral dental health in which private school student are more conscious than public school students where 66.90% student are for private school and 64.44% are from public school. Similarly in total 61.48% student both private and public school practice to maintain their oral dental health in which private school student are more conscious than public school students where 63.46% student are for private school and 59.55% are from public school.

Even though people were aware about the oral dental health hygiene, they did not use it practically. So it is suggested that people should be made concerned about the practical utilization of knowledge for the oral health and hygiene. Similarly program led by radio, internet, newspaper and T.V also were be beneficial for their practical use of oral dental health and hygiene.

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Chapter I: Introduction

Background of the Study

Nepal is a Federal Democratic Republic, landlocked sovereign state located in South Asia. However, Nepal is one of the poor and undeveloped countries of the world. Illiteracy, unemployment, health problems, population growth, environmental pollution, malnutrition, transmitted diseases are some of the major problems in this country.

According to Budhathoki (2011), many health problems are increasing day by day in Nepal. It is suggested that poor countries should follow preventive measures to these health problems. However, in our country, it is not properly applied in health education. Primary level school children's age is the age of habit formation. The behavior learned at this age becomes habitual. So, we should be aware and give proper health education to primary school children for their promotion and quality of life such as personal hygiene, oral hygiene, balanced diet, physical exercise, rest, sleep, and so on.

Oral health is fundamental to the general health and well-being of oral health that enables an individual to speak, eat and socialize without active disease discomfort or embracement. It can affect general health conditions and significantly impact the quality of life. Health is a major concern for human beings. It is the fundamental right of every human being. Dubos (1959) says that health is total fitness which is achieved with successful adaptation to the environment. The sound mind exists in a sound mind-body. This statement clarifies that health is an essential factor for human beings. World Health Organization (1999) defines "Health as a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmities." Unless an individual has a good health condition, the daily task of his/her life is limited only to imagination. Hygiene is defined as the science of health and embraces all factors which contribute to healthy living. Hygiene is the application of scientific knowledge to the preservation of health and prevention of the spread of disease. Personal hygiene may be defined as that branch of hygiene which the individual must make to preserve and improve the health of his body and mind. It

involves those practices performed by an individual to care for one's bodily health and well-being, through cleanliness.

Basic level school age is the age of habit formation. At this age, what we learn that skill will be habitual, so, we should be aware and give proper health education at the basic level for their health promotion and quality of life such as balanced diet, personal hygiene, physical exercise, rest, sleep, and so on. Oral hygiene means cleanliness and care of teeth, throat, and tongue. It means not only having healthy teeth but also the health of the gums, oral soft tissue, chewing muscles, lip, and salivary glands are also significant. One of the problems of our society is the lack of enough knowledge regarding oral and dental health that results in inappropriate hygiene behavior. The American Dental Association recommends that to avoid oral diseases, the individual should brush and floss at least once a day and visit a dentist regularly.

Lots of efforts have been made for preventing the oral problem. On oral health day 2014 in Nepal, a rally was held to commemorate the day. Local people carried oral health slogans, for example, "brush and floss, or prepare for loss." In April 2015 at the end of world congress 2015, the Tokyo Declaration on dental care and oral health for healthy longevity was adopted to call upon health policymakers and professionals to significantly reduce the global diseases burden, promote great promotion into the NCD prevention and control and development agenda.

Dental caries is one of the most preventable diseases in students causing pain and discomfort in Nepal. As reported by the united mission to Nepal, 65 percent of Nepalese students children of 6 years old suffered dental caries (Achhami, 2015). Among the various organs of the human body, the mouth is an important part. According to the WHO, good oral health is necessary for the normal function of the body and also for mental well-being and objective regarding dental problems. The most prevalent oral and dental problems in Nepal today are due to periodontal disease and dental caries are forced to turn to the dubious service of unqualified traditional practitioners (Bhandari, 2015)

Many oral dental defects can be observed in school children because of improper cleanliness and lacking in emphasis on dental health and oral hygiene. If we

compare public and private school children, we find those children because of regular oral health care services in private schools. Therefore, the study focused on oral health status in basic school level students of Kathmandu.

Statement of the Problem

Students of basic level are the children of the age generally from 6 to 14 years. This means the student of the basic level does not know anything about what is right to eat or not. Thousands of children are still far behind in good health habits as they do not have any right information and counseling. Some of the children are found following inappropriate dietary habits due to their socio-cultural causes. If we look after children of urban, they have different habits from the children of rural as they are influenced by media, advertisements, and other phenomena (Dangi, 2014).

Basic level students have different behavior and habit regarding food and drinks. They give less attention to maintaining their oral health because of their immature age. Today the habit of having junk foods and sweets, in primary level students are causing oral health problems. Most of the factors like less attention towards oral health, illiteracy, lack of proper oral hygiene practice, poverty, lack of good preventing, bad eating habits, limited manpower of the dental sectors, lack of oral health education, etc. create oral health problems.

Nepal oral health society is making every effort for the preventive treatment and reduction. Nepal Dental Association suggested for the maintaining dental hygiene by tooth brushing, flossing teeth and visiting Dentist regularly. Oral health is more than dental health. It includes healthy gum, hard and soft plate, linings of the mouth and throat, tongue, lips, salivary glands, chewing muscles, and upper and lower jaws. Good oral health enables us to speak, smile, kiss, breathe, whistle, smell, taste, drink, eat, bite, chew, swallow, and express feelings (Pathak, 2007).

The mouth is one of the parts of the human being. The healthy mouth shows the man's personality but oral health and hygiene is the most neglected part in our country. Today the most prevalent oral problem in Nepal is periodontal disease and dental caries which is increasing at the rate (Pant, 2015).

Personal hygiene is the important component for good health. It maintains the body and mind. It is influenced by different factors like genetic, environmental, economic, social, personal habit, alcoholism, smoking, drug abuse, residential site, sleep, rest, wake up, and other hygiene. Oral hygiene is a significant component of personal hygiene. Oral hygiene means cleanliness and care of teeth, throat and tongue. Recently, Oral disease are burden problem of Nepalese society, due to impact on public health and nation. The most periodontal disease and caries which is increasing in alarming rate (Dahal, 2011).

The government of Nepal has been providing many health facilities to their people at the grass-roots level through PHC, HP, SHP but primary level students of the selected area are found going less to health centers even if they have oral health problems and as a result, they do not get primary care in the initial stage of the oral health problems and later on it is found being complex and they have to lose their money and time (Tiwari, 2015).

Family do not give enough attention to their children's health and similar is the case with oral hygiene. It is a little hard to give attention to the oral health of their children because oral hygiene is being a bit neglected part. People's living Kathmandu are so so much busy with their jobs however, they are so much concerned about their children's general health although many of them less concerned about their oral dental health. As a result, it may create great problems in oral health. Main health problems of oral health such as bad breath, losing teeth, dental caries, black spots on teeth, yellow teeth, and bleeding from gum are considered as the effect of poor dental hygiene. The majority of the school's children have dental mouth problems because they do not brush their teeth properly. Oral problems due to less guidance towards the care to teeth, knowledge of the problem oral dental health, So to aware them from this knowledge, practice and attitude of good care of oral dental health is essential. On regard of these facts, this study is conducted in two different types of schools:

- i. Public school (Mangal secondary school) Kathmandu.
- ii. Private school (Cambridge international college) Kathmandu.

Rationale of the Study

From review of many literature, it can be generalized that the majority of the school children have the problem of dental health. The research focused on knowledge and problem of oral hygiene behavior. However, this research is new and original in the related area to explore the basics of oral health problems and practice among basic school children in Kathmandu.

The finding from the study would be useful in various sectors. Some other rationales of this study are as follows:-

- i. Helpful to manage oral health problems for basic-level students.
- ii. Enhance proper care habits regarding oral health.
- iii. Help the planners to plan to overcome oral health.
- iv. Stands helpful for the new researchers and students for their further study.
- v. This study was important to find out the knowledge, problems, and care for oral health promotion of basic level students in Kathmandu.

Objectives of the Study

The main objective of the study was to find out the knowledge, attitude and care for oral health situations. The specific objectives of the study are:

- i. To identify the knowledge and attitude of the students towards oral dental health.
- ii. To practice care regarding oral dental health.
- iii. To examine the problems of oral health.

Delimitation of the Study

Every research may have much delimitation like time, resource, financial and so on. So, this study would be concentrated on the knowledge and practice on oral health among students of public and private basic level of Kathmandu. This study was delimited to the following points:-

- i. This study was conducted in one public and one private school in Kathmandu.

- ii. The study was mainly focused on grade 6 to 8 students.
- iii. The study was focused knowledge, practice and attitude oral dental health students in Public and Private School of Kathmandu.

Definitions of the Key Terms

Dental caries: Teeth defect, carious, decay. It is the process of tooth defect where the decayed teeth become black and pitted.

Dental health: Cleanliness and care teeth.

Dentists: The personals that are practicing dentistry are called dentists.

Disease: A particular quality or disposition regarded as adversely affecting a person or group of people.

Flossing: Process of cleaning between teeth with microscopic nylon

Hygiene: Hygiene is defined as the science of health and embraces all factors which contribute to healthful living.

Oral health: It is the state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay, and tooth loss, and other diseases and disorders that affect the oral cavity.

Oral hygiene: Cleanliness and care of mouth (teeth) tongue and gum.

Jibre: A tool used for cleaning tongue.

Gutkha / Paan: Processed by mixing betel, tobacco and chemicals.

Dhami / Jhakri: Peoples who are believed to protect us from ghosts and spirit.

Daitwan: Generally a small and thin piece of wood, which is used to brush teeth.

ChapterII: Review of Related Literature

Review of related literature is an important part of research because it guides and gives knowledge about the area related to the study. This part of research helps the researcher to find out a new area of research. Review of literature enables to explore the research problem on different variables. In the context of Nepal, there are few researches conducted on oral hygiene behavior. So, the researcher also includes international research and online research in the review of related literature. The researcher tries to review some related literature as guidelines to present variables systematically and scientifically.

Theoretical Literature Review

Oral health problems in our country are increasing rapidly doubling in time as shown in the research done by the national oral health program, frequency of brushing and use of fluoridated toothpaste is less in the rural children as compared to the urban children. Due to the influence of commercial television advertisements and the introduction of more sticky and the sweets food in the diet of the school children has put their oral health at a risky state. Daily twice brushing with fluoridated toothpaste and rinsing 4 or 5 times after taking the sweet and sticky food can remove as well as the cleaning of the tongue at the same time can improve the hygiene of the oral health. Every six-month visit to the dentist and taking the oral health-related advice can reduce the problem associated with it to nearly half was seen (WHO, 2006).

Oral health knowledge is considered to be an essential prerequisite for health-related behavior. The American Dental Association recommended that to avoid oral diseases, an individual should brush and floss at least once a day and visit a dentist regularly. Nepal oral health society has formulated their aims and objectives following the most prevalent oral and dental problems in Nepal today due to periodontal disease and dental caries which is increasing at an alarming rate. Nepal Dental Association suggested maintaining dental hygiene by tooth brushing, flossing teeth, and visiting the dentist regularly. Oral health is more than dental health (Humagain, 2011).

Oral health problems are the major health problems in most industrialized countries affecting 60-90 percent of school children due to must majority of adults. Gingivitis and decay are also the most prevalent oral disease in several Asian and Latin American countries. While they appear to be less common and less severe in most African countries.

Oral health means much more than healthy teeth. It means being free of chronic oral-facial pain conditions. Oral and pharyngeal (throat) cancers, oral soft tissue lesions, birth defects such as cleft lip, and a score of other diseases and diseases that affect the oral, dental, and craniofacial tissues, collectively are known as the craniofacial complex. Oral hygiene is a significant component of personal hygiene (Dalit, 2014). Oral diseases are an important public health problem due to the high prevalence of public demand and its impact on individuals and society. A decrease in the prevalence of dental caries has been experienced among students and adolescences in developed countries.

Health is the fundamental right of every human being. Dubos said that health is total fitness which is achieved with successful adaptation to the continuously changing environment. Hygiene is defined as the science of health for a living. Hygiene is closely related to epidemiology. It aims not only at preserving health but also to live in a healthy relationship with the environment (Poudel, 2015). Personal hygiene is the term used for improving the hygiene of an individual or person and is an important component of good health. It maintains the personality of an individual (Pant, 2015).

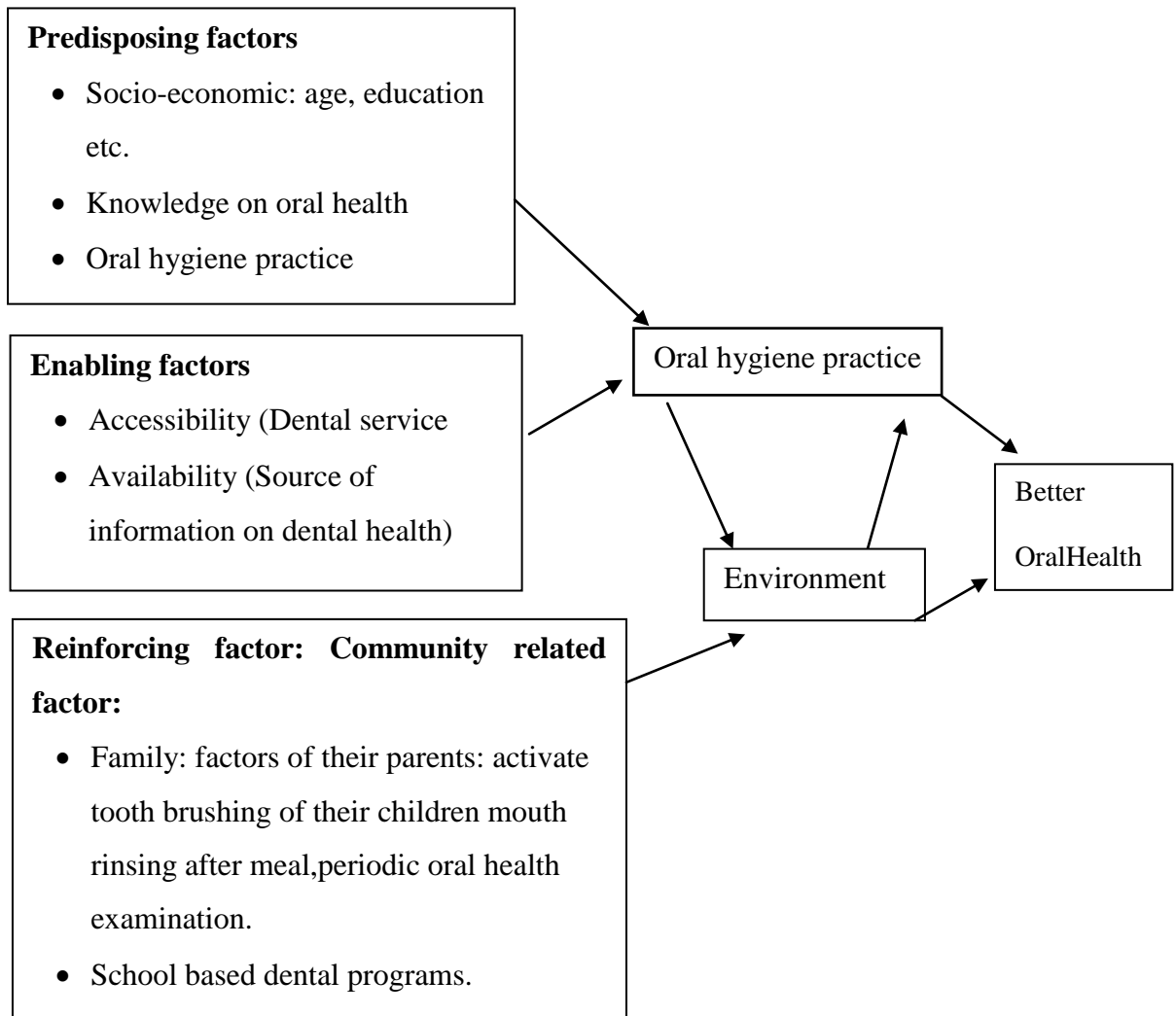
Knowledge concerning the prevention of oral health problems is high amongst the subjects surveyed. A high proportion of the adolescents (94-97%), 35-49-year-old adults (83-86%) and 50+ adults (71-74%) believe or know that brushing is a healthy habit and eating sweet and consuming tobacco are unhealthy habits. However, knowledge concerning fluoride is very low with 72-87% of the adolescents and 88-97% of the adults ignorant on the protective effects of fluoride. There was no significant differences in knowledge and attitude based on location type and education status of adults. In 12-13-year-olds, knowledge concerning tobacco, water fluoride and sweets was associated with parent's level of education and location type in favor of higher education and urban location. (Yee & Mishra, 2018).

Experience of oral pain was high with 31% of school children reporting experiencing dental pain. Another study conducted in Nepal among 9–11 years old schoolchildren had reported that 45% of children suffered from tooth pain. In the same study, it was reported that 93% of children had never visited a dentist and the decayed component constituted almost entire DMFT index. Low dental visit and 100% untreated caries could be due to lack of access to affordable health care services. Similar finding of high prevalence of untreated dental caries was reported in studies in schoolchildren who had limited access to dental care. (Dixit, Shakya and Shrestha, 2019)

This study concluded that most of the people of Foklyan area brush their teeth but not on a regular daily basis. There is a need for oral health promotion in this area that will enable them to better understand the importance of oral health. High prevalence of tobacco consumption among adult population and even half of the adolescent population already consuming tobacco products is an alarming issue. Appropriate tobacco control measure is must to control rampant tobacco use. Most of the study population belonged to the poor socioeconomic status; hence the financial burden of the oral diseases has added a detrimental effect on the individuals' health. This is the first study of its kind done to explore the oral health status targeting the under privileged indigenous community. Hence, this study gives an idea to the policy makers to focus on the preventive aspects to minimize the oral health burden of the marginalized. (Singh, Shrestha and Bhagat 2020)

Precede Model

The PRECEDE model (Predisposing, reinforcing and enabling cause in educational diagnosis and evaluation) developed by Lawrence Green in 1980 might provide an organizing frame work for developing a model of factor. PRECEDE thus provides a generic framework within which more detailed theories might be integrated, rather in explaining causes of health behavior.



Above figure shows that, oral hygiene practice is most important for achieving better oral health. Three main factors (Predisposing factor, enabling factors and reinforcing factors) affect oral hygiene practice. Environment factor also plays vital role in making better health.

Review of the Empirical Literature

This part of the review includes the data-based findings of past researches related to the present study. This literature is mostly available in published form and unpublished thesis reports, survey reports, and other research reports. However, it is also available in the form of research articles and case studies in various journals.

Query and Tanni (2003) studied oral health knowledge and dental health practice among school children in Jerash district Jordan. They found that 48 percent

of the children told that there was no need for a dental visit, 36 percent brushed their teeth once a day 18.2 percent brushed their teeth twice or more per day. Among the study population 27 percent claimed to use fluoridated toothpaste, 19.6 percent used a non-fluoridated toothpaste and 28.3 percent were confused that they did not know whether their toothpaste was fluoridated.

Sharma (2009) studied "Oral hygiene practice and its effect on dental health" regarding the primary level students of Butwal Municipality. The study found that many students brushed their teeth for three minutes. About 61.6 percent of students used to change their brush after three months. It is found that 41.6 percent of students were suffering from oral diseases. 47.2 percent of students went to a dental clinic to treat oral diseases while 30.8 percent of students went to a dental hospital to treat oral diseases. From primary school students, only 68 percent of students had got information on oral hygiene from health teachers. The majority 88 percent of students were found with 28-30 teeth, 10.4 percent students with 25-27, and only 1.6 percent students were found with 31-32 teeth. It is found that 10.4 percent of students had missed 1 to 4 teeth and 33.6 percent of students had the problem of carious 1 to 5 teeth. For treatment advice 27.2 percent of students needed to fill their teeth, 20.8 percent of students were suggested for scaling, 6.4 percent students were advised to replace the teeth, and 7.2 percent had multiple problems.

Dali (2014) conducted a study on the "Oral health knowledge, attitude and practice among the population of Siswari Jahada VDC in Biratnagar city, Nepal." The study was aimed to evaluate oral hygiene practice knowledge and attitude among a population of Siswari Jahada VDC in Biratnagar city, Nepal. This was a cross-sectional study that included 1280 population selected by random sampling method. The consent for the participants was obtained verbally. A pre-tested close-ended questionnaire was used for the study. Results of this study prove that oral hygiene habits, oral health awareness, and knowledge level among the targeted population are satisfactory and need to be improved. The participants had conducive oral health behavior, sufficient knowledge, positive attitude, and practice regarding oral health.

Dalit (2014) found that oral hygiene habits, oral health awareness, and knowledge among the targeted population is satisfactory and to be improved. The

participants had conducive oral health behavior, sufficient knowledge, positive attitude, and practice regarding oral health.

Ghimire (2014) conducted research on the topic, "Knowledge and practice towards oral hygiene secondary level students of slum areas community school." Altogether 200 students from two schools were taken as samples for data collection and questionnaires were distributed to the students to assess the knowledge and practice of the respondents. The study found the most of the respondents of high schools students were brushing daily. About 67.5 percent knowledge about dental caries 95 percent of students had got knowledge about sweet, hot, and cold items are bad for teeth about 82.5 percent changing the brushed every three months. About 21 percent did not know about the fluoridated toothpaste.

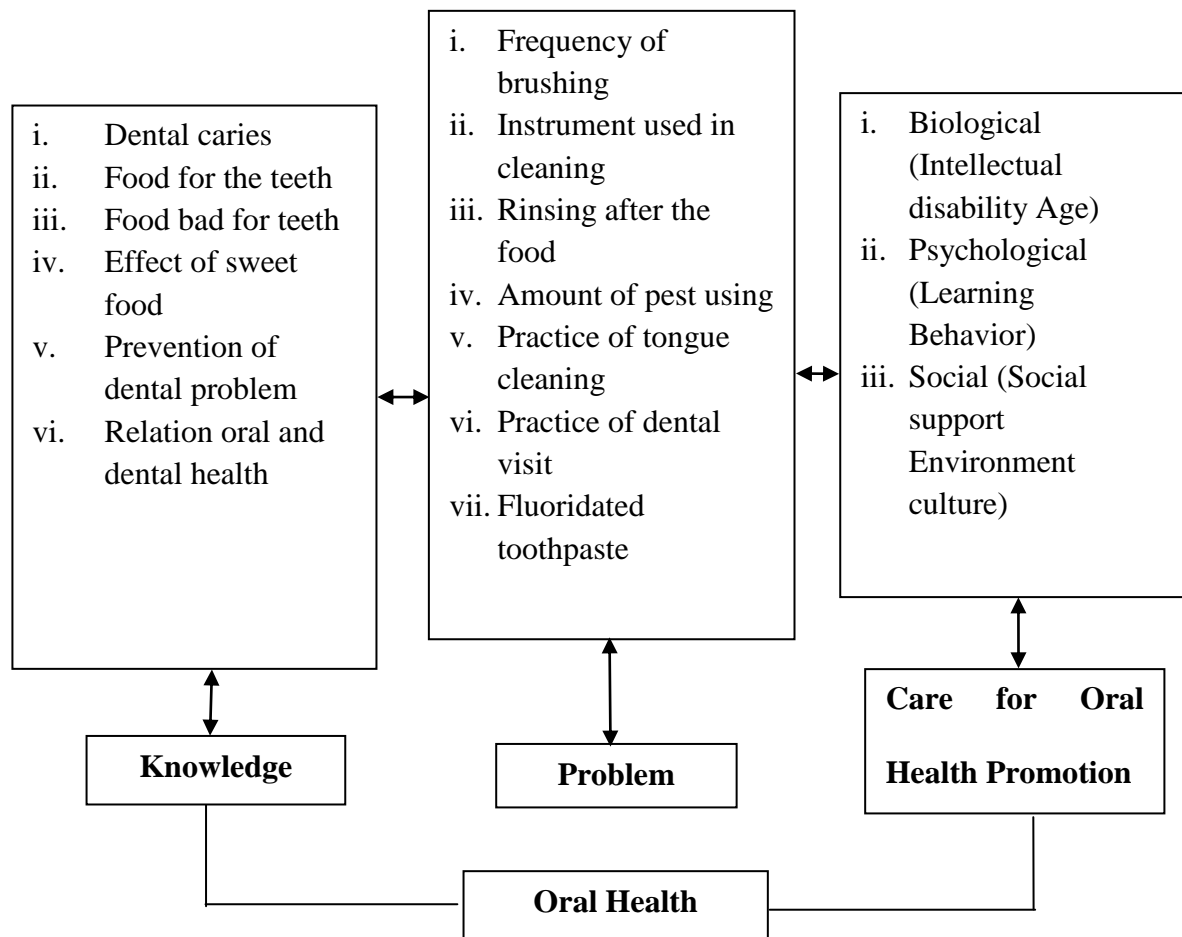
Tiwari (2015) found that 98.75 percent of students knew about oral health and hygiene and 1.25 percent of students did not know about it, 62.5 percent public school and 55 percent private school students brush their teeth once a day 37.5 percent public school and 45 percent private school students brush their teeth twice a day, 68 percent public school and 75 percent private school respondents practice mixed plus circular method while brushing teeth 21 percent public school and 15 percent school private students practice horizontal method and 11 percent public school and 10 percent private school students said they practice vertical method while brushing their teeth. In this study, knowledge regarding oral health among the students of private schools is slightly better than the public schools. Knowledge about dental caries is higher in the private school's students but both school students are facing dental caries in the same ratio in their practical life.

Jaishai (2015) found that 30.75 percent of students knew going to dental hospital to treat an oral and dental problem, 66 percent of students knew going to the general hospital to treat the oral and dental problem and 3.25 percent students knew going to Dhami and Jhakri to treat dental and oral related problems.

Conceptual Framework

This conceptual framework has been designed based on the objective of the study and review of related literature. Generally, in the conceptual framework, the

researcher tries to clear the research-related concepts, objectives, or variables and give the detail of the interrelationship of research variables. Conceptual framework the clear meaning of the researcher as well as other what the researcher want to study or find out. Therefore, a conceptual framework is as follows:



The above conceptual framework has shown that the relation between independent variables and dependent variables as well as a research variable. Show the interrelationship between research variables and research work as well as the research report. In this above conceptual framework which variables are sub variable, there is an independent variable, and which are main variables. These variables are dependent. When the independent variables have good condition, the main or dependent have also good condition because dependent variables are changing nature and independents variables are affecting nature. There are conditions of oral health, knowledge attitude, and care for oral health situation are dependents variables and others factors are independents variables.

Chapter III: Methods of Procedures of the Study

Research Methodology

The research was mainly focused on obtaining information on knowledge and practice on oral health among the public and private basic level students of Kathmandu. Research methodology determines activities to achieve the main objective of the study. This chapter describes the study area, population, tools of data collection, procedure of data collection, procedure of data collection and method of data analysis and interpretation.

Research Design

The research is designed to analyze the knowledge and practice on oral dental health among public and private basic level student of Kathmandu. This study was basically based on descriptive research design. Field survey was carried out to obtain basic data and information. The required data for this study was collected from primary source which was based on interview schedule and observation form. This study followed quantitative method.

Source of Data

The main source of data for this study were students of public and private basic level school. The study was based on both primary and secondary data. Primary data were collected through the examined with students through interview schedule and observation checklist was also used as primary source of data. Books, journal, articles and research report were be used as secondary source.

Population, Sampling Procedure and Sampling Size

This study was conducted in Kathmandu. The respondents of the study were selected by using the census method. The total population of the study were 179 students of grade 6 to 8 from one private school (Cambridge International College) and one public school (Mangal Secondary School). Among the total population 52 students from private school and 127 students from public school were selected as the sample size of the study.

Tools of Data Collection

Interview schedule and checklist were used as the main tool of data collected for this study. Interview schedule and observation checklist were applied for the data collection. In the interview schedule the questions were included both closed and open ended forms. During the collection of data one private school and one public school students of grade 6 to 8 of Kathmandu were selected and participation of both girls and boys was ensured. Interview was taken in classroom with every student through an examined method. In accordance, the observation form was fulfilled, the interview schedule includes questions related to knowledge, practice and attitude about oral dental health and hygiene. The observation form included condition of teeth, gum, tongue and color of teeth.

Standardization of the Tools

Interview schedule was pre-tested among 10/10 Basic level students in grades six to eight in public and private school in Kathmandu. Based on pre-test results and feedback from the supervisor, the questions were changed and standardized.

Data Collection Procedure

First of all, the researcher visited the sample school with an authorized letter from the health and population department. Then researcher visited the sample school and explained the nature and purpose of the study to the head teacher for the collection of the necessary data. After that, the researcher took interview and filled up observation checklist with the help of dentist.

Data Analysis Procedure

There are many systematic and scientific methods in research for analysis and interpretation of data. It is the backbone of research because it shows the findings of the study. Raw data don't have any meaning without its analysis. After the collection of data, the data were tabulated in a master chart to make easy and compute it. The data were then presented on tables for the qualitative data, the data were analyzed and interpreted qualitatively.

Ethical Considerations

Any research requires a specific work ethic to be followed to make the research as smooth as possible. Similarly, while doing the research the following ethical considerations were made:

- While preparing interview schedule for this topic, questions that make the respondents uncomfortable were avoided as far as possible.
- During data collection, the willingness of the respondents was kept in consideration.
- Before asking questions the objectives of the research was explained.
- The privacy and atomicity of the respondents was respected.
- In case of unwillingness from the respondents, further prying for information should not be done.

Thus, these work ethics were followed strictly as it makes the process of data collection not only professional but ethical too.

Chapter IV: Analysis and Interpretation of Result

Data analysis and interpretation were critical components of research work. This chapter discusses the analysis and interpretation of data collected during a field survey. The data were tabulated and kept in sequential order according to the objectives of the research and need of the study. They were then graded on a percentage scale. The data calculated using the observation checklist and interview schedule were checked for percent error and consistency with the raw data. After manually editing the raw data, the data was presented in figures similar to tables to make the presentation more clear and meaningful.

Demographic Characteristic of the Respondents

The demographic characteristics of respondents are critical in revealing the study's findings. It is difficult to answer the research questions without calculating demographic characteristics. This study includes demographic characteristics such as age, gender, and family type, which are presented under the following sub-titles:

Age Group of the Respondents

The respondent's age group also influences their knowledge and practice level regarding oral dental health. Their knowledge matures along with their age and has an impact in practice. The age group of the respondents is shown in the table 1 below.

Table 1

Distribution of the Respondents according to their Ages

Age group (In Year)	Private school		Public school		Total No.	Total %
	No.	%	No.	%		
11-12	17	32.69	32	25.19	49	27.38
13-14	29	55.77	65	51.19	94	52.51
15-16	6	11.54	30	23.62	36	20.11
Total	52	100	127	100	179	100

The students aged 13-14 years were found to be the most numerous in both public and private schools, accounting for 52.51% of the total. The 11-12 year age group accounted for 27.38 % of the total .The 15-16 year age group had the lowest percentage of respondents 20.11 percent of the total.

Sex of the Respondents

The table 2 showed the sex of the respondent among the student of public and private school.

Table 2

Distribution of the Respondents according to their Sex

Sex	Private school		Public school		Total No.	Total %
	No.	%	No.	%		
Male	29	55.77	72	56.67	101	56.43
Female	23	44.23	55	43.33	78	43.57
Total	52	100	127	100	179	100

As seen in the above table 2 in total 56.43% are male respondents (students) and 43.57% are female respondents. Here we can see in both schools male respondents are more than female respondents. Since in public school there are 56.67% male 43.33% are female, where as in public school there are more male percentage than in private school and private school have more female percentage student than public school.

Caste of the Respondents

Caste may also have their influence in the hygiene behavior because the knowledge and practice regarding the oral dental hygiene can be found different in different community. Therefore, efforts had been made on this study to find out the community background of the students with their caste which had influence in knowledge and practice regarding oral health and hygiene.

Table 3

Distribution of the Respondents on the Basic of Caste

Caste	Private school		Public school		Total No.	Total %
	No.	%	No.	%		
Kshetri	10	19.23	18	14.18	28	15.64
Brahmin	11	21.15	20	15.74	31	17.32
Janajati	15	28.85	32	25.20	47	26.26
Madeshi	0	0	10	7.88	10	5.59
Muslim	1	1.92	7	5.51	8	4.47
Newar	14	26.93	31	24.40	45	25.14
Dalit	1	1.92	9	7.09	10	5.58
Total	52	100	127	100	179	100

As can be seen in the above table, there were 26.26 percent more respondents who identified as Janajati than any other caste. Additionally, there were 25.14 percent of another caste above this table of newar respondents. The caste with the lowest percentage of Muslims was 4.47 percent overall.

Knowledge on Oral Dental Health in Basic Level Students

A prerequisite for changing behavior is knowledge. Without information, we are powerless. The knowledge of students on oral dental hygiene and health at public and private schools is displayed in the subsection below.

Knowledge on Oral Health among Students

A significant issue in public health is oral disease. Oral hygiene is the maintenance of the mouth's internal organs and the avoidance of dental issues like cavities. Oral cleanliness is the most crucial factor in protecting against any oral health issues. The following table displays the oral hygiene knowledge of students in public and private schools. So we take survey on 52 students from private sector school and 127 students from public sector school of class 6, 7 and 8.

Table 4

Knowledge about Oral Health of the Respondents

Description	Private school				Public school				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Cleaning of teeth	11	4	15	28.85	21	6	27	21.26	42	23.46
Cleaning of tongue	-	-	-	0.00	1	-	1	0.79	1	0.56
Cleaning of overall mouth	18	19	37	71.15	50	49	99	77.95	136	75.98
Total	29	23	52	100	72	55	127	100	179	100

According to Table 4 above, we have 74.98% of respondents believe that maintaining oral health requires regular overall mouth cleaning in which we have 77.95% students from public school and 71.15% from private school. Public school students had more knowledge about oral health than private school students. While just 28.80% of private school respondents believe that teeth cleaning is essential for

oral health whereas 21.26% of public school students says that. Whereas one of the respondents from public school told that cleaning of tongue is only important.

Reasons for Brushing Teeth

To protect teeth from different dental issues such dental caries, tooth decay, unhealthy breathing, etc., brushing is crucial. Most importantly to prevent from oral problems regular brushing should be followed. The following table displays their responses.

Table 5

Reasons for Brushing Teeth

Description	Private school				Public school				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
To Prevent from oral problem	7	10	17	32.69	35	20	55	43.31	72	40.22
To look smart and fresh	4	3	7	13.46	5	10	15	11.81	22	12.29
To prevent from dental effect	18	10	28	53.85	32	25	57	44.88	85	47.49
Total	29	23	52	100	72	55	127	100	179	100

According to the data, nearly half of respondents, 40.22 % claim to brush their teeth to avoid dental effects, in which 43.31% students are from public school and 32.69% students are from private school. It is seen that public school are more concerned about their oral health than private school students. While half of other students of 47.49% students told that they do so to prevent from dental effects and remaining 12.29% told they do their teeth to appear polished, smart and well groomed.

Impact of Not Brushing Teeth

Behavioral change requires knowledge. As a result, understanding the impact of irregular brushing is critical. We should observe people's behaviors and advise them on life-related activities. School children should be aware of health issues. Oral

hygiene is another critical aspect of health. To perform proper hygiene practices, the impact of not brushing should be understood. Table 7 illustrates the impact of not brushing one's teeth.

Table 6

Impact of Not Brushing Teeth

Description	Private school				Public school				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
Bad smell	5	5	10	19.23	17	16	33	25.98	43	24.02
Build bad habit	2	1	3	5.77	5	1	6	4.72	9	5.03
Look dirty	—	—	—	—	1	1	2	1.57	2	1.12
Problems arise on teeth	22	17	39	75.00	49	36	85	66.93	124	69.27
No response	—	—	—	—	—	1	1	0.79	1	0.56
Total	29	23	52	100	72	55	127	100	179	100

Table 6 shows that 69.27% of students believed that not brushing their teeth on a regular basis causes tooth problems. Private school students with 75% talk about the problem arises on not brushing teeth more than public school students which was 66.93% only. While 24.02% of students focused on bad odor. The remaining 5.03% discuss bad habits, and 1.12% believe it makes us dirty. 0.56% of students did not respond to this topic. This study shows that student know about impact of not brushing teeth.

Knowledge about Dental Caries

Dental caries is the scientific term for tooth decay or cavities. It is caused by specific types of bacteria. They produce acid that destroys the tooth's enamel and the layer under it, the dentin. Tooth decay and caries remain one of the most common disease throughout the world. The following table gives the clear vision on public and private school student about dental caries.

Table 7*Knowledge of Dental Caries*

Description	Private school				Public school				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
Decay of teeth	11	14	25	48.08	32	30	62	48.82	87	48.60
Toothache	14	6	20	38.46	27	23	50	39.37	70	39.11
Getting teeth discolor	2	2	4	7.69	11	1	12	9.45	16	8.94
No response	2	1	3	5.77	2	1	3	2.36	6	3.35
Total	29	23	52	100	72	55	127	100	179	100

The aforementioned statistics makes it quite evident that more students 48.60% equate tooth decay with dental problems caries where both public and private school students are about same percentage discuss about it, 48.08% and 48.82% respectively. Others 39.11% says toothache are dental caries and remaining 8.94% of those surveyed mentioned the possibility of tooth discoloration, while 3.5% chose not to respond. This study shows that majority number of respondents have the knowledge about dental caries.

Causes of Dental Caries

Tooth decay, also known as dental caries or cavities, is a breakdown of teeth due to acids made by bacteria. The cavities may be a number of different colors from yellow to black. When we got any dental problems in our life than we cannot becomes happy and healthy. Dental caries affect our life in various ways such as creates pain etc. causes of dental caries may be irregular cleaning of teeth, eating too much sweets, to cold or too hot drinks, etc. the following table given the clear vision on private school and public school students on knowledge about causes of dental caries.

Table 8
Causes of Dental Caries

Description	Private school				Public school				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Irregular cleaning of teeth	1	-	1	1.92	2	3	5	3.94	6	3.35
Eating too much sweets	2	3	5	9.62	17	12	29	22.83	34	18.99
Careless	1	3	4	7.69	4	3	7	5.51	11	6.15
All of the above	25	17	42	80.77	47	37	84	66.14	126	70.39
No response	-	-	-	-	2	-	2	1.57	2	1.12
Total	29	23	52	100	72	55	127	100	179	100

According to Table 8, 70.39% of respondents believe that irregular tooth brushing, eating too many sweets, and carelessness with oral hygiene are the main causes of dental caries. In which 80.77% of private students knows more about dental caries than public student out of 66.14%. Apart those respondents, 18.99% respondent thought eating too much sweet are cause of dental caries in which public students includes 22.83% and private school students are only 9.62% whereas 3.35%, and 6.15% students mentioned about irregular cleaning of teeth and careless respectively. This study shows that students know about cause of dental caries.

Importance of Green Vegetable

Green vegetable fruits are very good for the teeth. Super healthy, leafy green are rich in calcium, folic acid and lots of important vitamins and minerals that our teeth and gums love. Rich in minerals and important vitamins like vitamin D, It is totally positive effect for health, many research shows green vegetable and fruits for very good for the human being also animal we can keep healthy teeth to take green vegetable and fruits. Vegetable and fruits promote good dental health. The vitamins, minerals and antioxidant in these foods protect teeth and gums. Respondents were asked to report their knowledge about types of food, fruits and vegetables goods for teeth health and the response of them can be seen in following table.

Table 9*Importance of Green Vegetable*

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Yes	29	22	51	98.08	68	54	122	96.06	173	96.65
No	0	1	1	1.92	4	1	5	3.94	6	3.35
Total	29	23	52	100	72	55	127	100	179	100

This study shows that 96.65 percent student said that green vegetable are good for teeth 3.35 percent students didn't know the knowledge green vegetable are good for their health. According to above the analysis of data shows that 96.65 percent student's knowledge about food fruit and green vegetable were good for healthy teeth. It is positive effect for teeth health. They were very essential food for growth.

Knowledge about the Type of Brush that Used in Brushing their Teeth

Generally dentist suggest to use soft brush over any other type of brush. The knowledge level of using brush is good for brushing teeth among the students of public and private school are shown in the following.

Table 10*Types of Brush They Use to Brush their Teeth*

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Soft	24	22	46	88.46	61	52	113	88.98	159	88.83
Hard	1	-	1	1.92	7	-	7	5.51	8	4.47
Anytype	2	1	3	5.77	2	2	4	3.15	7	3.91
I don't know	1	-	1	1.92	1	1	2	1.57	3	1.68
No response	1	-	1	1.92	1	-	1	0.79	2	1.12
Total	29	23	52	100	72	55	127	100	179	100

It is clearly understood that majority 88.83 % knows soft brush are good for tooth, which have about same percentage of students from both schools. Where 4.47 % opted for hard type brush, in which public students who choose hard brush are

5.51%.. Some of thinks any type of brush can be used in which maximum percent of student are from private school and less percentage of 1.68 % respondent didn't have any knowledge about types of brushes available.Total 88.83 percent students of both public and private school student had knowledge that soft brush is good for brushing teeth. As recommended by dentist, soft brush is good for brushing teeth.

Source of Knowledge to Cleaning Teeth

Since we learn so much of thing from childhood. We have our own influencer on things that are either interest or discipline. The knowledge level of learn to cleaning teeth among the students of public and private school are shown in the following.

Table 11

Source of Knowledge to Cleaning Teeth

Description	Private School				Public School				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
Family	22	15	37	71.15	48	35	83	65.35	120	67.04
Teachers	1	3	4	7.69	9	0	9	7.09	13	7.26
Dentists	5	4	9	17.31	14	15	29	22.83	38	21.23
Mass media	1	1	2	3.85	1	3	4	3.15	6	3.35
No response			0	0.00	0	2	2	1.57	2	1.12
Total	29	23	52	100	72	55	127	100	179	100

According to Table 11, out of total 67.04% of students learnt how to brush their teeth from their parents, where 71.15% are from private school and only 65.35% are from public school. This tells that most of the private school parents are conscious that brushing is crucial from early age, followed by 21.23% of students who learned from dentists, and 7.26% of the 179 students who had teacher influence. Some students choose mass media as their influencer, while others chose not to respond (3.5% and 1.12%, respectively). This study shows that students learn to clean teeth from their family.

Value for Dental Health

Having knowledge and keeping it in practice is so much important and practicing regular shows somehow the level of how much you value for your dental

health. The knowledge level of value for dental health among the students of public and private school are shown in the following.

Table 12

Value for Dental Health

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Very good	14	16	30	57.69	45	27	72	56.69	102	56.98
Good	12	7	19	36.54	23	25	48	37.80	67	37.43
Bad	1	-	1	1.92	3	3	6	4.72	7	3.91
No response	2	-	2	3.85	1	-	1	0.79	3	1.68
Total	29	23	52	100	72	55	127	100	179	100

From the table 12 above it can concluded that 56.98 % students give very good value towards the dental health. Other 37.43 % students says giving value to dental is good, where there are students of 4.72 % in public school and 1.92% students in private school in total 3.91 % who shows their value towards dental health is bad. By analyzing above data it seems that only half of the students gives value to their dental health which have both school ratio percentage about equally.

Practice on Oral Dental Health in Basic Level Students

Oral dental health is an important part of generate health. Only oral health knowledge is not enough for the healthy life. Everyone should implement their knowledge in their practical life regular proper tooth brushing behavior is need for healthy and strong teeth. So here, deals about the respondents practice of cleaning teeth, brushing, brush and toothpaste frequency of teeth, brushing right technique, changing the brush, practice on tongue cleaning in different heading and sub-heading.

Practice about Brushing Teeth

Teeth are the main part of our mouth. It is also cosmetic part. Practice means one of the most importance behaviors to get healthy and smart. We should brush our teeth each after meal. If we do not brush our teeth regularly it may create different complexities and our teeth might get damaged untimely. While asking the teeth

brushing practice, the response obtained from the respondents is shown in following table.

Table 13

Practice about Brushing Teeth

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Regular	28	23	51	98.08	69	49	118	92.91	169	94.41
Sometime	1		1	1.92	3	6	9	7.09	10	5.59
Total	29	23	52	100	72	55	127	100	179	100

Here in table 13 shows that 94.41% students from both school brush their teeth in regular manner, from which private sector students are more conscious in practice of brushing teeth rather than public sector school. Out of cent percent 5.59 % student says they brush their teeth sometimes only in irregular manner, in which public school students are more in percentage than private school.

Frequency of Brushing Teeth

If we brush regularly and timely, our teeth, mouth, gum, tongue and throat disease may be controlled or reduced. Having knowledge is not always enough to turn that into practice is important. It is difficult to bring in practice and to make habit. Almost all of the students know that they have to brush their teeth twice a day every after morning and evening meal but having this knowledge also they do not brush twice a day. Following table shows the practice of time of brushing teeth among the students of public and private school.

Table 14

Frequency of Brushing Teeth

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Once daily	9	10	19	36.54	26	22	48	37.80	67	37.43
Twice daily	15	11	26	50.00	38	24	62	48.82	88	49.16
After every meal	3	2	5	9.62	6	8	14	11.02	19	10.61
No response	2		2	3.85	2	1	3	2.36	5	2.79
Total	29	23	52	100	72	55	127	100	179	100

The survey on 'practice about frequency of brushing teeth' from table 14 shows that only 49.16 % of students brush their teeth twice where 50% are from private school and 48.82% are from public school. Similarly, 37.43 % students brush once a day and 10.61 % students brush their teeth after every meal in which 11.02% are from public school whereas only 9.62% private school students do so. Only 2.79% of students did not respond. From table, it is also evident that practice about frequency of brushing teeth in public and private school both are about equal on every similar response. This study shows that almost all students knowledge of the frequency of teeth brushing twice a day.

Time of Brushing Teeth

We should brush our teeth at least twice a day after having meal. It may control or reduce many dental problems. If we do not brush our teeth regularly it may create different complexities on oral health and that affects our beauty. The status of public and private school students brushing practice is given below in table 15.

Table 15

Time of Brushing Tooth

Description	Private School				Public School				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
Early morning before breakfast	11	12	23	44.23	30	31	61	48.03	84	46.93
Morning after meal	2	2	4	7.69	11	8	19	14.96	23	12.85
Morning and evening after meal	15	8	23	44.23	25	15	40	31.50	63	35.20
Other	1		1	1.92	6	-	6	4.72	7	3.91
No response	-	1	1	1.92	-	1	1	0.79	2	1.12
Total	29	23	52	100	72	55	127	100	179	100

Table 15 is evident that 35.20% respondents brush their teeth at morning and evening after meal out of which 44.23% are from private school and only 31.50% are from public school. Similarly, 46.93 % respondents brush their teeth only before breakfast in early morning, it includes 44.23% from private school and 48.03% from public school. Some of them of 12.85 % brush their teeth in the morning after meal. But only 3.91 % brush at other time. 1.12 % of respondents did not respond anything. From this study analysis, it can be said that, although majority of the students were

aware about the brushing of teeth two times a day, in reality they brush their teeth only one time i.e. in the morning.

Materials Used for Brushing Teeth

Many materials can be used for brushing teeth. Generally use of brush and toothpaste is practiced in Nepal for brushing teeth. Indigenous and market available materials can be used to brush by the teeth.

Table 16

Materials Used for Cleaning Teeth

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Brush and toothpaste	28	23	51	98.08	68	55	123	96.85	174	97.21
Finger and toothpaste	1	-	1	1.92	2	-	2	1.57	3	1.68
Flossing	-	-	-	-	1	-	1	0.79	1	0.56
Coal/Daitwan	-	-	-	-	1	-	1	0.79	1	0.56
Total	29	23	52	100	72	55	127	100	179	100

According to table 16, 97.21 % of student use brush and toothpaste out of which 98.08% students are from private school and 96.85% are from public school. 1.68 % student use finger and toothpaste to brush their teeth. Similarly, 0.56 % students also uses flossing and coal/ *daitwan* each. The above table also shows that private sector school's students only uses toothpaste with their brush and finger comparatively public student uses flossing and coal/*daitwan* in addition. This study found that many people are using toothpaste for brushing teeth. In this case we can say they have proper knowledge about tooth brushing way. But moreover fluoride toothpaste was the best material for teeth.

Materials Used for Cleaning Tongue

Since cleaning of our tongue is also important for a good oral health. Bad breath, taste of food and other infections occur when tongue is not cleaned in regular basis.

Table 17

Materials Used for Cleaning Tongue

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Brush	11	10	21	40.38	21	33	54	42.52	75	41.90
Finger	-	2	2	3.85	4	-	4	3.15	6	3.35
Jibre	18	9	27	51.92	46	21	67	52.76	94	52.51
No response	-	2	2	3.85	1	1	2	1.57	4	2.23
Total	29	23	52	100	72	55	127	100	179	100

Table 17 indicates that 52.52 % students use '*Jibre*' to clean their tongue where 41.90% students use back side of brush to clean. Other 3.35 % students use their finger to clean their tongue and 2.23 % students did not respond. Evidently, this also can be said that public and private students respond equally on each option. This study shows that students were not aware about materials brush used for cleaning tongue. It is said that '*Jibre*' is unsafe to use.

Duration of Using One Brush

Since Nepal is a developing country the economical condition of each people, family is not so huge. According to their economic condition they take care of themselves. Those who have good condition and more conscious about oral health they do change their brushes according to dentist recommendation. For the study, I collected the time duration that students spend on their brushing teeth to know their practice on maintaining the quality of brush and its performance. Generally dentists suggest no use tooth brush more than 3 months. So here in the above table, students' responses are recorded and tabulated below.

Table 18*Duration of Using One Brush*

Description	Private School				Public School				Total l no.	Total %
	M	F	Total	%	M	F	Total	%		
One month	16	10	26	50.00	42	26	68	53.54	94	52.51
Two month	4	5	9	17.31	13	16	29	22.83	38	21.23
Three month	8	1	9	17.31	7	3	10	7.87	19	10.61
More than three month	1	6	7	13.46	8	10	18	14.17	25	13.97
No response		1	1	1.92	2	-	2	1.57	3	1.68
Total	29	23	52	100	72	55	127	100	179	100

The above table shows that 52.51 % of students change their brush in one month out of which 53.54% students are from public school and 50 % are private school students. 21.23 % students change their brush in two months. Out of cent percent, 10.61 % students change their brush in three months including 17.31% from private school and only 7.87% from public school and 13.97 % use their brush for more than three months. 1.68 % students did not respond to this query. Majority of the students use one brush for three months. It is a good duration for one brush because a brush might get damaged after three months.

Practice on Process of Brushing Teeth

Correct method of brushing is necessary for healthy teeth. Method of brushing means handling the brush in mouth so that it helps to prevent from dental problems. Methods of brushing may differ from person to person. Mainly three methods can be used in brushing teeth. They are vertical, horizontal and mixed. The following table shows the practice of private school and public school students regarding the method of brushing teeth.

Table 19*Practice on Process of Brushing Teeth*

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Vertical	3	-	3	5.77	1	1	2	1.57	5	2.79
Horizontal	2	1	3	5.77	10	6	16	12.60	19	10.61
Mixed	24	22	46	88.46	60	48	108	85.04	154	86.03
No response	-	-	-	-	1	-	1	0.79	1	0.56
Total	29	23	52	100	72	55	127	100	179	100

From table 19, it is clear that 86.03 % students practice mixed process out of which 88.46% are from private school and 85.04% are from public school students. While only 10.61 % and 2.79 % students practice horizontal and vertical process. 0.56 % students did not respond to it. This data found out that most of the students had knowledge about brushing their teeth. It is the best technique for brushing teeth.

Practice about Treatment Center of Dental Health Problems

When a dental problem occurs it becomes a nightmare. So, it is essential to know the places that should be visited if any problem occurs. To know the general behavior of students what they do when they have dental problems is shown in the table below.

Table 20*Treatment for Dental Problems*

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Dental clinic	28	21	49	94.23	71	52	123	96.85	172	96.09
General hospital	-	1	1	1.92	1	3	4	3.15	5	2.79
Dhami / Jhakari	-	-	-	-	-	-	-	-	-	-
No response	1	1	2	3.85	-	-	-	-	2	1.12
Total	29	23	52	100	72	55	127	100	179	100

From tabulated table above, it is clear that the majority of students 96.09 % visit dental clinic when any dental problem arises among which 96.85% students from

public school and 94.23% from private school. 2.79 % students say that they would visit to general hospital and 1.12 % students did not respond. From this data it can be said that 96.09 percent students go to dental clinic. This shows that students have good knowledge and practice of dental problem treatment.

Amount of Paste Used while Brushing

While brushing, selection of toothpaste and the amount of toothpaste required per time brushing is important for achieving desired effect. Dentists suggest that pea size of amount is enough to brush at a time. Here the practice of students on selecting the amount of toothpaste is tabulated below.

Table 21

Amount of Paste Used while Brushing

Description	Private School				Public School				Total	Total
	M	F	Total	%	M	F	Total	%	no.	%
Pea size	9	12	21	40.38	38	34	72	56.69	93	51.96
Full length of brush	16	7	23	44.23	30	21	51	40.16	74	41.34
Haphazardly	4	4	8	15.38	4	0	4	3.15	12	6.70
Total	29	23	52	100	72	55	127	100	179	100

From table 21 we can conclude that 51.96 % students use pea size amount of toothpaste while 41.34 % student use full length of brush toothpaste while brushing. 6.70 % of students use haphazard amount of toothpaste while brushing. The above data also clarifies that comparatively public school students use pea amount of tooth paste than private school which is 40.38 %. Also, 15.38 % private school students use haphazard amount of tooth paste than public school students which is 3.15 %. From this data it can be said that 51.96 percent students use pea size. This shows that students have good knowledge and practice on amount of paste that should be used while brushing.

Visiting Schedule to Dentist

General problem that occurs in teeth are caries, decays, cavity etc. which takes longer time to form and come forward later due to which it becomes late to treat. Generally in Nepal, people visit dentist only when problem arises to our oral health. But it is essential to visit dentist at a good time interval suggested by dentists. Here in table below student's response are tabulated.

Table 22

Visiting Frequency Schedule to Dentist

Description	Private School				Public School				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
When I have dental problem	25	19	44	84.62	63	48	111	87.40	155	86.59
Once a year	2	3	5	9.62	6	5	11	8.66	16	8.94
Twice a year	1	-	1	1.92	3	1	4	3.15	5	2.79
No response	1	1	2	3.85	-	1	1	0.79	3	1.68
Total	29	23	52	100	72	55	127	100	179	100

From the above table, it can be easily observed that 86.59 % students visit dentist only when they have dental problems. Among which 87.40 % are from public school students and 84.62% from private school students. Similarly, 8.94% and 2.79% students visit dentist once and twice a year respectively. 1.68% students did not respond.

Smoking Habit

Smoking is injurious not only to health but also it has huge impact in our oral health. Bad odor, infection of gums, blackening of gums, discolor of teeth are some of the problems that can occur due to continuous smoking. The response of respondents on this topic is tabulated below.

Table 23

Smoking Habit

Description	Private School				Public School				Total no.	Total %
	M	F	Total	%	M	F	Total	%		
Yes										
No	22	30	52	100	72	55	127	100	179	100

It is evident from above table 23 that from both sectors of schools there is no smokers. From this data it can be said that zero percent students have smoking habit. This shows that students have good knowledge and good practice of health.

Attitude towards Oral Dental Health

We can say that knowledge is prerequisite for our daily life practice but attitude depends how we act on it as simple attitude can be described as a concept or behavior on things how a person act or achieve it. I carried out a survey on attitude of public as well as private school students towards oral health.

Private School Students' Attitude towards Oral Dental Health

Following table shows the attitude to oral dental health in private school student's male female respondents.

Table 24

Private School Attitude Towards to Oral Dental Health

Statement		Agree			Disagree		
Do you think that it is important to clean your teeth	29	23	100	-	-	-	
Do you think that dental problem can affect general health	25	17	80.76	4	6	19.24	
Do you think immediate replacement of missing natural teeth by artificial teeth	7	11	34.62	22	12	65.38	
Do you think that gutka/paan chewing/smoking is a bad habit	27	23	96.15	2	-	3.85	
Do you think dentist care only about treatment and not prevention	4	3	13.46	14	31	86.54	
Do you think that treatment of tooth ache is important as any other organ of the body	18	11	55.77	11	12	44.23	
Are you afraid of going to the dentist	9	13	42.31	20	10	57.69	

As can be seen in Table 24 above, out of total of 52 respondents, 29 are men and 23 are women. Regarding the initial query, "How important do you think it is to brush your teeth?," All respondents (100%) agreed that cleaning teeth is necessary for optimum oral health. In my second inquiry, I inquired whether "dental health can affect general health." Students' agreement was 80.76%, but respondents'

disagreement was 19.24%. The fact that the majority of students are more concerned about their overall health can be explained. Similarly, another query was, "Is it good or bad to immediately replace missing natural teeth with artificial teeth?" 65.38% of respondents disagreed with the statement while only 34.62% agreed. When asked whether smoking and chewing *Gutka / Paan* are undesirable habits that can harm one's dental health or not, the majority of respondents 96.15% agreed, while 3.85% disagreed. When asked if dentists mainly focused on treatment and not prevention, 13.46% of respondents said yes and 86.54% said no. Like the previous query, "Is it important to seek medical attention for a toothache as with other organs of the body," 55.77% of respondents agreed, while 44.23% of respondents disagreed. When questioned about "do you fear going to the dentist," In contrast to the 57.69% who disagreed and 42.31% students agreed that they fear going to the dentist.

Public School Attitude towards Oral Dental Health

Following table shows the attitude to oral dental health in public school student's male female respondents.

Table 25

Public School Attitude Towards Oral Dental Health

Statement		Agree			Disagree		
Do you think that it is important to clean your teeth	72	55	100	-	-	-	
Do you think that dental problem can affect general health	55	46	79.53	17	9	20.47	
Do you think immediate replacement of missing natural teeth by artificial teeth	31	19	40.94	40	36	59.84	
Do you think that gutka/paan chewing/smoking is a bad habit	63	48	87.40	9	7	12.60	
Do you think dentist care only about treatment and not prevention	9	23	25.19	63	32	74.80	
Do you think that treatment of tooth ache is important as any other organ of the body	56	48	81.89	16	7	18.11	
Are you afraid of going to the dentist	26	38	50.40	4	17	49.60	

As can be seen in Table 25 above, out of a total of 127 respondents, 72 are male and 55 are female. Regarding the initial query, "How important do you think it is to brush your teeth?" All respondents (100%) agreed that cleaning our teeth is necessary for optimum oral health. In our second inquiry, we inquired whether dental

health can affect general health. Students' agreement was 79.53%, but respondents' disagreement was 20.47%. The fact that the majority of students are more concerned about their overall health can be explained. Regarding another query, "Is it good or bad to immediately replace missing natural teeth with artificial teeth?" 59.84% of respondents disagreed with the statement, while only 40.94% agreed. When asked if smoking and chewing *Gutka/Paan* are undesirable habits that can harm one's dental health, the majority of respondents 87.40% agreed, while 12.60% disagreed. When asked if dentists mainly focused on treatment and not prevention, 25.19% of respondents said yes and 74.80% said no. Like the previous query, "Is it important to seek medical attention for a toothache as with other organs of the body," 81.89% of respondents agreed, while 18.11% of respondents disagreed. When questioned about "do you fear going to the dentist," In contrast to the 49.60% who disagree and 50.40% students agreed that they fear to going to the dentist.

Attitude is a manner of thinking, feeling or behaving that reflects a state of mind or disposition. Here I have collected some questions and presented to the students of private school and public school students and had collected their concept towards oral health and compared possible aspects between those schools.

Cent percent of students from both private and public schools agreed that it is important to clean their teeth. When asked "Can dental problem affect general health" 80.76% students from private sector school and 79.53% students from public sector school agreed with the statement. Since private school students agreed more than public school student, whereas 20.47% student of public school and 19.24% student of private school student disagreed with the statement. On another question "Is immediate replacement of missing natural teeth by artificial teeth good" 65.38% and 59.84% students from private and public school students disagreed with the statement while 34.62% and 40.94% students from private and public school agreed with statement. Similarly, when asked "do you think that *Gutkha/Paan* chewing/smoking is a bad habit?" majority of the students of 96.15% from private school agreed while only 87.40% students of public school agreed with the statement whereas, 12.60% and 30.85% disagreed on aforementioned statement. When asked "do you think dentist care only about treatment and not prevention?" 86.54% students from private school and 74.80% students from public school disagreed about it. Students were also

asked “do you think that treatment of toothache is important as any other organ of the body” 81.89% of public school students agreed about that more than private school students which is only 55.77% while more percentage of students from private school than public school student disagreed about it.

Condition of Oral Dental Health

Oral dental health touches every aspect of our lives but is often taken for granted. Our mouth is a window into the health of our body. It can show sign of nutritional deficiencies or general infection. Some diseases, those that affect the entire body, may first become apparent because of mouth lesions or other oral problems. Oral health is the practice of keeping the mouth healthy and clean by brushing and flossing to prevent tooth decay and gum disease. Oral health is being a bit neglected part. As a result it may create great problems in oral health.

Condition of Teeth

Many people suffer from different kinds of disease time. Dental health problem is increasing day by day. In the context of Nepal, mostly the school children are suffering from dental problems like dental caries, loss of teeth, broken teeth, twisted teeth, dirty between teeth and so on. In this regard of oral problem, I did the observation and collected data in the field. The condition of dental health problems of the students is presented in the following table.

Table 26

Condition of Teeth

Description	Private School		Public School		Total	Total percent
	Number	Percent	Number	Percent		
Loose of teeth	17	32.69	38	29.92	55	30.73
Broken teeth	11	21.15	27	21.26	38	21.23
Dental caries	3	5.77	6	4.72	9	5.03
Twisted teeth	5	9.62	4	3.15	9	5.03
Dirty between teeth	7	13.46	20	15.75	27	15.08
Normal condition	9	17.31	32	25.20	41	22.90
Total	52	100	127	100	179	100

From the above data it is found out that 30.73% students have lost their teeth as a whole. In private school, students had 32.69% which is little bit higher than public school students with 29.92%. Similarly 21.23% students had broken teeth in which private students and public student consists 21.15% and 21.26% respectively. Here, 5.03% students had dental caries, 5.03% students also had twisted teeth, 15.08% students had dirty between teeth and 22.90% students had normal conditions of teeth.

Condition of Gum

The gums or gingiva consist of the mucosal tissue that lies over the mandible and maxilla inside the mouth. Gum health and disease can have an effect on general health. Healthy gum helps us in oral hygiene and oral health of teeth. So our oral gum should be healthy and clean. In this study the condition of gum of the respondents is shown in the following table.

Table 27

Condition of Gum

Description	Private School		Public School		Total	Total percent
	Number	Percent	Number	Percent		
Normal	39	75.00	118	93.54	157	87.71
Swollen	-	-	-	-	-	-
Infection	5	9.62	-	-	5	2.79
Black	8	15.38	9	6.46	17	9.50
Total	52	100	127	100	179	100

In the above table 87.71% of students' gum was observed to be normal, students in public schools had gum that was 93.54% more normal than those in private schools. Additionally, 2.79% of students had infected gum, and 9.50% of students had gum that was black. Gums weren't swollen whilst observation. From this data it can be said that most of the student had well condition of the gum.

Color of Teeth

Healthy teeth are not only for chewing it is also taken as a symbol of beautiful face of human beings. Teeth should be clean and bright. The color of teeth of the students is presented in the following table.

Table 28

Color of Teeth

Description	Private School		Public School		Total	Total percent
	Number	Percent	Number	Percent		
Bright	13	25.00	23	18.11	36	20.11
Normal	26	50.00	72	56.69	98	54.75
Yellowish	8	15.38	21	16.54	29	16.20
Discolor	2	3.85	11	8.66	13	7.26
Total	52	100	127	100	179	100

While observation of color of teeth 20.11% student's teeth was found bright in which private school students held 25% which is greater than public school students who held 18.11% Similarly, 54.75% students had normal color teeth, 16.20% students had yellowish teeth in which both private and public school have nearly same percentage 15.38% and 16.54% respectively. 7.26% student had discolored teeth in which public school had more students with discolored teeth than private school with 3.85% and 8.66% respectively. From this data it can be said that most of the students had not used proper way of teeth brush and also had the habit of irregular teeth brushing which may be caused by bad flossing practice and improper teeth brushing. It shows that the students had knowledge regarding oral health but it was not applied in real life.

Condition of Tongue

The tongue is the fleshy muscular organ in the mouth of a mammal that is used for tasting, licking, swallowing, and articulating speech. Tongue is the most important part of oral health. If we want to clean our tongue we need jibre to clean the tongue properly. So, in this study the condition of the tongue is presented in the following table.

Table 29*Condition of Tongue*

Description	Private School		Public School		Total	Total percent
	Number	Percent	Number	Percent		
Well	-	-	-	-	-	-
Normal	44	84.62	102	80.31	146	81.56
Dirty	8	15.38	25	19.69	33	18.44
Swollen papilla	-	-	-	-	-	-
Total	52	100	127	100	179	100

From the observation it is found that 81.56% students have normal condition of their tongue in which both private and public schools have nearly same value i.e. 84.62% and 80.31% respectively whereas 18.44% students have dirty tongue in which public school has little bit more value than private school with 15.38%. From this data it can be said that they have the knowledge of cleaning tongue but not practiced by students.

Major Findings

- In overall, 66.48% of respondents (students) had good knowledge of oral health, in which 66.68% from private schools and 69.09% from public schools.
- 75.98% students from both the schools have good knowledge that cleaning entire mouth is important for oral health while 71.15% students believe that cleaning only teeth is important.
- Although 100% students practice brushing their teeth regularly, it is found that 43.31% public school students know better that it is essential to brush their teeth to prevent from oral health rather than private school student which has only 32.69%. Other remaining 47.49% of students said that they brush their teeth to avoid dental effects and 12.29% brush to look smart and fresh.
- Dental caries are defined by only 48.60% Private school students, 48.08%, public school students as tooth decay, 8.94% as teeth discoloration, and 39.11% as toothache. In contrast, 70.39% Private school -80.77%, Public

school -66.14% of students say dental caries is caused by irregular tooth cleaning, eating too much sweets, and careless while the remaining students say the aforementioned options, respectively. Students from both schools have less knowledge about dental caries.

- Students consume green vegetables and fruit because they are aware that doing so is excellent for their teeth and general oral health in which 98.08% students are from private school and 96.06% are from Public school.
- The majority of students i.e. 67.04% learned how to brush from their families, followed by teachers 7.26%, dentists 21.23%, and media 3.35%. It can be concluded that families give good attention to make habits to their children about brushing from early age of both private and public school.
- Majority of students in total 73.34% said that the mixed plus circular method is best for brushing their teeth, followed by 15.08% who said horizontal method, 8.94% said vertical method and maximum students in total 86.03% who practiced the mixed method in which 88.46% are from private school students and 85.04% students are from public school where other remaining 10.61% and 2.79% who practiced the aforementioned method.
- About the effect of retention of sweet food, only half of the students i.e. 50.84% knows well in which 75% are from private school know quite well than public school students which has 40.94% only that had the knowledge regarding oral health.
- Majority of students in total 88.83% (private school students- and public school students-) have good knowledge about selecting a good brush for their teeth soft brush is good for teeth while 4.47% students use hard brush and 3.91% uses any type of brush available.
- Only half of the students i.e. 49.16% know brushing twice a day is good for teeth in which percentage of private school students is 50% that is more than public school students with percentage of 48.82%. It is also found that 91.06% students clean their mouth after taking the food.
- Majority of students in total 97.21% in which 98.08% students from private school students are more than public school students which is only 96.85% practice brushing their teeth with brush and tooth paste.

- Students with in total 51.96% in which includes 56.69% students from public school practice more than private school of 40.38% only. It is also seen that in total 52.51% use their brush for one month, 21.23% use two months, 10.61% use three months and 13.97% use more than three months.
- 52.86% students from public school practice more than private school students which has 51.92%. Other remaining i.e. 52.51% use Jibre, 41.90% use back of brush and 3.35% uses their finger.
- Among total, 96.09% students go to dental clinic when they face dental problem rather to Dhama Jhakri, where 86.59% visit dentist only when they face dental problem. Some other students 8.94% visit dentist once a year and 2.79 % visit twice a year but 50.40% of students said that they fear when they are visiting to dentist.
- Cent percent students agreed that it is important to clean teeth every day but, 79.53% students agreed that dental problem can affect general health and 87.40% agreed that chewing Gutkha/Paan and smoking is bad for oral health.
- Students with 74.80% agreed that dentists not only care about treatment but also they care about prevention whereas 59.84% disagreed about immediate replacement of missing teeth by artificial teeth. 81.89% students agreed that treatment of toothache is important as any other organ of body.
- In total, 65.67% practice to maintain their oral dental health where 66.90% students are from private school and 64.44% are from public school.
- In total, 68.02% students from both schools have positive attitude towards oral/dental health, where 67.03% student are from private school and 69.06% are from public school.
- In overall, 60.33% students have normal oral/dental health condition, where 63.93% are from public school and only 56.73% are from private school students. Normal means good condition of teeth, color of teeth, tongue and gums.
- In total, 67.20% students had good knowledge, good practice and positive attitude towards comparing oral/dental health, including 66.87% from private school and 67.53% from public school students.

Chapter V: Conclusion and Recommendations

Oral health is considered as fundamental for well-being. Oral health problem is one of the great health problems. We know that oral health problem is increasing day by day among school children. Majority of basic level student are suffering from various types of dental problem like dental carries, bad smell, gum disease and throat and tongue infection etc.

The study entitled "Dental health status in basic level students of public and private school of Kathmandu, metropolitan" was based upon 6 to 8 grades students. The respondents of the study were selected by using the census method, so the total number of all students of Private school 6 to 8 grades was 52. In the public school, 6 to 8 grades section 'A' had 127 total students. The total number of respondents was 179. The objective of the study was mainly concerned in knowledge and practice on dental oral health of the student. This study is descriptive in nature and census method was applied. Quantitative source of data was used. To collect data the researcher visited school to school and requested them to provide information about knowledge and practice on dental oral health. This information had been gathered by the use of interview schedule and observation form. The collected data were analyzed with the help of percentage and presented tables.

Conclusion

The study examines knowledge and practice on dental oral health of basic level students in Kathmandu, metropolitan. The researcher found out that the maximum students had good knowledge on oral health. Almost all students had good knowledge on maintenance of dental oral health, protection of teeth from dental caries and brushing too but its practice was not satisfactory. Similarly, knowledge about time, frequency and method of brushing as well as duration of using brush and its types was also not satisfactory. Around two-third percent students had better knowledge about going to dental care center for solving dental problems but their act of going to dental care center was not satisfactory. As a same, maximum percent of students had not got any demo class to brushing. But majority of the students were found rinsing after taking food stuff. And in this study, observation form also found

that majority of the students had suffered from different types of problem in teeth, tongue and gum.

Recommendations

To promote oral dental health hygiene knowledge and appropriateness, practice of student, researcher tried to outline some recommendations for further researchers and improvements that they are.

Recommendations for Improvement

- Parents and teacher should encourage student for suitable brushing method.
- Oral hygiene education focusing on activities should be organized in school.
- Student should be encouraged to use their oral hygiene knowledge in their practical life.
- Awareness programs for guardians should be given about dental health
- School should conduct dental health camp by coordinating with health center and other health related organizations.
- Teacher should observe teeth brushing habit of the students and give education about dental health regularly.

Recommendations for National Policy

- Government should conduct action oriented programs that generate awareness against negative effect of oral unhygienic behavior.
- The oral hygiene practice in this community was very poor. So, special programs should be launched by government for improving safe practice.
- Oral and dental health related information should be launched by government through formal and informal education program.
- The education policy makers should give appropriate place to the oral hygiene behavior with hygiene education.
- The maximum consumption of sweets and unhealthy food eating habits should be minimized through creating awareness programmed in national level.

Recommendations for Further Studies

Based on the finding and conclusion, following possibilities for further researchers were seen.

- A similar study could be launched considering broader areas, such developmental areas of Nepal or geographical region of Nepal.
- A comparative study can be conducted on different caste of oral hygiene practice.
- A comparative study can be conducted between literate and illiterate family on oral hygiene behavior and practice.

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Appendices

Appendix I

Interview Schedule

Demographic profiles of respondents.

Name: _____ Address: _____
Age: _____ Sex: _____
Class: _____ Date: _____
Type of family: _____

Knowledge of oral health and hygiene

1. What is oral health?
 - a) Cleaning of teeth
 - B) Cleaning of tongue
 - C) cleaning of overall mouth
2. Why it is necessary to maintain oral health?
 - a) To keep mouth clean
 - b) To keep teeth clean
 - c) To save teeth from oral problems
 - d) other
3. Why do you brush your teeth daily?
 - a) To prevent from oral problem
 - b) To look smart and fresh
 - c) To prevent from dental effect
4. What are dental caries?
 - a) Decay of teeth
 - b) Toothache
 - c) Getting teeth discolor
5. What are the causes of dental Carries?
 - a) Irregular cleaning of teeth
 - b) Eating too much sweets
 - c) Careless
 - d) All of the above
6. Are food green vegetables and fruits good for teeth?
 - a) Yes
 - b) No
7. From whom did you learn to clean your teeth?
 - a) Family
 - b) Teachers
 - c) Dentists
 - d) mass media
8. Which Method is good for brushing teeth?
 - a) Horizontal
 - b) Vertical
 - c) Mixed plus circular
9. What happens if you do not brush your teeth regularly?
 - a) Bad smell
 - b) Build bad habit
 - c) Look dirty
 - d) Problems arise on teeth

10. Effect of retention of sweet food on teeth?
- a) Can lead to decaying of teeth
 - b) Calcium deficiency
 - c) Leads to bleeding gums
 - d) Don't know
11. Effect of fluorides on teeth?
- a) Prevention of gum disease
 - b) Prevention of tooth decay
 - c) Cleaning of teeth
 - d) Don't know
12. Hardness of bristles of teeth has any effect on teeth and gums?
- a) Yes
 - b) No
13. Which type of brush is good for teeth?
- a) Soft
 - b) Hard
 - c) Any type
14. How much do you value your dental health?
- a) Very good
 - b) Good
 - c) Bad

Practice/problems related information

1. Do you brush your teeth daily?
- a) Yes
 - b) No
2. Do you clean your teeth by brush?
- a) Regular
 - b) Sometimes
3. How many times a day do you brush your teeth?
- a) Once daily
 - b) Twice daily
 - c) After every meal
4. Which time do you brush your teeth?
- a) Early morning before breakfast
 - b) Morning after a meal
 - c) Morning and evening after meal
 - d) Other
5. How much time do you take for each brushing?
- a) 1 min.
 - b) 2 min.
 - c) 2 min. above
6. What do you use to brush your teeth?
- a) Brush and toothpaste
 - b) Finger and toothpaste
 - c) Flossing
 - d) Others (coal and Datiwan)

7. Do you clean your tongue?
a) Yes b) No
8. Which materials use for cleaning tongue?
a) Brush b) Finger c) Jibre
9. Do you use dental floss?
a) Yes b) No
10. Do you use mouth wash?
a) Yes b) No
11. How long do you use one brush?
a) One months b) Two months c) Three months d) More than
three months
12. What you use to brush your teeth?
a) Toothpaste b) Tooth power c) Other
13. How do you brush your teeth?
a) Up and down b) Left and right c) Mix
14. Do you clean your mouth after taking the food?
a) Yes b) No
15. Where do you go, if you face a dental problem?
a) dental hospital\clinic b) General hospital\ clinic
c) Dhami\ Jhakri
16. Have you ever met a dentist to get suggestions for healthy gum and teeth?
a) Yes b) No
17. At what amount of paste do you apply to your brush while brushing your teeth?
a) Pea Size b) Full length of brush c) Haphazardly
18. How often do you visit your dentist?
a) When I have a dental problem b) One a year c) Two a year
19. Do you smoke?
a) Yes b) No

Attitude towards oral health

Characteristics	Agree	Disagree	Undecided
Do you think that it is important to clean your teeth			
Do you think that dental problem can affect general health?			
Do you think immediate replacement of missing natural teeth by artificial teeth			
Do you think that gutka/pan chewing/smoking is a bad habit			
Do you think dentist care only about treatment and not prevention			
Do you think that treatment of tooth ache is important as any other organ of the body			
Are you afraid of going to the dentist			

Appendix II

Observation Checklist

School Name:

Student's Name:

Date:

1. Condition Of teeth

S.N	Explanation	Yes	No
1	Loose of teeth		
2	Broken teeth		
3	Dental caries		
4	Twisted teeth		
5	Dirty between teeth		

2. Condition of gum

- a) Normal
- b) Swollen
- c) Infection
- d) Black

3. Color of teeth

- a) Brightness
- b) Normal
- c) Yellow
- d) Discolor

4. Condition of tongue

- a) Well
- b) Normal
- c) Dirty
- d) Swollen papilla