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A Study to Assess the Level of Knowledge Regarding Oral Hygiene Among Children of Selected School, Guwahati

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Abstract

BACKGROUND: Oral health is another essential piece of the puzzle when it comes to staying healthy. The health of the child is the power of the nation. Children are one third of our population and all of our future.

Dental hygiene is defined as the science and practice of the recognition, treatment and prevention of the oral diseases. Oral diseases are highly prevalent worldwide. A good quality of life is possible if students maintain their oral health and become free oral disease.

In 2023 , almost half of the world's population approximately 3.5 billion people, suffer from oral disease. This number has increased by 1 billion over the last 30 years. The researcher also had an experience from community visit and clinical posting that there are a large number of students suffering from dental caries due to various reasons therefore the researcher felt necessary to conduct a study to assess the knowledge on oral hygiene among school children.

PROBLEM STATEMENT: "A study to assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati."

OBJECTIVES:

1. To assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati.
2. To find out the association between knowledge and selected socio demographic variables regarding oral hygiene among children.

MATERIALS AND METHODS: Quantitative non experimental descriptive research designs were adopted for the study. In this study 100 school children of The Scholar School, Guwahati, were selected using convenience sampling technique. The tool used for the study are demographic variables and self structured knowledge questionnaire. The analysis was done by using descriptive and inferential statistic in terms of frequency, percentage, mean, standard deviation and chi square.

RESULT: The result shows that out of 100 participants 77(77%) had moderate knowledge, 13(13%) had inadequate knowledge and 10(10%) had adequate knowledge on oral hygiene.

CONCLUSION: The main aim of the present study was to assess the level of knowledge regarding oral

hygiene among children of selected school, Guwahati.
The findings of the study reveal that
There is a association between level of knowledge regarding oral hygiene among children with their selected socio-demographic variables showed that educational qualification was found significant and other demographic variables such as age, gender and place of residence were found to be non significant with knowledge regarding oral hygiene among children.

CHAPTER I
INTRODUCTION
BACKGROUND OF THE STUDY
"Poor oral health care can result in poor overall health" -George Taylor.
Health is the level of functional and metabolic efficiency of a living organism. In humans it is the ability of individuals or communities to adapt and self-manage when facing physical, mental or social changes. The World Health Organization (WHO) defined health in its broader sense in its 1948 constitution as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Children are the precious gift who is considered to be a resource for future. Healthy children of today will be a healthy citizen for tomorrow.
Maintaining good oral hygiene is considered a lifelong, habit. Moreover, these oral habits are said to begin in an early stage of life. In order to follow healthy oral habits, it is important to have good knowledge and attitude towards oral health. A good knowledge about oral health is essential for oral health related behavior.
Oral health is another essential piece of the puzzle when it comes to staying healthy. The health of the child is the power of the nation. Children are one third of our population and all of our future.
Dental hygiene is defined as the science and practice of the recognition, treatment and prevention of the oral diseases. Oral diseases are highly prevalent worldwide. A good quality of life is possible if students maintain their oral health and become free oral disease.
Children's oral health care starts at home. Taking good care of young developing teeth will reduce plague, prevent gum disease and tooth decay, and improve child's overall health. Maintaining good oral hygiene is considered lifelong habit. Children who start brushing and
flossing from a young age are less likely to suffer from dental decay and gum disease later in life. Strong oral care helps set good dental habits as child grows.

NEED OF THE STUDY:
Poor oral hygiene or lack of effective oral hygiene leads to infection, ulcer or gum disease in human beings worldwide. In India dental caries prevalence varied from 23.0-71.5 % in 12 years old and from 48.1-86.4 % in adults aged 35-45, based on a biannual multi centric oral gelato study done by "Ministry of Health and WHO" in India in 2007-2008.However,the frequency of dental caries in elders aged 65-74 varied from 51.6% to 95.1%. The prevalence of periodontal disorders among adults and the elderly, respectively, ranged from15.32% to 77.9% and 19.9%- 96.1%
As per the Global Oral Health Status Report (GOHSR)2022,INDIA experienced significant oral health challenges. The total numbers of cases for caries of permanent teeth was 366,358,183, representing 18.1% of the global caseload. Severe periodontal disease affected 221,084,427 individually, accounting for 20.3% of cases worldwide. Caries of deciduous teeth were present in

98,199,025 cases, or 18.9% of the global total. Edentulism impacted 34,905,533 people, making up to 9.9% of the worldwide cases. Additionally, lip and oral cavity cancer affected 327,648 individuals in India, constituting 23.4% of the global caseload.

In 2023 , almost half of the world's population approximately 3.5 billion people, suffer from oral disease . This number has increased by 1 billion over the last 30 years.The researcher also had an experience from community visit and clinical posting that there are a large number of students were suffering from dental caries due to various reasons therefore the researcher felt necessary to conduct a study to assess the knowledge on oral hygiene among school children.

PROBLEM STATEMENT:

A study to assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati.

OBJECTIVES OF THE STUDY:

1. To assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati.
2. To find out the association between knowledge and selected socio demographic variables regarding oral hygiene among children.

ASSUMPTION:

The study assume that school children may have some knowledge regarding various practice and importance to maintain oral hygiene.

OPERATIONAL DEFINITION:

ASSESS - Assess means to evaluate the value of quality of a particular subject whether it is of a living being to determine the value of their satisfaction depending upon their emotions or characteristics.

In this study, assess refers to statistical measurement of the level of knowledge on oral hygiene.

KNOWLWDGE: Knowledge is the facts, feeling, experiences or conditions of knowledge something with familiarity gained through experience or association.

In this study, knowledge refers to awareness of school children regarding oral hygiene which will be measured by the self structural knowledge questionnaire.

ORAL HYGIENE: The practice of personal maintenance and cleanliness of the hard and soft tissue of the oral cavity.

CHILDREN: Every human being below the age of 18 years, unless the relevant laws recognize an earlier age of majority.

In this study, the children are the one those who are studying in class 6^{th}, 7^{th}, and 8^{th} .

SCHOOL: The educational institution and building designed to provide learning spaces and learning environments for the teaching of students under the direction of teachers.

In this study, school refers to where participating children are enrolled The Scholar School, Guwahati.

HYPOTHESIS:

H1 - There will be significant association between the knowledge regarding oral hygiene among school children with selected demographic variables at 0.05 level of significance.

DELIMITATION:

This study is delimited to:

- School children of class 6^{th}, 7^{th} and 8^{th}.

CONCEPTUAL FRAMEWORK:

The conceptual framework for a particular study is a logical structure that enables the researchers to link the finding to the nurse's body of knowledge. It is developed from the existing theory and helped in identifying and defining the concept of interests and proposing relationship among them. The model gives direction for planning research design, data collection and interpretation of findings.

The conceptual framework for the present study is based on modified Rosenstock's Health Belief Model (1988).

It is theoretical model concerned with health decisions making the model attempts to explain the condition under which a person will engage in individual health behaviors such as preventive screening or seeking treatment for a health condition.

It has three components-

1. Individual perception
2. Modifying factors and
3. Likelihood of action

1. Individual perception:

Individual perceptions include the following -

Perceived susceptibility: It is one's opinion of changes of getting a condition. It makes the individual to feel at high risk to a disease.

In this study perceived susceptibility included risk for oral disease (poor oral hygiene, diet high in sugar).

Perceived severity: It is one's option of how serious a condition and its consequences. It makes the Individual to think that whether the illness causes death or has serious consequences.

In this study perceived severity included seriousness of oral diseases such as tooth ache, cavities, bleeding gums, bad breathe, mouth sore.

2. Modifying factors:

Modifying factors include the following :

Demographic variables:

Demographic variables include age, gender, race, ethnicity.

In this study demographic variables include age, gender, educational qualification, place of residence.

Perceived threat:

Perceived susceptibility and perceived seriousness combine to determine the total perceived threat of an illness to a specific individual.

In this study perceived threat include dental caries, tooth ache, gum swelling, gum bleeding, mouth sore.

Cues to action:

Strategies to activate "readiness cues can be internal and external. Internal cues include negative feeling about the condition of a person. External cues is like mass media, television, magazine articles, campaigns, newspaper and advice from others.

In this study cues to action include physical sensation, television, mass media, family, health care team.

3. Likelihood of action:

Likelihood of an action include following the likelihood of a persons taking recommended preventive health.

Perceived benefit : One's belief in the efficacy of the advised action to reduce risk or seriousness of impact before taking the action, the individuals things about its benefits to him.

Perceived benefits are adequate knowledge preventing cavities, maintaining healthy gums, improve overall health, practicing of good oral hygiene .

Perceived barriers: These are the hindrances like inadequate knowledge, cost concern and low perceived importance.

Recommendation :

Preventive health education on correct technique of brushing, flossing, and tongue scraper.

Individual perception

Perceived susceptibility:

*Risk for oral disease(poor oral hygiene, diet high in sugar)

Perceived severity:

*Seriousness of oral disease such as tooth ache, cavities, bleeding gums, bad breath, mouth sores.

Perceived threat:

- Dental caries
- Tooth ache
- Gum swelling
- Gum bleeding

Cues to action:

Physical sensation, TV, mass media, family, health care team.

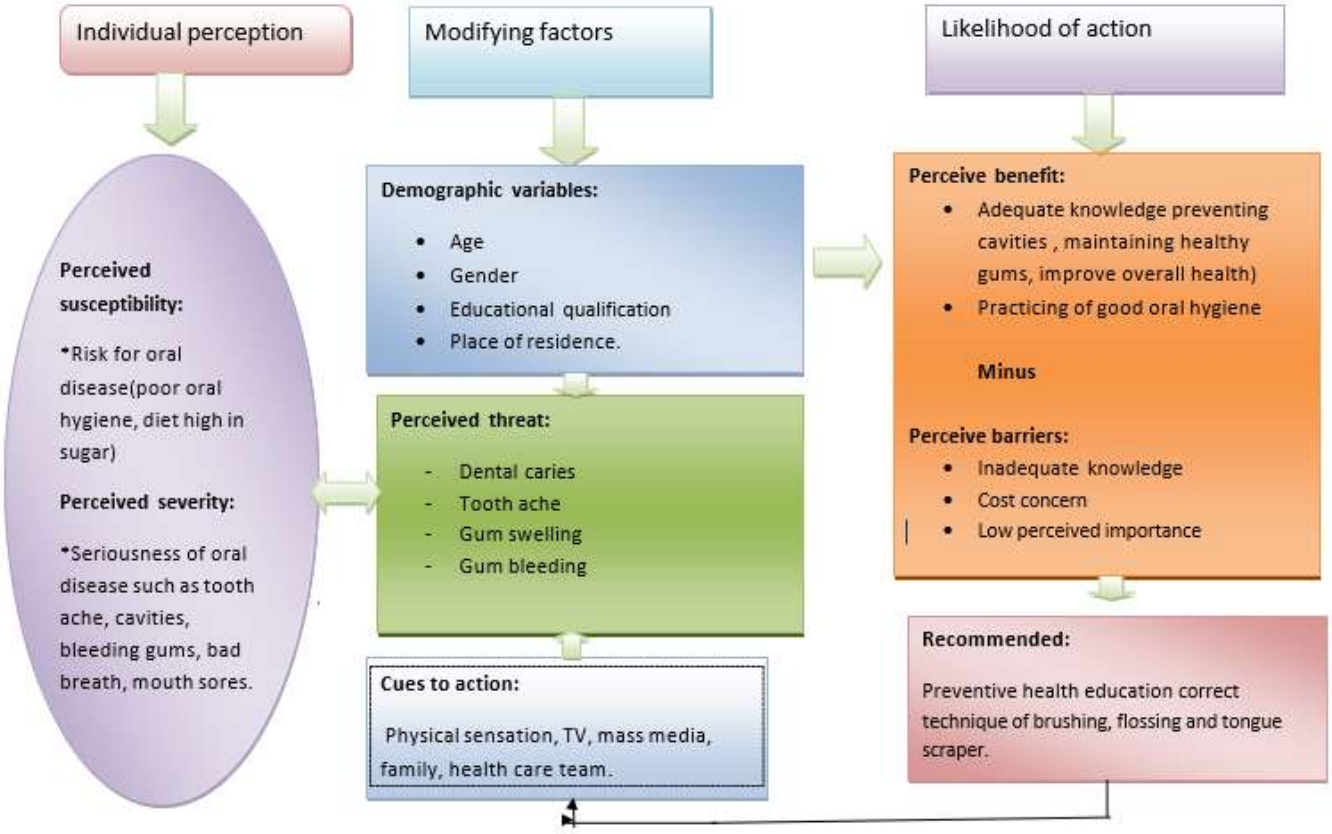

FIG: MODIFIED CONCEPTUAL FRAMEWORK BASED ON ROSENSTOCK'S HEALTH BELIEF MODEL (1988)

SUMMARY:

This chapter deals with background of the study, need of the study, statement of the problem, objective of the study, assumption, operational definitions, hypothesis delimitation and conceptual framework of the study.

CHAPTER-II

CHAPTER II

REVIEW OF LITERATURE

Review of literature is a key in research process. The typical purpose for analyzing existing literature is, to identify what is known and what remains unknown about the topic. The major goals of literature review are to develop strong knowledge base to carry out research and non- research scholarly activity.

Literature review is defined as a comprehensive, in depth, systematic and critical review of scholarly publication, unpublished printed or audiovisual materials and personal communication. Political F Hungler P. Bernadette (1999), said that good research does not exist in vacuum . The task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information as the topic of interest. This chapter deals with related literature which is reviewed accordingly. The review of literature for the present study has been gathered from articles, text book and internet search a topic related to this study.

SECTION -1 : Literature related to importance of oral hygiene . KUMAR SURENDER 2024:

Cross sectional descriptive study was conducted to assess the knowledge, attitude and practice

regarding oral hygiene care among the nurses staff in intensive care unit patients: Used questionnaires to collect the data results a total of 150 nurses completed the questionnaire from (response rate 62.5%) comprised of 49(32.7%). Males and 101(67.3%)females with a mean age of 35.69_+ 7.7 years. Nursing officers knowledge surpassed that of staff nurses regarding the duration of tooth brushing (P= 0.033). Among inter institutional comparisons, THC-I nurses showed the greatest knowledge regarding the duration of tooth brushing and the mechanism of preventing saliva accumulation to reduce microbial growth (P= 0.013 and P = 0.003 respectively). Based on the total work experience, the participants were segregated into three groups. Group 1(<7 years), Group 2(7.1 -13.9 years), and group 3 (>14 years), Group 3 surpassed the knowledge of denture removal during sleep, cleaning after every meal and storing in personalized air-fight containers (P= 0.001 and P= 0.036,respectively) The majority from group 2 recommend plain saline as the material for oral hygiene maintenance in ICU patient. (P= 0.008) Group 3 predominantly practice the ideal hand washing techniques pre test and post patient contact which was statistically significant.(P= 0.001).

TADIN ANTONIJA TADIN,BADROV MARIJA,2024:

Cross sectional descriptive study was conducted on oral health knowledge, self- assessed oral health behavior, and oral hygiene practices among the adult general population in Croatia. Questionnaires was used to collect the data results the respondents showed a high level of knowledge about oral health (medium score 9, IQR 7.00 -10.00, maximum possible score 10) with significant factors for higher knowledge being engaged in dental professions. Above average socioeconomic status; and the use of an electric brush, dental floss and interdentally brushes($p<0.05$). Insufficient knowledge on the other hand, was associated with bleeding guns and daily smoking($p<0.05$). Although 69.4% of respondents considered their oral health to be very good, 32.5 reported tooth sensitivity. The majority (62.0%) cited regular checkup ad the reason for their last visit to dentist, with 74.1%feeling no anxiety or discomfort during these visits, A remarkable 69.0% of respondents indicated that low oral health literacy and low prioritization contribute to suboptimal oral health.

DOLEY SULEKHA AT EL(2022):-

The study aimed to assess and compare the prevalence of dental caries with it's association with oral hygiene practices among 13-14 years old school children in urban and rural areas in Kamrup Metropolitan (M) District, Assam. A total of 1,501 school children in the age group of 13-14 years were included in the study and dental caries was recorded from Decayed Missing Filled Teeth (DMFT)/deft index as described by World Health Organization (WHO)(1997).The children were asked to fill in the basic information in the Performa by themselves. The statistical test used in this study were unpaired t-test, chi-square test, and one-way ANOVA test to compare the DMFT among the different age groups, gender and location. Statistically significant difference was found in the prevalence of the decayed (D) component between the 14 years old (33.9%) and the female (35.7%)) population. However, the prevalence of decayed components for the rural (30.2%) and the urban (33.1%) population was not statistically significant. The overall prevalence of dental caries among school children of Kamrup (metropolitan)District was 33.6%.

MLENGA F, EG MUMGHAMBA (2021):

An analytical and quantitative cross-sectional descriptive study was conducted to assess the oral hygiene practices, knowledge, and self-reported dental and gingival problems with rural – urban

disparities among primary school children in Lilongwe, Malawi. Questionnaires was used to collect the data result showed that out of 409 pupils, most of them had knowledge that dental caries is caused by consumption of sugary food stuffs (91.4%) , tooth ache is a symptoms of dental caries (77.6%), gingivitis is caused by ineffective tooth brushing (92.7%) and gingival bleeding is a sign of gingivitis (85.3%). Most pupils experienced tooth ache (30.8%) . Many of them had parents with secondary education and above (35.0%) compared to those with primary education (23.5%) . 24.4% experienced gingival bleeding with higher percentages from urban (30.1%) than rural (18.5%) schools. Plastic toothbrush user (95%) overshadowed chewing stick users (24.9) . The use of chewing stick was significantly higher in rural (33%) than in urban (17.2%) pupils . The use of toothpaste during tooth brushing was significantly higher among urban (91.9%) than among rural (64%) pupils . The prevalence of tongue cleaning was 70.2% and the differences were significantly higher among pupils who had parents with secondary and higher education in urban schools among pupils aged 11-12 years in comparison with their counter parts . This study concluded as most pupils reported cleaning their teeth regularly, mostly using plastic toothbrush rather than chewing stick, using toothpaste, and having adequate knowledge about dental carries and gingival disease, and a quarter of them had suffered from this disease with evidence of rural- urban disparities. Integration of oral health in school health promotion program and further research on its impact on oral health status are recommended .

M.K JASMINE SHARMILA, UMA DEVI R, ANANTHA EASWAS V.M (2019):

A Cross sectional descriptive study was conducted to assess the knowledge, attitude and practice on oral hygiene among primary school children in a urban area of Kancheepuram district ,Tamil Nadu. Questionnaires was used to collect the data result showed that among the study participants, 65.6% of children had good knowledge on oral hygiene with only 33.6% of children with positive attitude and 10.8% of children had good practice of oral hygiene. Around 96% of the children knew that having sweets/fizzy drinks causes oral health problems and 96% of the children think that maintaining healthy teeth is an individual responsibility .This study concluded as health education services at school regarding oral hygiene practices targeting the children, teachers and the parents have to be conducted at regular intervals to empower them on the benefits of the same.

AIKHTIB ASMAA, MORAWALA ABDUL (2018) ;

Conducted a cross sectional study on knowledge, attitudes and practices of Mothers of preschool children about oral health in Qatar; A Cross sectional survey. The Questionnaire was used to collect the data. Result showed that A total of 48% mothers thought that children should have their teeth brushed from the age of three years and 42% chose younger than two years as a starting age for brushing. More than half (45%) of the mothers thought that children should not have their teeth flossed. In general, no significant statistical association was found between DMFT and any other variables, except for whether or not the child had visited the dentist. Logistic regression analysis were performed to determine the association between The measures of oral health status (DMFT, D1) and mothers oral health knowledge and practices .After controlling for the other independent variables included in this model , the test of the model was not statistically significant, which indicated that none of the variables represent a significant risk for occurrence of caries. The only exception was whether or not the child had visited the dentist (odd s ratio =2.51, 95% confidence intervals 1.091- 5.77u). Despite the existence of good knowledge of oral health care, there were deficiencies in the oral health care provided to children. This may reflect that seeking dental care is

either not very important or it is challenging to obtain access to a child friendly dentist in the public health system in Qatar. This study concluded there is a need for an oral health promotion program to feel the gaps in knowledge for mothers regarding oral health care of young children.

GURUNATHAN DEEPA, MOSES JOYSON, K ARUNACHCHALAM SHANMUGAAVEL (2018):

Conducted a cross sectional study to assess the knowledge, attitude and practice of mothers regarding oral hygiene of primary school children in Chennai, Tamil Nadu, India . Questionnaire was use to collect the data result showed that : out of the 432 mothers who participated in the study , 150 (35%) have studied up to school level and 282 (65%) have completed diploma / degree . The knowledge of importance of oral health of general health is appreciable, but the awareness of proper brushing habit, treatment of caries and importance of dental visits is less in mother who have school education when compared with graduate mother. This study concluded as mother who are graduates are more aware of the importance of oral health in children, treatment of dental caries , and brushing technique than mothers with school education . Hence it is essential that government and health care providers impart oral health knowledge to mothers . as they are the role models for their children

SECTION 2: Literature related to impact of poor oral hygiene

DAS BHASKAR,BARMAN SANDEEP,BAISHYA AMAL,HALOI RAMEN, DAS DIPSHIKHA,2024:

Cross sectional descriptive study was conducted to assess knowledge, awareness and practice of pediatricians regarding infant oral health care and early childhood caries in the state of Assam, India Questionnaires was used to collect the data results showed a total of 110 pediatricians participated in the study and the data obtained was subjected to chi square analysis. Most of the participants (n=64, 67%) displayed adequate knowledge regarding dental caries and the way to identify them. Although most of the participants knew about practices leading to dental caries, they were lacking in knowledge regarding the deleterious effect of bottle feeding and related habits 65 (50-60%), also, most of the participants (n=69,62) failed to educate the caregivers of the child regarding early dental visits.

DEKALB KISHORE,NATH NAMITA,2023:-

A cross-sectional descriptive study was Conducted to assess the oral health and oral hygiene practices among high school student of Wooghly district and find out the factors association with bad oral hygiene. Questionnaire was used the data results showed that Half, 86% of the students had self-reported unsatisfactory oral hygiene practice and 55.8% students had poor oral health. Males had better oral health and practice scores than the females. Female gender 2.22[1.01-4.89] and Muslim religion 2.55(1.18-5.53) were significantly associated with bad oral health in the final multivariable model.

MOHAMMED ABDUL KAREEM, SALWA, YE HOSSEIN, AM HASHEM (2022) :

Conducted a descriptive cross sectional study on asses the performance of primary school student's regarding oral hygiene and dental caries. Questionnaires was used to collect the data result showed that there is no statistical significant differences between total knowledge scores and age, residence and total practices at (p value < 0.05). There is statistical significant differences between all knowledge scores attitude score and sex at (p value= 0.001). This study conclude as according to

the result of this study more than three quarter of school children had at unsatisfactory level of knowledge about dental caries around three quarter had negative attitude scores.

RRE PUDENTIANA, PURNAMA TEDI, NURBAYANI TAUCHID SITI, PRIHATININGISH NENI (2021):

Conducted a cross sectional study to assess the knowledge of oral and dental health impacts the Oral Hygiene Index Simplified (OHI-S) of primary school children . Questionnaire was used to collect the data result showed that: Knowledge of oral health to Oral Hygiene Index Simplified indicates that the p-value 0.023 (P<0.05), this study concluded as there is a significant relationship between knowledge of dental and oral health to Oral Hygiene Index Simplified in Primary school children.

KONWAR G. ET AL. (2019):

Conducted a descriptive study to assess the knowledge of oral hygiene among middle school students in selected School of Ranchi, Jharkhand. The objective of the study was, to assess the knowledge of oral hygiene among the middle school students, to find out the association of selected socio demographic variables with knowledge of oral Hygiene. Quantitative research approach was adopted and the research design implies descriptive research design.100 samples were selected by purposive sampling technique. The data was collected by questionnaires which were divided into two section, Section A- Socio demographic variables and Section B- Knowledge on oral hygiene. The instrument was developed by the investigator and reliability was found to 0.86. The data were computed and analyzed in terms of percentage and frequency distribution. The findings of the study reveal that majority of students 53% (n=100) had an average level of knowledge regarding oral hygiene; it indicates that middle school students have moderate level of knowledge regarding oral hygiene. The finding reveals that there is significant association, except “Resident” between age, gender, religion, family size, socioeconomic status. After the study the researcher concluded that majority of students were having average knowledge on oral hygiene and there was no significant association found between the Socio demographic variables.

RAJANNA, ET AL (2019):

Conducted a cross-sectional study on asses the oral hygiene knowledge practice among mothers of 3-to-6-year-old preschool children visiting Anganwadi of Bangalore city. Questionnaires was used to collect the data results showed that in the present study majority of mothers visiting the Anganwadi had only primary school education (79%). About 79.4% of mother did not have any knowledge regarding the time of eruption of their child’s deciduous teeth, 63.8% of mothers did not know the importance of brushing their child’s deciduous teeth , and 84.3% mothers did not know that oral diseases can affect general health. This study concluded that the oral health knowledge among the mothers visiting the Anganwadis was poor. Awareness programs targeting expectant mothers visiting Anganwadis teachers, and importance of primary teeth should be emphasized in different oral health educations programs.

DR.OUDA WAFA EI-SAYED, DR. ABD ELLA NABILA HASSE,DR.MOHAMMAD NAGAVA RIZK,MAHMOUD SALIM AMAL ASHOUR(2019):-

Conducted a cross sectional study to Assess oral hygiene knowledge and practices among school age children. Questionnaire was used to collect the data result showed that one third of the children were at the age group of 11 years more than half were female's. Moreover, less than half and more than one third of children had unsatisfactory total knowledge a reported practices respectively

regarding oral hygiene. In addition to more than half of children's don't follow up about their teeth. This study concluded as knowledge and reported practices of the children regarding oral hygiene practice was satisfactory by more than half of them.

K ARENACHALAM SHANMUGAAUEL (2018):

Conduct a descriptive cross sectional study to assess the knowledge attitude and practice of mothers regarding oral hygiene of primary school children in Chennai; Tamil Nadu. Questionnaires was used to collect the data results showed that total of 432 mothers who participate in the study, 150 (35%) have studied up to school level and 282 (65%) have completed diploma/degree . The knowledge of mothers regarding the knowledge of importance of oral health for general health is appreciable but the awareness of proper brushing habit, treatment of caries, and importance of dental visit is less in mothers who have school education when compared with graduates mother's. This study concluded that mothers who are graduate are more aware about the importance of oral health. Treatment of dental caries and brushing technique than mothers who have school education. Hence it is essential that government and health care provides impart oral health knowledge to mothers, as they are role models of their children.

JULIANA BALBINOT HIGERT AT ALL 2018:

Conducted a cross- sectional study to assess the effectiveness on oral hygiene and dental caries in school children: systemic review and meta analysis; questionnaire was used to collect the data result showed that a total of 4417 reference were found from which 93 full texts were evaluated and 12 included in the meta analysis. Five studies showed a reduction in plaque levels, and two studies with gingivitis as the outcome found no effect. There was not enough evidence on the effectiveness of the intervention in reducing dental caries. This study concluded as traditional oral health educational actions were effective in reducing plaque but not gingivitis. There is no long term evidence in respect of the effectiveness of this intervention in preventing plaque accumulations, gingivitis and dental caries in the school environment

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SUMMARY :

This chapter deals with the review of research and non research literature. It has presented the review related to knowledge regarding oral hygiene among children of selected school , Guwahati.

CHAPTER-III

CHAPTER III

RESEARCH METHODOLOGY

"Research methodology refers to the technique used to structure a study and together analyzed information in a systematic manner. The methodology of research indicates the general pattern of the organizing the procedure for valid and reliable data for the problem under investigation "Polit and Hungler's.

Research methodology of the present study includes research approach, research design, variables, setting, population, sample, sample size, sampling technique, sample criteria, development of the tool, content validity of the tool, reliability, pilot study, method of data collection, ethical consideration, procedure of data collection and plan for data analysis.

REASEARCH APPROACH:

According to Sharma S.K "Research approach involves the description of the plan to investigate the

phenomenon under study in a structure (Quantitative), unstructured (Qualitative), or a combination of the study."

In this study the research approach is quantitative research approach in order to accomplished the objectives of the study.

REASEARCH DESIGN:

According to Sharma S.K. "Research design is also known as a blueprint that research select to carry out their research study. It often described a designed using a concise notation that enables us to summarize complex design structure efficiency."

The research design adopted for the present study is Non experimental descriptive design.

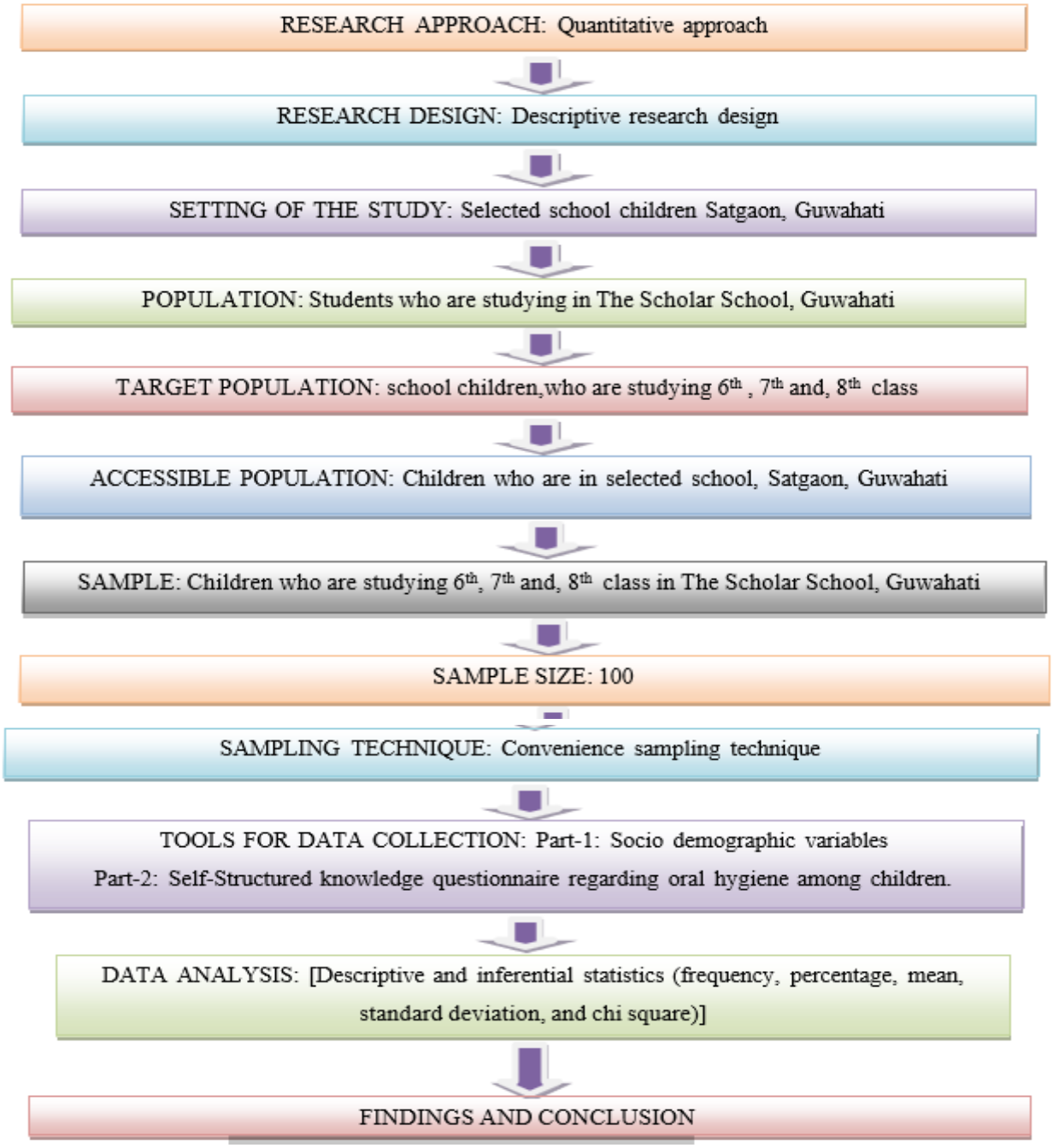

Fig 2:- Schematic representation of the study

SETTINGS OF THE STUDY:

The setting refers to the area where the study is conducted. It may be natural setting or laboratory setting depending upon the study topic and researcher convenience.

According to Pilot and Hungler "the researcher needs to decide where the intervention will be implemented and where the data will be collected."

The present study was conducted in The Scholar School, Guwahati.

VARIABLES:

According to Sharma S.K. "variables is a attributes or characteristics that can have more than one value, such as height or weight that make a difference person or things variables are the qualities, properties or characteristics of people, thing or situations that changes or vary."

STUDY VARIABLES:

Variables are qualities, properties and characteristics of person, things or situation that change or vary.

RESEARCH VARIABLES:

These are the qualities, properties or characteristics that are observed or measured in a natural setting without manipulating and establishing cause and effect relationship.

In the present study research variables are knowledge regarding oral hygiene among school children.

DEMOGRAPHIC VARIABLES:

The characteristics and attribute of the study subjects are considered demographic variables.

In the present study demographic variables are age, gender, educational qualification, place of residence.

POPULAION:

Pilot Hungler define a population is the totality of all subjects that confirm to a set of specification, comprising the entire group of persons that is of interest to the researcher and to whom the research results can be generalized.

In the present study, population was defined as children of selected school, Guwahati.

TARGET POPULATION:

Target population refers to the population that the researcher wishes to study, the population about which the researcher wishes to make generalization.

In this study, the target population include school children who are studying in class 6^{th} ,7^{th} , and 8^{th} at the selected school, Guwahati.

ACCESIBLE POPULATION:

Accessible population refers to the aggregate of the cases which confirm to designated criteria and which was accessible to the researcher as pool of subject for the aggregates and meet the criteria for inclusion in the study and that was available to the researcher.

In this study, the accessible population are the school children who are studying in 6^{th}, $7^{th}$and 8^{th}class at The Scholar School, Guwahati.

SAMPLE:

According to Sharma S.K. "sample is a subset of the population, selected to participated in a study and that represent the entire population."

The sample for the present study is The Scholar School students who are studying in 6^{th}, $7^{th}$and, 8^{th} class who fulfill the inclusion criteria.

SAMPLE SIZE:

The number of the people who participate in a study: an important factor in the power of the analysis and statistical conclusion validity.

In the present study, sample consisted of 100 children of selected school Guwahati.

SAMPLING TECHNIQUE:

Convenience sampling techniques was used while selecting sample for the study.

Convenience sampling is a non-probability sampling technique where participants are selected based on their ease of access and availability to the researcher, rather than the selection.

SAMPLING CRITERIA:

The study sample was selected based on the following inclusive and exclusive criteria:

a) Inclusion criteria:

1. Children who are studying in 6^{th}, 7^{th} and 8^{th} class.

b) Exclusion criteria:

1. Children who are not available during the time of study.
2. Children's whose parents are not giving the consent to participate in the study.

DATA COLLECTION TOOL SELECTION AND DEVELOPMENT OF THE TOOL:

The instrument in research must be a vehicle that obtains best data for drawing conclusion, which is pertinent of the study. A research tool is a device used to measure the concept of interest in a research project that research uses to collect data. The tool acts as a best instrument to assess and collect the data from the subjects of the study

Demographic Performa was developed to collect the personal information of the participants.

A self-structured questionnaire was developed to assess the knowledge regarding oral hygiene among school children of selected school, Guwahati. It was developed based on review of the related literature, reviewing existing tool, discussion with experts and professional experience.

The following steps were undertaken to select and develop the tool for the data collection.

- An extensive review of research and non-research literature.
- Discussion with the experts in the field of Medical Surgical Nursing department.
- Research personal knowledge
- Books and journals
- Internet
- Preparation of the blue print
- Construction of the seif-administered questionnaire on demographic variables and self-structured knowledge questionnaire was developed based on the problem and objective of the study.
- Content validity.
- Reliability was computed.
- Final draft of questionnaire was prepared.

PREPARATION OF THE BLUE PRINT:

A blue print of the tool was prepared by the researcher, which includes sections, number of questions and weighing in percentage for each section.

DESCRIPTION OF THE TOOL:

A self-structured questionnaire was used for the present study which include the following section

as follows: -

Section- A: Socio Demographic Performa

Section-B: Self-Structured knowledge questionnaire regarding oral hygiene among school children.

SECTION –A: SOCIO DEMOGRAPHIC PERFORMA

The socio demographic Performa consists of 4 items pertaining to age, gender, educational qualification, place of residence.

SECTION – B: SELF-STRUCTURED KNOWLEDGE QUESTIONNAIRE REGARDING ORAL HYGIENE

This part of the tool consists of 20 self-structured questionnaires on oral hygiene to assess the knowledge among school children of selected school, Guwahati.

Scoring technique:

The structured knowledge questionnaire consisted of 20 objective type questions with a single correct answer. Every correct answer was awarded a score of one (1) point and every incorrect/ unanswered was awarded zero (0) point. The maximum score on the structured knowledge questionnaire was twenty (20).

The score between:

a) 0 – 7 = Inadequate knowledge
b) 8 – 15 = Moderate knowledge
c) 16 – 20 = Adequate knowledge

CONTENT VALIDITY OF THE TOOL:

Content validity of tool description whether the instrument accurately measures the full domains (content) of a concept.

- To ensure the content validity, the tools and content validity criteria were given to 4 subject experts from Medical-Surgical Nursing department.
- The tools were validated in terms of relevancy, accuracy and appropriateness.
- Modification was made on the basis of recommendation, suggestion of the expert and the final tool was reframed as recommendation.

RELIABILITY OF THE TOOL:

According to the Polit and Beck, "reliability is the degree of consistency or dependability with which an instrument measure an attitude."

To establish reliability, the tool was administered to 20 samples. The reliability of the self-administered structured questionnaire for assessment of knowledge regarding oral hygiene was tested by using Split-half method. The tool was first divided into two equivalent halves (odd items and even items) and correlation for the half test was done by using Karl Pearson' Correlation Coefficient formula. The reliability coefficient of the whole test was then estimated by Spearman Brown's Prophecy formula. The tool was found reliable**"r" = 0.8**.

PILOT STUDY:

Pilot study is a small-scale version of the proposed study conducted to refine the methodology. It is developed like the proposed study, using similar setting, similar treatment and similar data collection procedure and analysis techniques.

- The study was conducted from 21/1/25- 25/1/25
- A formal written permission was obtained from the Principal North East Academy, Guwahati.

- Purpose of the study was explained and informed consent was obtained from participants guardian and assurance was given to maintain confidentiality.
- After seeking permission, 10 samples were drawn from the total population by using convenience sampling techniques.
- The participants took 30 minutes to complete the test.
- Thereafter, demographic proforma and self- structure knowledge questionnaire tools was administered to assess the level of knowledge regarding oral hygiene.
- The collected data was then analyzed by descriptive and inferential statistics. The tool was found to be feasible. No problems were faced during pilot study.

MAIN STUDY DATA COLLECTION PROCEDURE

- The study was conducted from 10/2/25- 15/2/25
- A formal written permission was obtained from the Principal Scholar School, Guwahati.
- Purpose of the study was explained and informed consent was obtained from participants guardian and assurance was given to maintain confidentiality.
- After seeking permission, samples were drawn from by using convenience sampling techniques.
- The participants took 30 minutes to complete the test.
- Thereafter, demographic proforma and self- structure knowledge questionnaire tools was administered to assess the level of knowledge regarding oral hygiene.
- The data collection procedure was terminated by thanking each respondent for their participation and co-operation.

PLAN FOR DATA ANALYSIS:

It is defined as the process are systematically applying and logical technique to describe, summarize and compare data.

The analysis was planned on the basis of objectives and hypotheses. Data will be analyzed using descriptive and inferential statistics.

DESCRIPTIVE STATISTICS:

Demographic Performa were described by frequency and percentage.

The knowledge of the school children on oral hygiene were analyzed in terms of frequency and percentage.

INFERENTIAL STATISTICS:

Chi square was used to determine the association between the knowledge of school children on oral hygiene with selected demographic variables.

ETHICAL CONSIDERATION:

1. Permission was obtained from the Principal of RAHMAN INSTITUTE OF NURSING AND PARAMEDICAL SCIENCES to conduct the study.
2. Written permission was obtained from the principal of The Scholar School, Guwahati ASSAM.
3. Formal approval was obtained from Institutional Ethics committee of RAHMAN INSTITUTE OF NURSING AND PARAMEDICAL SCIENCES.
4. Written informed consent was obtained from parents of all the subject who participated in the study.

No ethical issue was confronted while conducting the study

SUMMARY:

This chapter deal with the research methodology adopted for the study and include the research approach and design, setting of the study, development and description of tool, variables under the study, sample and sampling technique, content validity, pilot study, data collection procedure and plan for data analysis.

CHAPTER - IV

CHAPTER – IV

ANALYSIS AND INTERPRETATION OF DATA

Analysis is the process of categorizing, ordering, manipulation and summarizing the data to obtain answers to research questions. The purpose of analysis is to reduce data to intelligible and interpretable from the relations of research problem can be studied and tested.

In this study data were obtained from 100 participants of selected school, Guwahati. Data were collected through convenience sampling technique data are tabulated, analyzed and interpreted using descriptive and inferential statistics based on the objectives of the study.

OBJECTIVES OF THE STUDY:

3. To assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati.

4. To find out the association between knowledge and selected socio demographic variables regarding oral hygiene among children.

HYPOTHESIS:

H1 - There will be significant association between the knowledge regarding oral hygiene among school children with selected demographic variables at 0.05 level of significance.

ORGANIZATION AND PRESENTATION OF DATA:-

The obtained data has been analyzed, presented and organized as follows:-

SECTION I:

Frequency and Percentage Distribution according to their Demographic Variables.

SECTION II:

Frequency and Percentage Distribution of level of knowledge regarding oral hygiene among children.

SECTION III:

Association between level of knowledge regarding oral hygiene among children with their selected socio-demographic variables.

SECTION - I

Table 1: Frequency and Percentage Distribution of Demographic Variables.

n=100

S. No		Demographic Variables	Frequency (f)	Percentage (%)
1		Age in years		
		a. 12-14 years	90	90
		b. 15-16 years	10	10

2		Gender a. Male b. Female	 41 59	 41 59
3		Educational qualification a. Class 6 b. Class 7 c. Class 8	 41 29 30	 41 29 30
4		Place of residence a. Rural b. Urban	 25 75	 25 75

INTERPRETATION:

Table 1 depicts the frequency and percentage distribution of demographic variables of children. According to their age majority 90% were in 12-14 years of age and 10% were in 15-16 years of age.

As per gender of children, maximum 59%were female and 41% were male.

With regard to educational qualification of children, majority 41% were in class 6, 30% were in class 8 and 29% were in class 7.

Regarding place of residence of children, maximum 75% were residing in urban area and 25% were residing in rural area.

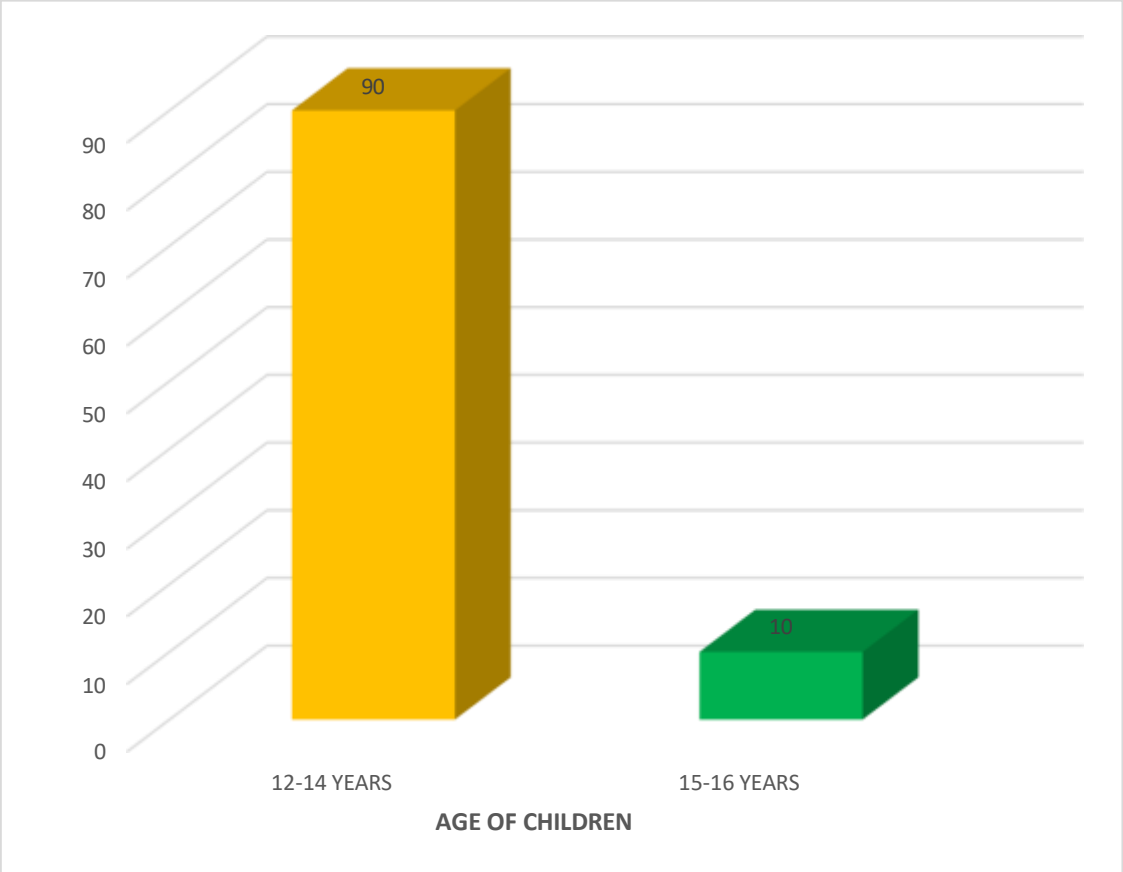

Figure I : Distribution of age of children

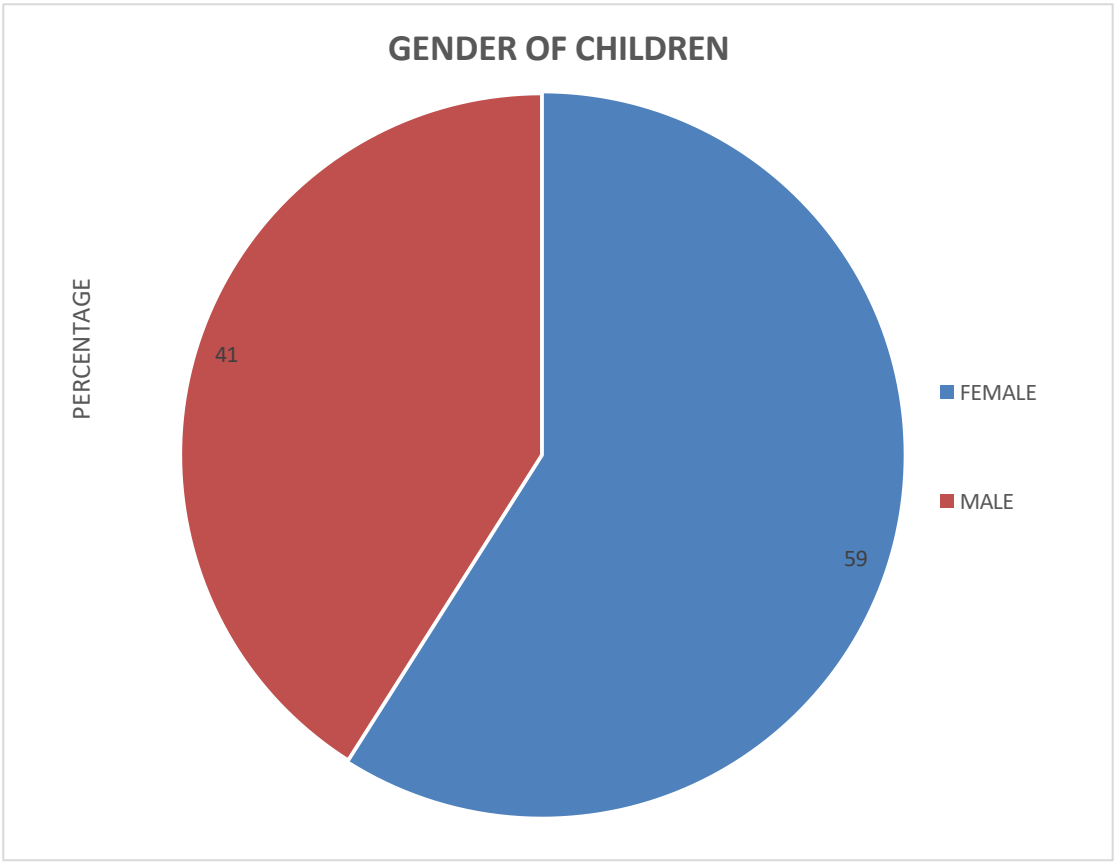

Figure II : Distribution of gender of children

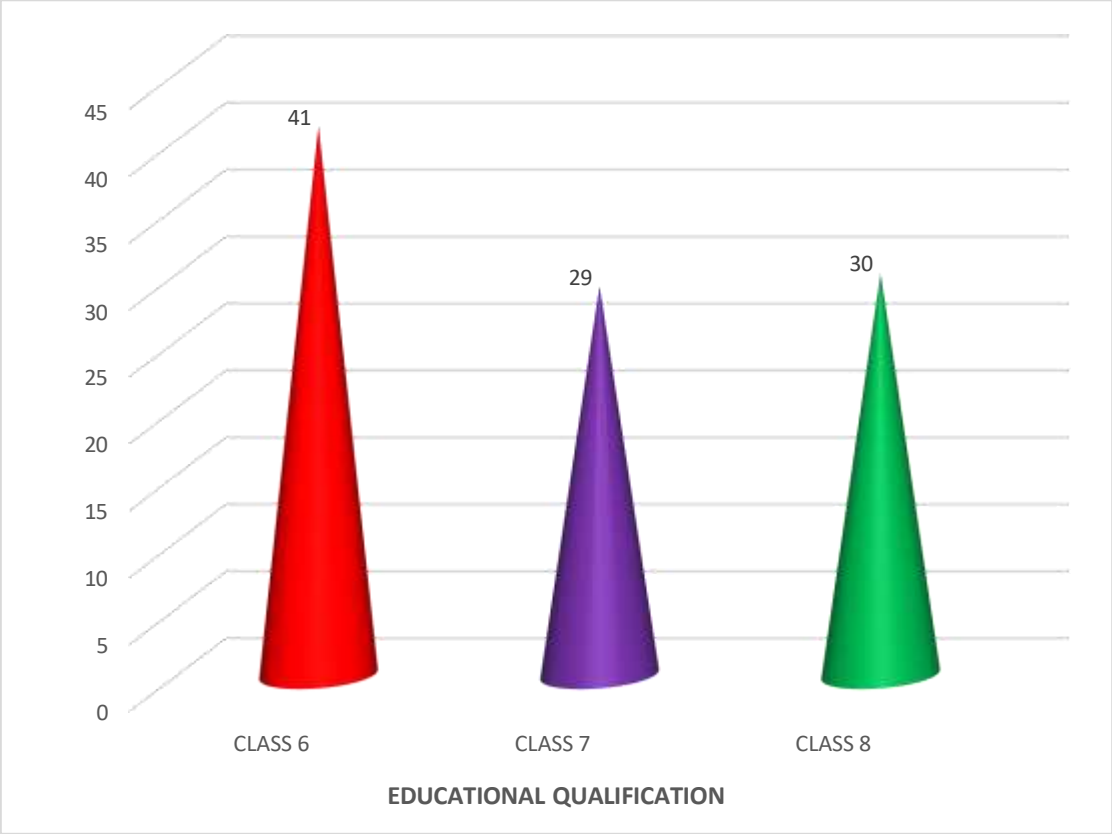

Figure III : Distribution of educational qualification of children

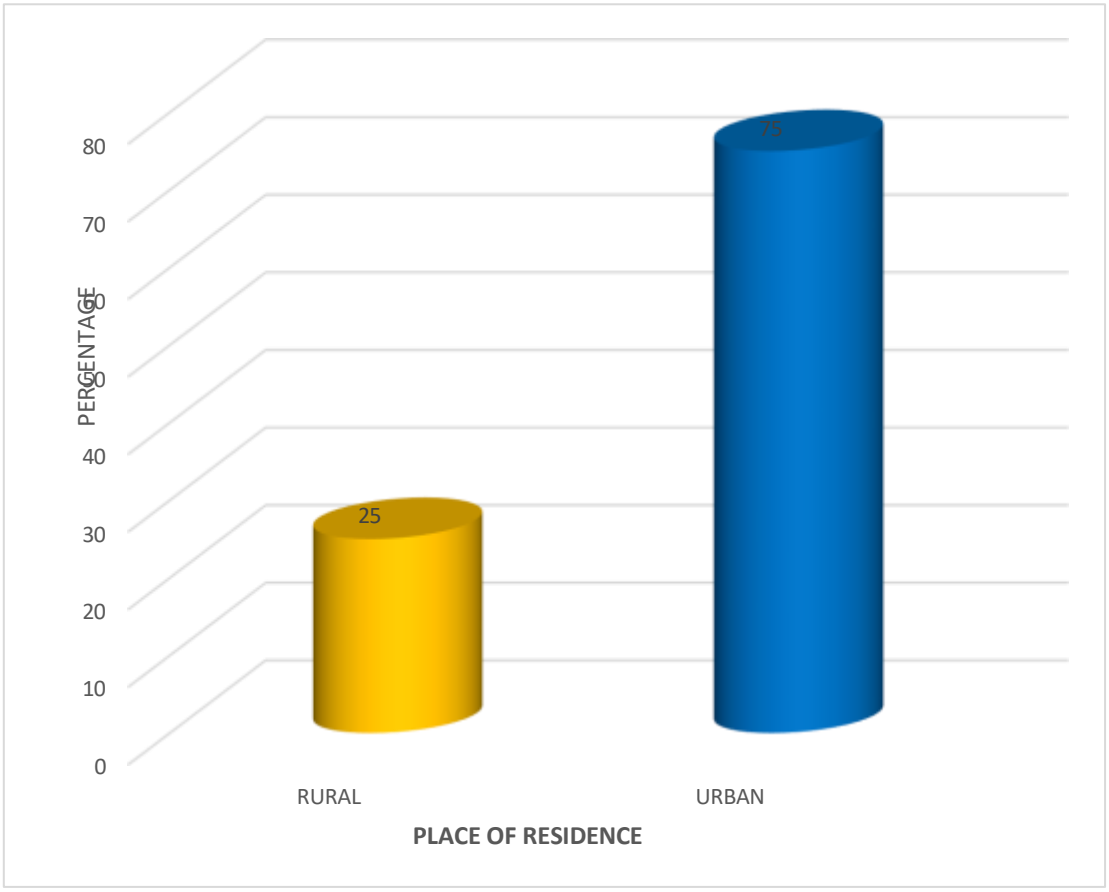

Figure IV : Distribution of place of residence of children

SECTION - II

Table 2: Frequency and Percentage Distribution of level of knowledge regarding oral hygiene among children

n=100

Knowledge	Frequency (f)	Percentage (%)	Score Range	Median	Mean	SD
Inadequate	13	13	3-18	11	11.63	3.10
Moderate	77	77				
Adequate	10	10				

INTERPRETATION:

Table 3 illustrates the distribution of level of knowledge regarding oral hygiene among children revealed that majority77% had moderate knowledge, 13% had inadequate knowledge and 10% had adequate knowledge with obtained score range between 15(3-18), with median score of 11 and mean knowledge score was 11.63 with standard deviation 3.10.

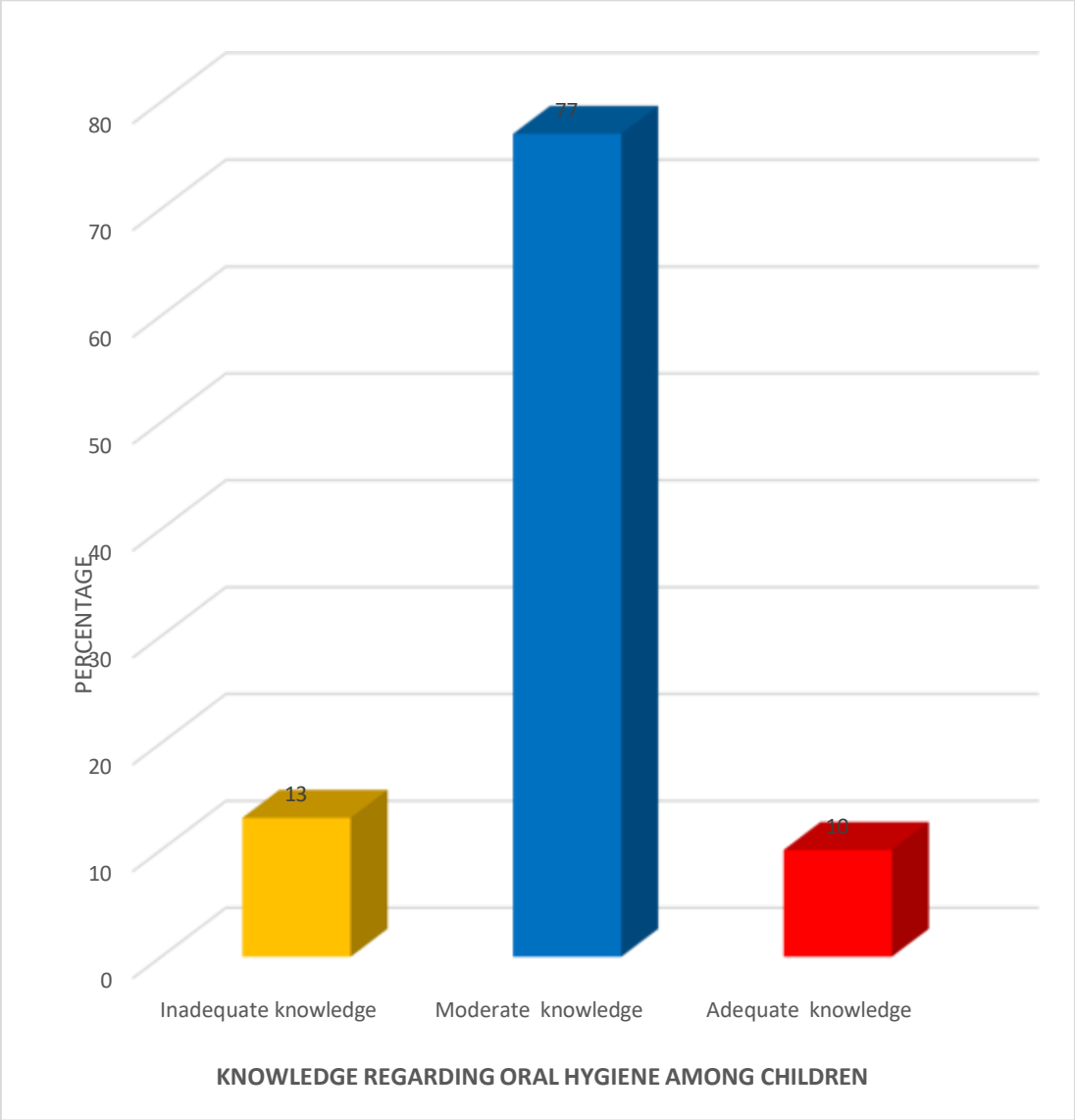

Fig V: Frequency and Percentage Distribution of level of knowledge regarding oral hygiene among children

SECTION – III

Table 3: Association between level of knowledge regarding oral hygiene among children with their selected socio-demographic variables

n=100

Demographic Variables	Knowledge			χ^2 value	df	p value
	Inadequate	Moderate	Adequate			
Age in years a. 12-14 years b. 15-16 years	10 3	72 5	8 2	4.633	2	0.098^{NS}
Gender a. Male	5	32	4	0.049	2	0.975^{NS}

b. Female	8	45	6			
Educational qualification a. Class 6 b. Class 7 c. Class 8	 5 3 5	 35 24 18	 1 2 7	10.06	4	0.039*
Place of residence a. Rural b. Urban	 4 9	 17 60	 4 6	1.781	2	0.410^{NS}

***p value < 0.05 level of significance NS-Non Significant**

INTERPRETATION:

Table 3 depicts the association between level of knowledge regarding oral hygiene among children with their selected socio-demographic variables which was tested by using chi-square test. Result showed that educational qualification was found significant association at $p<0.05$ but other demographic variables such as age, gender and place of residence were found to be non significant at $p<0.05$ level with knowledge regarding oral hygiene among children.

SUMMARY:

This chapter has dealt with the analysis and interpretation of the result of the study. Both descriptive and inferential statistics were employed to analyze the data. The data analysis was carried out on the basis of objectives and hypothesis of the study. The data analysis and interpretation have been organized and presented under various subheadings. Frequencies and percentage were used to analyze the sample characteristics; Level of knowledge regarding oral hygiene score was analyzed using frequency, percentage, mean and standard deviation. Chi- square test was used to find out the association between knowledge with selected demographic variables such as age, gender, educational qualification, place of residence. Findings are presented in Tables and Figures.

CHAPTER - V

CHAPTER-V

DISCUSSION

The study has been discussed with the references to the objectives, methodology, findings from the other studies.

➢ **The frequency and percentage distribution of demographic variables of the children:**

- with regards to age majority of 12- 14 years old (90%)
- with regards to the gender majority were female (59%)
- with regards to the education qualification of children, majority were up to class 6 (41%)
- with regards to the placeof residence of children, maximum 75% were residing in urban area.

➢ **Assessment of level of knowledge regarding oral hygiene among children:**

In order to assess the level of knowledge regarding oral hygiene among children.

In knowledge score out of 100, 13 (13%) had inadequate knowledge, 77 (77%) had moderate knowledge, 10 (10%) had adequate knowledge regarding oral hygiene.

➢ **Association between level of knowledge regarding oral hygiene children with selected demographic variables:**

The result of CHI SQUARE analysis shows that there was significant association between education and level of knowledge about oral hygiene which interpret that the children with higher education are more aware and knowledge about oral diseases. Therefore, research hypothesis is partially accepted and there was no significant association with three other selected socio demographic variables (age, gender, place of residence).

In the contradictory finding of the present study was conducted by Konwar Gitumoni, Borah Anamita, Angeline, 2024 on a descriptive study to assess the knowledge of oral hygiene among middle school students in selected school of Ranchi, Jarkhand. The findings reveals that there is no significant association between the knowledge and socio demographic variables regarding oral hygiene among middle school students. But in our present study there is significant association between knowledge and educational qualification and practice of oral hygiene.

Summary:

This chapter has dealt with the discussion of major findings of the study size with previous research studies.

CHAPTER - VI
CHAPTER VI
CONCLUSION

This chapter presents a brief account of the summary, major findings, conclusions, implication and recommendation of the study.

The study was conducted to assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati. The discussion in this chapter was based on the findings obtained from the statistical analysis and interpretation the previous chapter. This chapter deals with the study findings and conclusion. The implication has been stated followed by its limitations. This chapter ends with accommodation of the investigator for the researches in the future and few suggestions. The aim of the study was to assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati. Extension reviews of literature and guidance of experts helped the investigator to have insight into the study.

Findings of the study:

➢ The present study was designed to assess the level of knowledge regarding oral hygiene among children of selected school, Guwahati.

➢ According to their age majority 90% were in 12-14 years of age and 10% were in 15-16 years of age.

➢ With regard to gender of children, maximum 59%were female and 41% were male.

➢ With regard to educational qualification of children, majority 41% were in class 6, 30% were in class 8 and 29% were in class 7.

➢ Regarding place of residence of children, maximum 75% were residing in urban area and 25% were residing in rural area

➢ With regard to knowledge out of 100 samples:

- the majority 77(77%) respondents had moderate knowledge
- 13(13%) respondents had inadequate knowledge
- 10(10%) respondents had adequate knowledge.

LIMITATION:

The present study has following limitation:

- The sample drawn from selected school cannot be represent the whole population.
- Limited sample size restricts the findings to be generalized.

STRENGTH:

The finding of the study will give the awareness and early start of good oral hygiene practice (the correct technique of brushing, flossing)in school children can prevent most of the oral disease, the tooth decay, gum disease**.** This can pave the way for uptake of timely intervention before any complication set in. It also helps others researchers to enhance their knowledge.

IMPLICATIONS

The investigator has drawn the following implications from the study which is a necessary concern to the field of nursing research.

NURSING RESEARCH:

Based on this finding the researchers can conduct further studies on improvement of knowledge of school children regarding of oral hygiene on larges samples. The study will motivate the other researchers to conduct studies with different variables on large scale.

NURSING PRATICE:

In clinical set up nurses play an important role. In order combat the changing trends, nurses should use different technologies to improve their knowledge and skill and to fulfill the increasing demands for nursing care. Nurses should be equipped with update knowledge and skill on oral hygiene so that we know about it. Continuing and in service education program can be provided for the nurses to improve their knowledge and skills by updating to recent knowledge.

NURSING EDUCATION:

Nurse educator can be used the finding of the study in giving reality base teaching to students. It can also help in identifying the area where education can be given to mass for improving their standard of living.

NURSING ADMINISTRATION:

Nursing Administration should meet the various challenges to the present situation. In order to do so, used of innovative methods should be brought in nursing practice. Nursing administration should provide structured knowledge questionnaire to the nurse so that they can improve their knowledge and skill.

RECOMMENDATIONS FOR FUTURE RESEARCH:

Based on the research findings the following recommendations can be made:

- The similar study can be replicated on a larger sample size.
- A similar study can be done by utilizing other teaching strategies.

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