

THE ASSESSMENT OF KNOWLEDGE AMONG NURSING STUDENTS REGARDING DENTAL CARE

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Abstract

Background: Nurses are the main responder providing professional care to the patient. As dental care is comparatively less focused by general health professional, including nurses. With accurate knowledge regarding dental care and or oral health, nurses can play an essential rule, their rule will result in effective dental care provision.

Aim: The objective of the study was to assess the knowledge level of the nursing students regarding dental care.

Method: A study with descriptive approach was utilized through convenient sampling of the study participants. Questionnaire had two portion, questions specific to demographics and regarding dental care.

Results: The data collected was analyzed through SPSS version 21. Total study participants were 164, among which majority were female (103) and only (61) participants were male. Most of the participants had poor level of knowledge (134) regarding periodontal and gingival disease impact on others body organ. Similarly, oral disease consequences on heart health, 111 students had no knowledge. however, in some domain, like most of them belief brushing (148) and flossing (105) prevent gum problems.

Conclusion: The present study concluded that participants had poor level of knowledge regarding dental care. Especially, knowledge regarding dental disease impact on other body organs, such as heart and bone was poor. Essential mineral such as fluoride benefits for dental health, related information was also insufficient. However, participants had highest level of knowledge regarding impact of brushing, and flossing on oral health. Based on findings, the study intense need for awareness program for students.

INTRODUCTION

1.1. Background:

It is widely accepted that oral health plays an important role in overall health. Both dental and medical students are expected to possess good oral health awareness and work together for public oral health promotion. The aim of this study is to

assess the oral health knowledge, behavior and status of dental and medical undergraduate students (Yao, Yao et al. 2019).

Population ageing is a fact in both developed and developing countries. The concern about population ageing largely arises from the combination of a greater number of older people

requiring greater amounts of healthcare services and pensions, and relatively fewer people working to pay for them. Oral health and dental care are important aspects of health and health care. Lower rates of edentulism and an ageing population mean that older people will feature more prominently in dental services (Harford 2009).

The increase in life expectancy in Switzerland is posing new challenges, as more and more people are becoming dependent on care, both at home and in long-term care facilities. The dental profession must deal with patients retaining their own teeth until later in life with an increased incidence and severity of caries and periodontal diseases. The association between general and oral health is becoming important, particularly in older people with medical conditions. Aspiration pneumonia can develop as a result of pathogenic bacteria descending from the oral cavity to the bronchoalveolar system, which presents a frequent, potentially life-threatening danger. By adapting care and treatment concepts, the masticatory ability can be preserved or restored, which in turn helps preventing malnutrition. Other aims include preventing infections as well as maintaining subjective wellbeing and an attractive dental appearance. Care standards should be defined for the provision of oral-health related dentistry for the vulnerable population of the care-dependent adults. These should be implemented by an interdisciplinary care team composed of nursing personnel, long-term care facility managers, Spitex staff, physicians, dentists as well as dental assistants and hygienists (Baumgartner, Schimmel et al. 2015).

Older people are increasingly retaining their natural teeth but at higher risk of oral disease with resultant impact on their quality of life. Socially deprived people are more at risk of oral disease and yet less likely to take up care. Health organisations in England and Wales are exploring new ways to commission and provide dental care services in general and for vulnerable groups in particular (Borreani, Wright et al. 2008).

1.2. Problem Statement:

Assess the knowledge and attitudes of university

students regarding dental care, identifying gaps and potential barriers in their understanding and approach. Investigate how these factors impact the delivery of quality dental care, aiming to enhance education to ensure students possess the necessary knowledge and attitudes for quality dental care.

1.3. Significance:

The goal of dental care is to relieve the suffering of patients and improve their quality of dental care to help them assist in achieving quality general medical health.

1.5. Aim of the study:

The aim of the study is to assess the knowledge of nursing students regarding dental care

1.6. Objective:

To assess the knowledge of nursing students regarding dental care.

1.7. Research question:

What is the knowledge level of nursing students regarding dental care?

1.8. Operational definition:

The knowledge will be assessed through an adopted-modified knowledge questionnaire. The questionnaire consists of 11 items. The response to a question is classified as correct or incorrect. After analyses of data through SPSS, the participants' level of knowledge towards a question will be classified as good, fair and poor.

LITERATURE REVIEW

Dental care is an important aspect of oral health which deals with the maintenance of healthy teeth and it is an important aspect of general oral health. Dental care practices include regular tooth brushing and flossing, healthy nutritional habits and regular visits to the dentists (Salawu and Omitoye 2019).

Many studies about oral hygiene behaviors have been conducted among university students. Some have focused on the knowledge, attitude, and practices of non-professional college students towards oral health, and others studied dental

students, students with medical background (including medicine, dental, nursing, and pharmacy students), or compared dental, dental technology and dental hygiene students. One study was conducted in a Turkish student population but excluded dental students and another compared medical and engineering Indian students. However, those comparing the general university student population have been sparse and little care has been paid to the context in whether dental students differ from other students with respect to their knowledge and practices towards oral health and oral self-care regimens (Al-Batayneh, Owais et al. 2014).

The study found that in a large sample of ASEAN university students that more than a quarter reported to have sometimes, most of the time or always having tooth ache in the past 12 months, which is probably higher than 18% prevalence of toothache in the past 6 months in two adult population surveys in Brazil. Regarding the self-reported cavities in the university students, this study found a probably lower prevalence (39.4%) than in a study among university students in Saudi Arabia, with a self-reported dental caries rate of 50.5%. The study found large country variations in terms of prevalence of toothache and having cavities, with finding the highest rates of tooth ache in Vietnam (43.0%) and Indonesia (39.8%) and the highest prevalence of having cavities in Indonesia (64.5%). (Peltzer and Pengpid 2017).

In oral health behavior, even in the freshmen, approximately 90% of students brushed their teeth at least twice a day, which was much higher than the ratio of 36.1% of middle-aged people revealed in the fourth national survey of China and even higher than those of dental students in other four Asian countries, indicating that, to some extent, the oral health behavior of China's new generation was improving compared to their elders (Halawany, Abraham et al. 2015).

Many studies on oral health knowledge and the practice of preventive measures among intermediate schoolchildren have been conducted. In China, rural schoolchildren lacked knowledge about dental caries, gum diseases, and fluoride use. In Spain, 61.1% of 12-year-old

children showed at least one decayed, filled or missing tooth, and their knowledge about gingivitis was poor. In the United Arab Emirates, it was observed that in schoolchildren, when knowledge increased, practice also increased, which showed the relationship between knowledge and practice. In Saudi Arabia, 59% of students attending the Jenadriyah festival in Riyadh had heard about dentists and oral health from their families]. Among intermediate and high school children in Jeddah, Saudi Arabia, 24% of them never visited a dentist, and pain was found to be the main reason for visiting one. Schoolchildren in Rijal Alma (a governate in Aseer Province, Saudi Arabia) had a low level of oral health practice (Al-Qahtani, Razak et al. 2020).

There are many studies conducted on dental care knowledge but there is no such study conducted about the assessment of dental care knowledge among university students especially in Lahore. We have looked in the above literature that prevalence rate of tooth problems are high. So it is need of the time to assess knowledge level of university students regarding dental care to help them prevent from many serious complications. And this study will also highlight the importance of dental care to teachers, doctors and nurses to guide their clients and students strictly and consistently regarding dental care.

METHODOLOGY

3.1 Study Design:

A Descriptive cross sectional research study design will be use.

3.2 Setting:

The study setting will be superior university Lahore.

3.3 Sampling Technique:

A convenient sampling technique will be used

3.4 Sample size:

The sample size will be calculated through slovins formula.

$$n = \frac{N}{1 + N(e)^2}$$

n = Sample size.

N = Population size. E = Margin of error.

3.5 Eligibility Criteria:

3.5.1. Inclusion Criteria:

- Only superior University students of BSN will be eligible.
- No one should be forced to participate in this study.

3.5.2 Exclusion Criteria:

- Students other than nursing profession
- Post Rn students
- Certified nursing assistant and LHV students

3.6 Ethical Consideration:

The ethical Consideration will be followed which is set by the committee of nursing department, superior university. Participants will ensure for data privacy and they are not forced to participate in this study. Participant will be given enough information regarding study and their participant in the study. There will be no harm. Therefore,

confidentiality will be maintained.

3.7 Data collection Tools:

The data will be collect from the student of superior university through adopted-modified questionnaire that had been developed by Farsi et al in 2003.

3.8 Data collection procedures:

The data will be gathered from the student of superior university. Furthermore, participant will be targeted through convenient sampling technique.

3.9 Study population:

Population will be the student of superior university.

3.10 Study Duration:

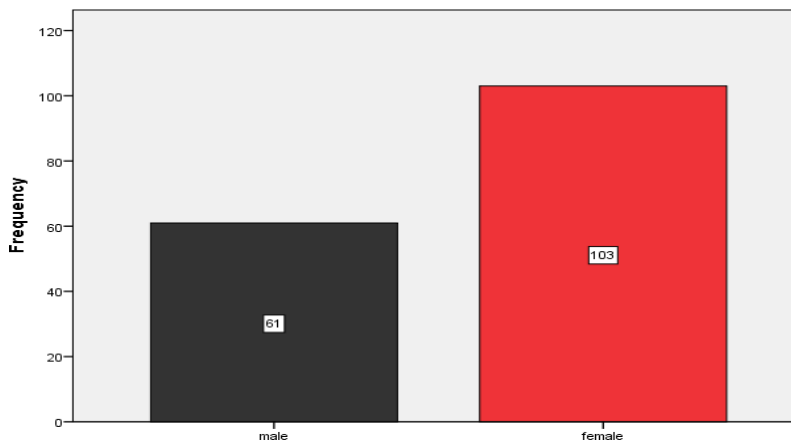
This study will take approximately 9 months to complete.

RESULTS

Table No: 1
Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	61	37.2	37.2	37.2
female	103	62.8	62.8	100.0
Total	164	100.0	100.0	

Bar Chart: 1

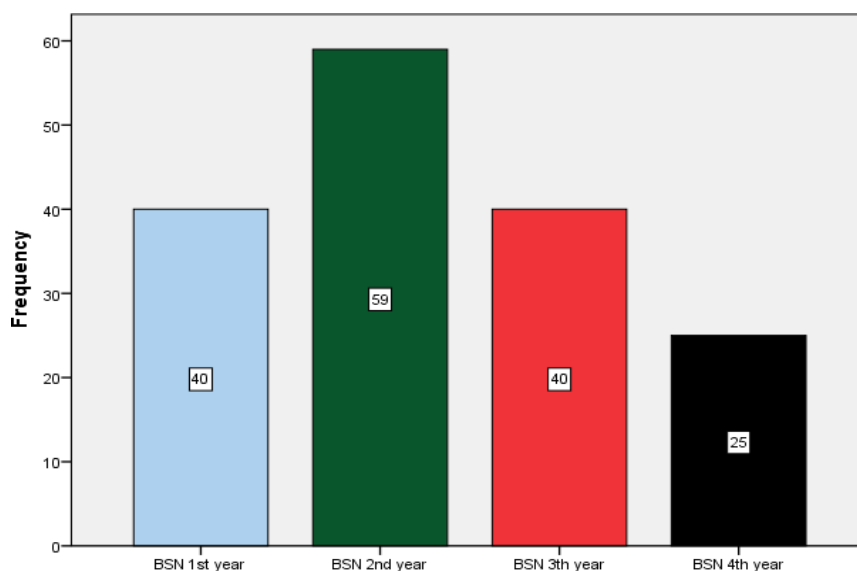


As inference from table# 1, which indicates the participants gender, majority of them were female (103), remaining (61) were male out of total 164 participants

Table No: 2
Educational level

	Frequency	Percent	Valid Percent	Cumulative Percent
BSN 1st year	40	24.4	24.4	24.4
BSN 2nd year	59	36.0	36.0	60.4
Valid BSN 3th year	40	24.4	24.4	84.8
BSN 4th year	25	15.2	15.2	100.0
Total	164	100.0	100.0	

Bar Chart: 2

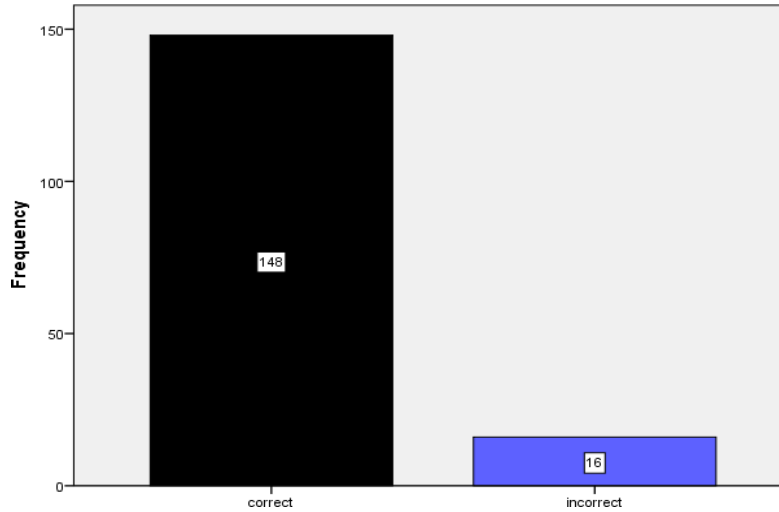


As shown in the above table# 2, the literacy level of the study participants, majority of the participants were from BSN 2nd year 59, followed by 40 from BSN 1st year, 40 from BSN 3rd year, and remaining 25 students were from BSN 4th year.

Table No:3
Brushing prevents gum problems

	Frequency	Percent	Valid Percent	Cumulative Percent
correct	148	90.2	90.2	90.2
Valid incorrect	16	9.8	9.8	100.0
Total	164	100.0	100.0	

Bar Chart: 3



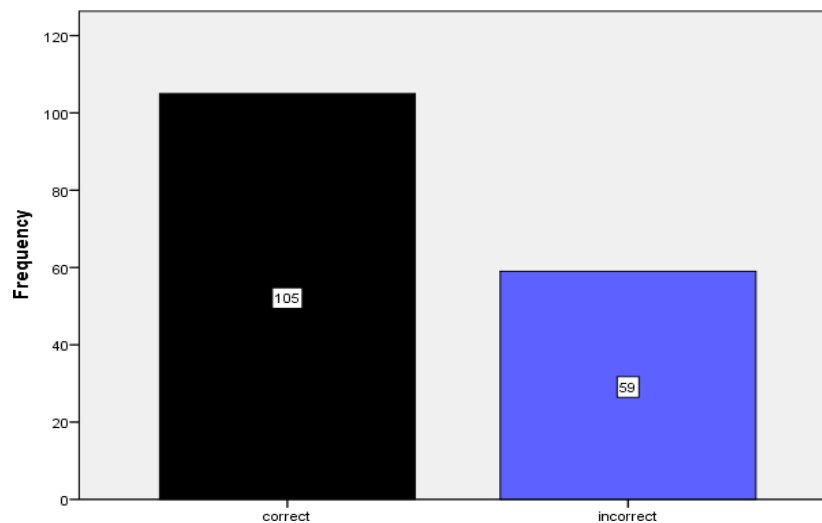
Table# 3, indicates the subject response to a question that is “Brushing prevents gum problems”. Majority of the subject agreed to a given statement (148) out of 164 subject.

Table No: 4

Flossing prevents gum problems

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	105	64.0	64.0	64.0
Valid incorrect	59	36.0	36.0	100.0
Total	164	100.0	100.0	

Bar Chart: 4

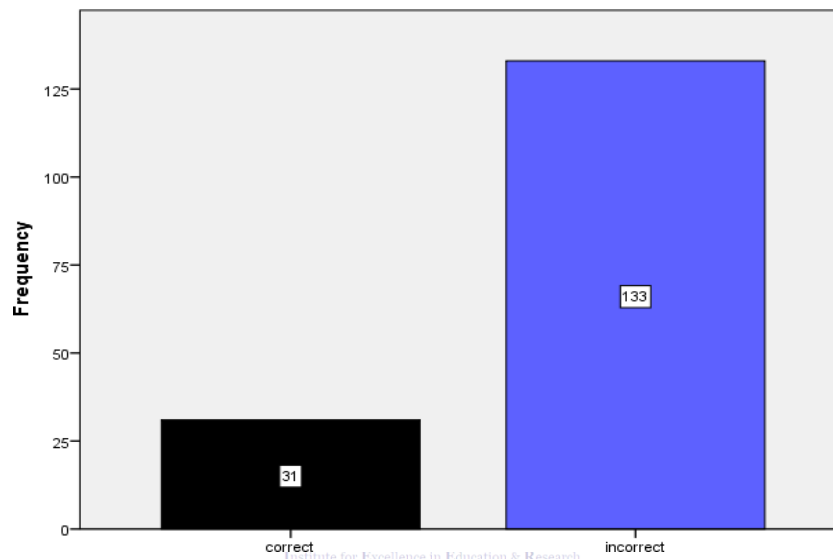


As inference from table# 4, which shows the subject response to a question about the prevention of gums, most of the study subject agreed to a statement “flossing prevent gums problem”, indicating a good knowledge level.

Table No: 5
Self-care is not related to oral health

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	31	18.9	18.9	18.9
incorrect	133	81.1	81.1	100.0
Total	164	100.0	100.0	

Bar chart: 5

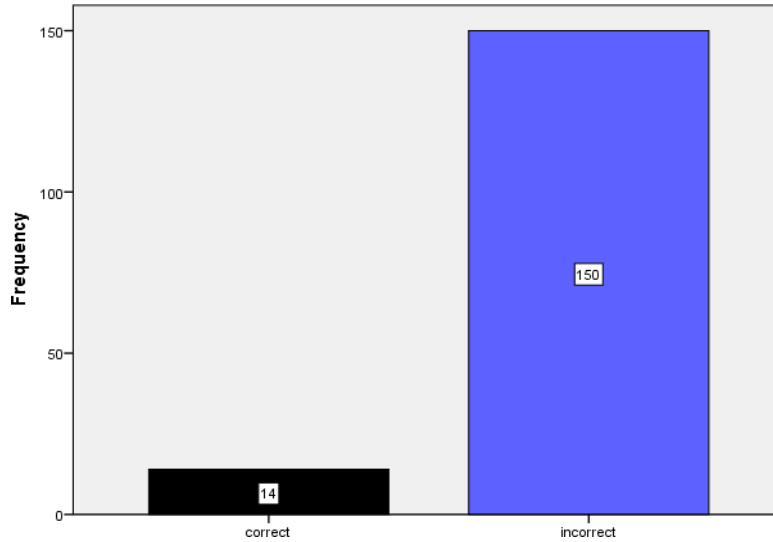


As shown in table # 5, the student's response to a question that is "Self-care is not related to oral health". Out of 164 students, 133 responded to a statement with an incorrect option, while only 31 agreed to a given statement.

Table No: 6
Oral hygiene instructions do not improve oral health

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	14	8.5	8.5	8.5
incorrect	150	91.5	91.5	100.0
Total	164	100.0	100.0	

Bar chart: 6



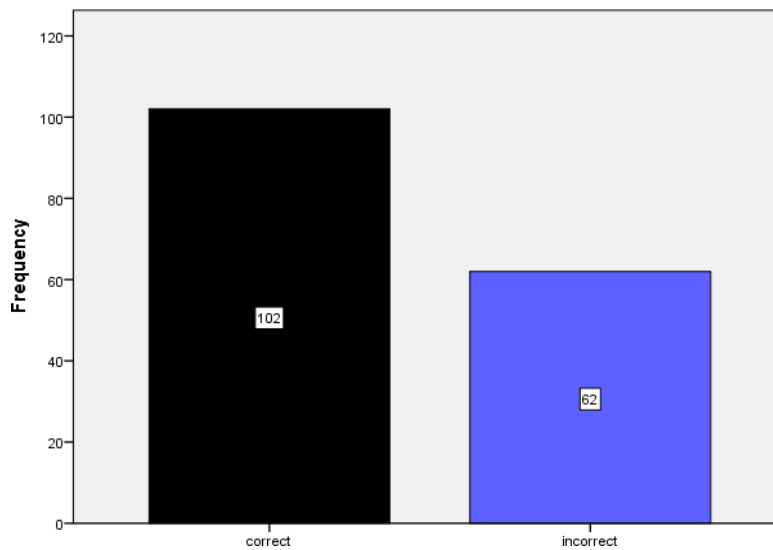
Statistics from table# 6, shows subject response to a question that is “Oral hygiene instructions do not improve oral health” most of the subject disagreed with the statement given(150), out of 164 subject.

Table No: 7

Gum bleeding while brushing is a sign of early-stage inflammation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	102	62.2	62.2	62.2
Valid incorrect	62	37.8	37.8	100.0
Total	164	100.0	100.0	

Bar Chart: 7



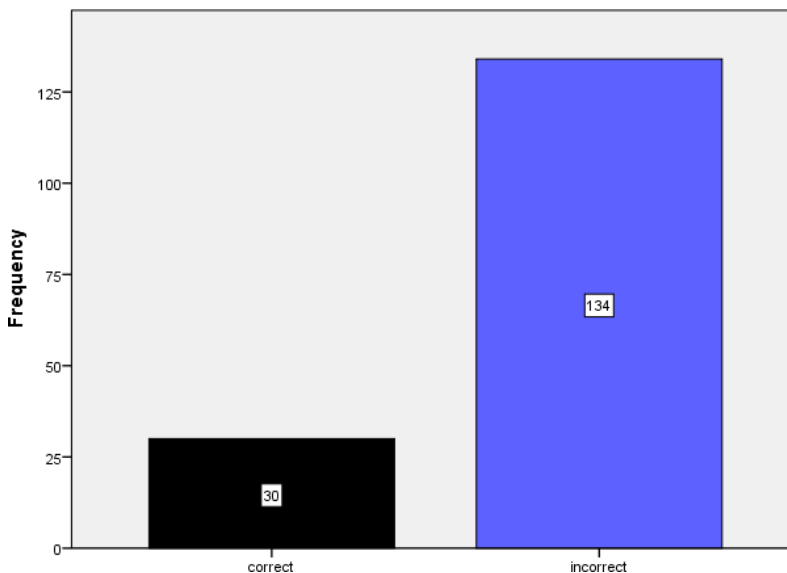
As shown in the table# 7, the participants response to a question which is about gum bleeding “Gum bleeding

while brushing is a sign of early-stage inflammation”, most of the study participants (102) consider given statement correct.

Table No: 8
Gingival and periodontal problems may lead to bone loss

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	30	18.3	18.3	18.3
Valid incorrect	134	81.7	81.7	100.0
Total	164	100.0	100.0	

Bar Chart: 8

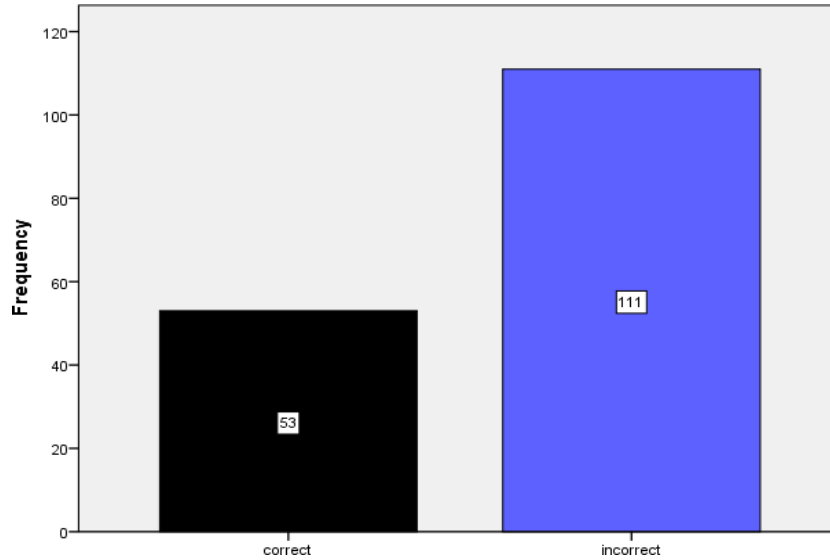


As inference from the above table# 8, which shows the subject response to a question that is “Gingival and periodontal problems may lead to bone loss”. Majority of the study subject responds incorrectly (134), only 30subject responds correctly out of total 164 subject.

Table No: 9
Oral disease may cause systemic problems (eg, heart disease)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	53	32.3	32.3	32.3
Valid incorrect	111	67.7	67.7	100.0
Total	164	100.0	100.0	

Bar Chart: 9



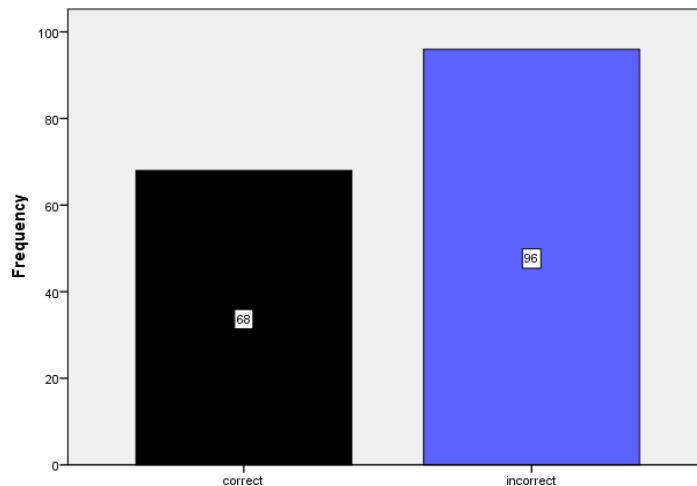
Statistics from table#9, shows participants response to a question that is oral disease association with heart disease, most of the subject did not know that it may cause heart disease (111), only 53 subject agreed to a given statement.

Table No: 10

Fluoride has a positive effect on oral health

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	68	41.5	41.5	41.5
Valid incorrect	96	58.5	58.5	100.0
Total	164	100.0	100.0	

Bar Chart: 10

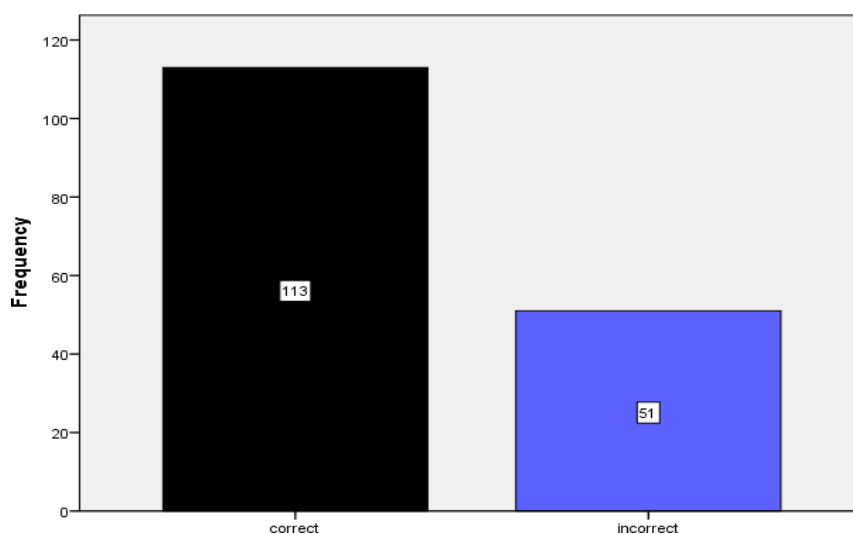


Table# 10, Question about fluoride benefits, when asked “fluoride has a positive effect on oral health”. Majority of them responds incorrectly (96), only 68 students had right response.

Table No: 11
Oral hygiene prevents halitosis

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	113	68.9	68.9	68.9
Valid incorrect	51	31.1	31.1	100.0
Total	164	100.0	100.0	

Bar Chart: 11

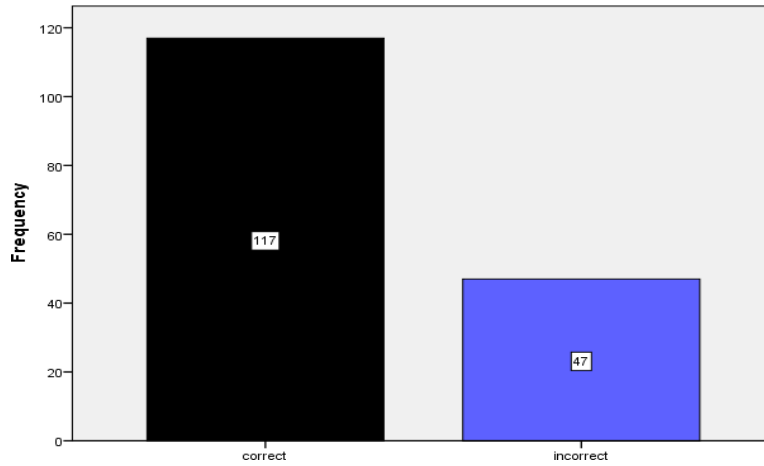


As from table# 11, which indicates the subject response to a question that is “oral hygiene prevents halitosis”, out of 164 subject, 113 agreed to given statement, remaining 51 disagreed.

Table No: 12
Plaque is a hard material

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	117	71.3	71.3	71.3
Valid incorrect	47	28.7	28.7	100.0
Total	164	100.0	100.0	

Bar Chart: 12



As shown in the table# 12, the participants response to a question that is “plaque is a hard material”. Most of the subject did not know (117) about the characteristics of plaque.

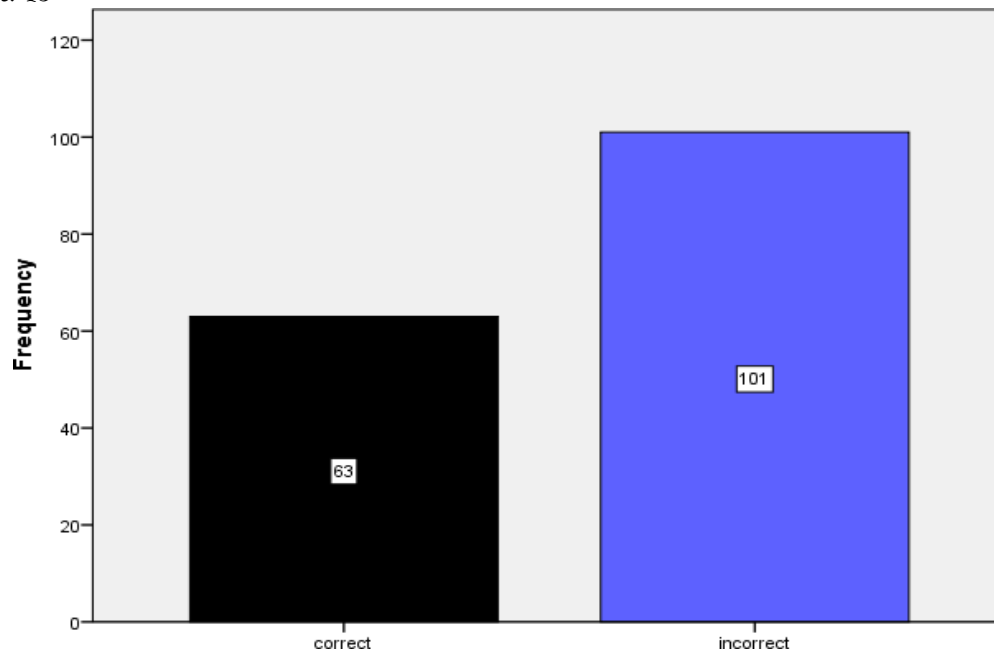
Table No: 13

Dental calculus can be removed at home by brushing and flossing

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid correct	63	38.4	38.4	38.4
Valid incorrect	101	61.6	61.6	100.0
Total	164	100.0	100.0	

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Bar Chart: 13



Statistics from table# 13, which shows the subject response to a question that is about dental calculus “Dental calculus can be removed at home by brushing and flossing. Majority of the study subject responds that dental calculus cannot be removed at home (101), only 63 subject responds that it can be removed which were wrong.

DISCUSSION

The purpose of the recent study is to assess the knowledge level of the nursing students regarding dental care. As from socio demographics, total study subject was 164, out of which majority of them were female (103), remaining 61 were male students. Their literacy level respectively was; BSN 2nd year (59), BSN 1st year (40), BSN 3rd year (40), and 25 students was from BSN 4th year.

As inference from participant’s response to knowledge component of this study, it was noted that their knowledge level regarding dental care and its impact on other body organ was poor. As response to a question related to gingival and periodontal issue relation with bone loss “Gingival and periodontal problems may lead to bone loss”, out of 164 students, 134 students did not know that it may cause bone loss. Similarly, when asked about oral health consequences on heart health “Oral disease may cause systemic problems (heart disease)”, 111 participants respond wrongly, which reflecting their poor knowledge regarding

oral health. About fluoride benefits for oral health “Fluoride has a positive effect on oral health”, most of them (96) belief that fluoride has no benefits for dental care. However, regarding cons of brushing (148) for oral health “brushing prevent gums problems” and flossing (105) “flossing prevent gums problem”, most of them beliefs it prevents gum problems. When asked about plaque composition “plaque is a hard material”, about 117 students responds correctly. Question regarding dental calculus “Dental calculus can be removed at home by brushing and flossing”, 101 consider this practice dangerous, while 63 consider them correct.

As inference from previous study conducted on the same concern, in Jordan university a cross sectional study was conducted. The aim of which is to assess the knowledge and attitude among nursing students regarding oral health and oral

diseases. Total of 184 students were participated in this study, while response rate was 92%. In general oral health knowledge score was 46%, pediatric dentistry questions (48%), and 43% in a question related to dental condition causes systematic disease. The study concluded that overall knowledge level of the nursing students was poor. The study focused the involvement of curriculum about dental care and dental disease into nursing field(Smadi and Nassar 2016).

Another study in Qassim university was conducted on medical, dental and nursing students. The objective of which is to investigate the knowledge level of the medical, dental and nursing students regarding early childhood oral health care. Total of 571 students were participated in the study. As inference from their results portion the highest knowledge level was noted among dental students (7.72 out of 10), followed by nursing students (4.79), and medical students (4.43). it was found that the students with higher perceived knowledge score higher than with low perceived knowledge. Poor knowledge of medical and nursing students was due to its less exposure to oral and or dental health than dental students. The study based on findings recommend educational program conduction on oral health(Al-Hatlani and Al-Haj Ali 2019).

In VIA University college, Aarhus, Denmark, a study with cross sectional approach was conducted among nursing students. The goal of the study was to identify nursing student’s knowledge, behavior, and attitude regarding oral health. One hundred students were actively participated in this study. Majority of the study subject (89%) brushed their teeth daily, 55% students consult with dentist annually. It was found that their knowledge level was poor about periodontal disease. However, most of them consider oral health is a important component of nursing care (97%). The study concluded that participants had good oral care behavior, while their knowledge level was

insufficient in some domain like periodontal diseases. Most of them wants training about oral health care suggesting their positive attitude(Grønkjær, Nielsen et al. 2017).

A study conducted in Kuwait University Health Sciences Centre. The purpose of which is to assess knowledge of the dental health among the students of Kuwait University Health Sciences. A specific questionnaire was distributed among 450 of the 800 students enrolled in 3 faculties of the HSC from March to April 2000. Approximately 91.1% students completed the questionnaire. Out of total subject, 64.4% students think the cause of tooth decay was not brushing appropriately, only small portion 19.3% students believed that sugar could cause dental decay. Majority of the study subject did not about a drink that can causes harm to teeth. As inference from conclusion part of the study, most of the study subject were satisfied with their oral care, about they did not have adequate knowledge about the causative factors and prevention of dental or oral disease, reflecting their poor level of knowledge regarding dental care. It was also correlate that female students had good awareness level than male students regarding dental care(Al-Hussaini, Al- Kandari et al. 2003).

Conclusion:

The present study concluded that participants had poor level of knowledge regarding dental care. Especially, knowledge regrading dental disease impact on other body organs, such as heart and bone was poor. Essential mineral such as fluoride benefits for dental health, related information was also insufficient. However, participants had highest level of knowledge regarding impact of brushing, and flossing on oral health. Based on findings, the study intense need for awareness program for students.

Limitation of the study:

➤ Due to privacy closure some of the study participants were not interested in data collection process.

Recommendation:

➤ As inference from study findings, this

study emphasized on;

- Educational framework establishment
- Curriculum integration of Nursing care specific to oral health
- Hands on practice on dental care for students

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