



## RESEARCH ARTICLE

### KNOWLEDGE AND PERCEIVED PRACTICES ON ORAL HYGIENE AMONG STUDENT NURSES: A CROSS-SECTIONAL STUDY

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#### ABSTRACT

Oral health affects the general health, well-being, education and development of an individual and their families and diminishes the quality of life. This study was intended to identify dental hygiene related knowledge and perceived practices among student nurses, to correlate between knowledge and perceived practices and associate knowledge and perceived practices with selected socio-demographic variables. This cross-sectional study was conducted among 80 student nurses studying in Indira College of Nursing, Thiruvallur who were selected for the study by using systematic cluster sampling techniques. Self-administered closed ended questionnaire was distributed to collect the data. This study revealed that vast majority of student nurses had an inadequate knowledge (77.50%) and only 6.25% had an adequate level of knowledge on dental hygiene. 31.25 % of participants had inadequate perceived practices, and only 30 % had adequate perceived practices towards dental hygiene. Significant positive correlation( $r=0.63$  at  $p<0.05$ ) was found between knowledge and perceived practices on dental hygiene. Findings from this study can be used to strengthen nursing curriculum related to dental health.

#### INTRODUCTION

Dental hygiene is connected to body health as a whole and impacts directly on quality of life. The oral cavity is known to be a reservoir for pathogens to grow and thrive. Poor oral hygiene can lead to complications such as gingivitis, halitosis, xerostomia, plaque formation and dental caries. Dental hygiene and oral health are often taken for granted but are essential parts of our everyday lives. Tooth decay is a common problem for people of all ages. For children, untreated cavities can cause pain, absence from school, difficulty concentrating on learning, and poor appearance, all problems that greatly affect the quality of life and ability to succeed.

Oral parafunctional habits such as bruxism, nail biting, pen biting, gum chewing, bottle opening using teeth, lip and cheek biting seen among student nurses leads to poor dental hygiene. The nursing fraternities are expected to be good example for oral health behavior because they advice their clients on how to achieve oral and dental health practices. The circumstances surrounding hospitalization and ill-health can lead to neglect of oral hygiene. Care of the mouth is one of the most basic nursing activities. It is an important aspect of care that needs to be carried out consistently.

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Nurses play a vital role in providing effective oral care and promoting oral hygiene. To draw attention to this area of need, we intended to conduct a study on knowledge and perceived practices on oral hygiene among student nurses.

#### Objectives

- To identify the level of knowledge and perceived practices on dental hygiene among student nurses
- To correlate level of knowledge and perceived practices on dental hygiene among student nurses
- To associate the level of knowledge and perceived practices with selected socio-demographic variables of student nurses.

#### MATERIALS AND METHODS

A cross-sectional survey was conducted to determine dental hygiene related knowledge and perceived practices among 100 student nurses studying in Indira College of Nursing by following systematic cluster sampling method. A study protocol was reviewed and approved by the Institution Ethical Review Board. A structured, self-administered and closed-ended questionnaire was designed and distributed after obtaining informed consent from the participants. The tool consisted of three parts. Part I: It contains demographic variables of samples such as age, sex, level of education, religion, type of family and source of information.

Part II: It consisted of 20 multiple choice questions with 4 options related to knowledge on dental hygiene such as dental visit, brushing techniques, tooth brush, dental floss, plaque formation and removal, tooth paste selection, mouth rinse, dental caries, and cariogenic diet. Part III: It consisted of checklist with 10 questions related to perceived practices on dental hygiene. Each correct answer was given a score of “one” and the wrong answer was given a score of “zero”. The score was interpreted for knowledge and perceived practices categories separately as follows: Below 50% - Inadequate knowledge and perceived practices, 51-75%-Moderately adequate knowledge and perceived practices and 76-100% - Adequate knowledge and perceived practices. The total score was 30 for knowledge categories and 10 for perceived practices aspects. The tool was refined and validated by 3 nursing faculties. The reliability of the tool was 0.82. Pilot study was carried out to find the feasibility among 10 participants who did not involve in the main study.

**RESULTS**

**Section A: Distribution of student nurses based on socio-demographic data**

**Table 1. Frequency and percentage distribution of student nurses by socio-demographic data**

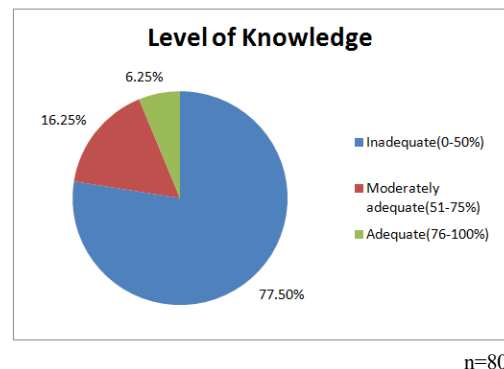
Sl.No	Demographic variables	Number	Percentage (%)
1	Age in years		
	a.19 years	44	55
	b.20 years	16	20
	c.21 years	18	22.5
	d. 22 years and above	02	2.5
2	Sex		
	a. Male	03	3.75
	b. Female	77	96.25
3	Religion		
	a. Hindu	51	63.75
	b. Muslim	24	30
	c. Christian	04	05
	d. Others	01	1.25
4	Source of information		
	a. Print media	04	05
	b. Electronic media	17	21.25
	c. Health professionals	17	21.25
	d. Others	02	2.5
	e. All the above	40	50
5	Level of education		
	a. I year	21	26.25
	b. II year	21	26.25
	c. III year	12	15
	d. IV year	26	32.5
6	Type of family		
	a. Nuclear	63	78.75
	b. Joint	16	20
	c. Extended	01	1.25

Based on Table 1, Majority of the students 44(55%) belonged to 19 years of age, and only 2 (2.5%) belonged to 22 years and above. All most all the student nurses 77(96.25%) were females and only 3 (3.75%) were males.

In regard to religion, half of the participants 51(63.75%) belong to Hindu religion. Most of the student nurses 40 (50%) obtained information on dental hygiene from all the sources such as print media, electronic media and health professionals. A highest number of participants, 63(78.73%) belong to nuclear family and only one participant 01(1.25%) belong to extended family.

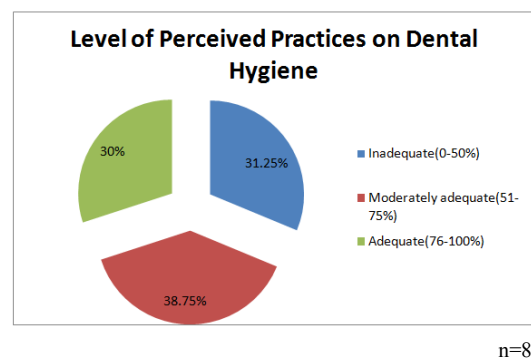
**Section B: Distribution of student nurses based on knowledge regarding dental hygiene**

Figure 2 below, depicts that highest percentage of the student nurses had an inadequate knowledge (77.50%) and only 6.25% had an adequate level of knowledge on dental hygiene.



**Figure1. Findings related to knowledge regarding dental hygiene**

**Section C: Distribution of student nurse based on their perceived practices towards dental hygiene**



**Figure 2. Findings related to perceived practices on dental hygiene**

Figure 2 reveals that 31.25 % of participants had inadequate perceived practices, 38.75% had moderately adequate perceived practices and only 30 % had adequate perceived practices towards dental hygiene.

**Section D: Distribution of student nurses based on correlation between knowledge and perceived practices on dental hygiene**

**Table 2. Correlation between knowledge and perceived practices on dental hygiene**

Variables	Mean	Standard deviation	r-value
Knowledge	8.5	0.316	0.63
Perceived practices	6.4	0.216	

Based on table 2 above, the obtained mean value for knowledge was 8.5 with standard deviation of 0.316. The obtained mean value for perceived practices was 6.4 with standard deviation of 0.216. The calculated r-value was 0.63, which was moderately positive, was significant at 0.05 levels. It shows that there is significant positive correlation between knowledge and perceived practices on dental hygiene.

### Section E: Distribution of student nurses based on their association between knowledge scores and selected socio-demographic variables

**Table 3. Association between knowledge score and demographic variables**

Sl.No	Demographic variables	Level of knowledge			Chi-square	d.f	Inference
		Adequate	Moderate	Inadequate			
no=80							
1	Age in years						
	a.19 years	35	04	03	12.15	6	S
	b.20 years	14	01	02			
	c.21 years	11	07	0			
	d. 22 years and above	03	0	0			
2	Level of education						
	a. I year				21.16	6	S
	b. II year	19	02	0			
	c. III year	17	04	01			
	d. IV year	08	0	04			
		19	06	0			
2	Religion						
	a. Hindu	41	08	02	3.47	6	NS
	b. Muslim	17	04	03			
	c. Christian	04	0	0			
	d. Others	01	0	0			
3	Type of family						
	a. Nuclear	48	11	04	1.491	4	NS
	b. Joint	14	01	01			
	c. Extended	01	0	0			
4	Source of information						
	a. Print media				5.143	8	NS
	b. Electronic media	04	0	0			
	c. Health professionals	13	02	02			
	d. Others						
	e. All the above	14	02	01			
		01	01	0			
		31	07	02			

S-Significant, NS-Not significant at  $p < 0.05$  levels

### Section F: Distribution of student nurses based on their association between perceived practices scores and selected socio-demographic variables

**Table 4. Association between perceived practice score and demographic variables**

Sl.No	Demographic variables	Level of perceived practices			Chi-square	d.f	Inference
		Adequate	Moderate	Inadequate			
no=80							
1	Age in years						
	a.19 years	19	14	11	126.93	6	S
	b. 20 years	03	08	05			
	c. 21 years	04	07	07			
	d. 22 years and above	0	02	0			
2	Level of education						
	a. I year				17.63	6	S
	b. II year	11	07	03			
	c. III year	09	07	05			
	d. IV year	01	03	08			
		04	14	08			
2	Religion						
	a. Hindu	15	21	14	420.05	6	S
	b. Muslim	09	07	09			
	c. Christian	01	02	01			
	d. Others	0	01	0			
3	Type of family						
	a. Nuclear	20	21	20	3.054	4	NS
	b. Joint	04	08	06			
	c. Extended	01	0	0			
4	Source of information						
	a. Print media				536.79	8	NS
	b. Electronic media	01	01	02			
	c. Health professionals	04	05	07			
	d. Others						
	e. All the above	07	04	08			
		0	02	0			
		14	16	09			

S-Significant, NS-Not significant at  $p < 0.05$  levels

In regard to association between level of knowledge and socio-demographic profile of the participants, no significant association was found with religion ( $\chi^2=12.15$ ; df 6), type of family ( $\chi^2=1.49$ ; df 4) and source of information (5.14; df 8). Significant association were found with the age in years ( $\chi^2=12.15$ ; df 6) and level of education ( $\chi^2=21.16$ ; df 6) with student nurses level of knowledge on dental hygiene (Table 3).

In regard to association between level of perceived practices on dental hygiene and socio-demographic profile of the participants, no significant association was found with type of family ( $\chi^2=3.05$ ; df 6) and source of information (536.79;df 8). Significant association were found only with the age in years ( $\chi^2=126.93$ ; df 6), level of education ( $\chi^2=17.63$ ; df 6) and religion ( $\chi^2=420.05$ ; df 6) with student nurses level of perceived practices on dental hygiene (Table 3).

## DISCUSSION

In this study, majority of the student nurses had an inadequate knowledge (77.5%) and only 30% had adequate perceived practices towards dental hygiene. The study result is consistent with the findings of the following studies. Navya Muttineni (2014) reported that 89.8% of the students knew how many teeth we have in our oral cavity. Many of them were not aware of proper brushing method. Regarding oral health, they had adequate knowledge on identification of disease and its relation to general health, and the effect of diet on oral health, but around 81% were confused with the identification of tooth decay.

Around 51% of them were not sure about the number of visits a person should make to a dentist. Sarah S Alsrour (2013) found that more than half of the students brushed their teeth at least twice a day (61%) mainly after meals (37.6) and half of them spent more than a minute brushing fluoridated toothpaste and vertical brushing technique are the most preferred where as hard bristles tooth brushes are the least preferred ones. 12.4 % of the students kept their tooth brushes for more than 6 months.

Having bright teeth and no time for brushing found to be the leading causes for the students to brush or not to brush respectively. 12.9% of the students never visited a dentist till the day of questionnaire submission and 21.3 %had their last visit 3 or more years ago. Answers were irregular when asked about gum bleeding with brushing. Majority of the students reported having the habit of drinking coffee or tea and sweets once daily. Laxman Singh Kaira(2012) reported that more than half of the students brushed their teeth at least twice a day (61%) mainly after meals (37.6) and half of them spent more than a minute brushing fluoridated toothpaste and vertical brushing technique are the most preferred where as hard bristles tooth brushes are the least preferred ones. Sara Hakansson (2010) reported that the knowledge about oral health was good, the result showed infrequent dental visits among the respondents.

## Conclusion

Oral hygiene is not only important for appearance and sense of well being but also for overall health. Poor dental health leads to negative social image, emotional problems and false social judgments about the intelligence, performance skill, and personality of the nurses. The comprehensive health of the nurses influenced by their oral health behavior. Many people suffer from preventable dental diseases because they are not well informed on the importance of dental hygiene. Poor dental hygiene leads to various diseases later on their life. Nurses stay longer duration with the clients in the hospital than any other health professionals. They are the major health care providers at global level. So it is expected of them to be more knowledgeable about dental health and its diseases. Hence, dental diseases are easy to detect and nursing professionals are expected to have adequate knowledge and practice on dental health in educating general public. Nursing curriculum needs to be strengthened by adding more dental health related topics. This study strongly believe that it is a primary concern of nurse educator to impart a positive oral health related knowledge among student nurses thereby to improve dental health of the community as a whole.

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