

Original

Assessment of Nurses' Knowledge, Attitude and Practice of Oral Hygiene for Intensive Care Unit Patients at seven Governmental Hospital In Khartoum State, Sudan, 2020-2021

Mazin Babiker¹, Emad Abd alkarim¹, Amar Nooraldin^{1*}

¹ department of dentistry, Napata College, Khartoum, Sudan.

* **Corresponding author:** Dr. Amar Nooraldin, assistant professor of restorative dentistry, department of dentistry, Napata College, Khartoum, Sudan. Email: drammaronline@yahoo.com

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Abstract

Background: Oral care is a vital procedure for critically ill patients in the intensive care unit (ICU). Oral care may affect the clinical result as well as the wellness of intensive care patients. Adequate knowledge about oral nursing care guidelines is important for nurses to deliver appropriate oral care.

Materials & Methods: A descriptive cross sectional hospital based study was conducted aimed to assess knowledge, attitude and practice of intensive care nurses regarding oral care in critically ill patients in seven governmental hospitals in Khartoum State. The sample size consisted of 95 nurses in ICUs. Data were collected using interview questionnaire; data was analyzed using Statistical Package for Social Sciences (SPSS).

Results: The results revealed that 65.3% of nurses had 1 to 3 years of experience. Regarding the definition of dental plaque, 63.2% of participants responded with correct answers. Only 4.2% knew that gingivitis is a disease and 24.2% said that gingivitis is due to plaque. A percentage of 64.2% participants knew that periodontitis is an inflammation of tooth supporting structure, and 24.2% said that plaque is the cause of periodontitis. Regarding the practice of mouth care twice per a day, 57.9% participants do practice it.

Conclusion: The study concluded that nurses' knowledge regarding oral care for critically ill patients in intensive care unit was inadequate, while their practice and attitude is fair.

Keywords: Nurse practices, unconscious patients and intensive care unit, oral hygiene.

Introduction

Oral health is essential to good health and quality of life, and is defined by the World Health Organization in 2018 (1) as “a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual’s capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing”. Maintaining patients’ oral hygiene is an essential nursing duty and is considered a fundamental aspect of care (2, 3). Evidence suggests that oral health deteriorates while people are hospitalized (4), and it is generally acknowledged that mouth care in hospitals and care homes needs to be improved (5, 6). Barriers to providing effective oral care include: lack of staff training, lack of mouth care assessment tools, and absence of policies and equipment. In response to concerns in 2015, Health Education England launched Mouth Care Matters to improve oral care for adults in care homes and hospitals.

Material and Methods

Study population

An observational, cross-sectional study in which a structured questionnaire was

randomly distributed to 95 nurses working at governmental hospitals fulfilling the criteria for selection and agreed to participate by signing a consent form. The Study was conducted in seven selected hospitals in Khartoum state that had ICUs.

Sample size

The sample size was calculated based on: Z_{2pq/e^2} $Z = 1.96$ for 95% of confidence interval.

Ethical considerations

Ethical clearance was obtained from Scientific Research Committee of NAPATA College of Dentistry.

Research tool:

The structured predesigned questionnaire was composed of the following parts:

Part 1: includes demographic data (e.g. Sex, Shift pattern and Experience per years)

Part 2: includes questions related to study participants’ knowledge about oral care

Part 3: includes questions related to participants’ attitude and practice.

Data collection

Data was collected through structured close ended questionnaire for over one month in 2021. All participants were informed and given the questionnaire after signing a consent form for acceptance in participation.

Data analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 21. The P. value was considered as significant when < 0.05 (confidence interval of 95%). Descriptive statistics was carried out to calculate responses for each question.

Results

The ongoing study revealed that more than half of the participants were females and the majority (65.3%) had few years of experience (1-3) (Fig 1, 2). This indicates that most participants with long and good experience had migrated to different Arab countries searching for better incomes.

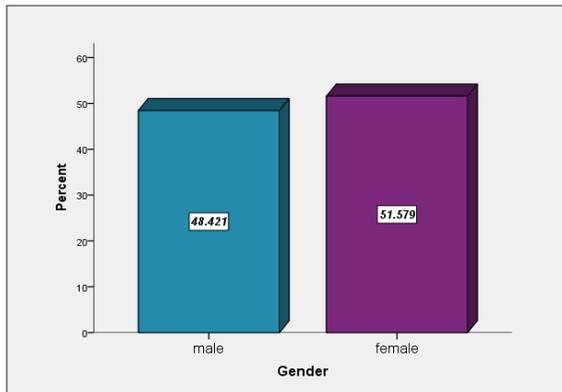


Figure (1) Distribution of nurses by gender.

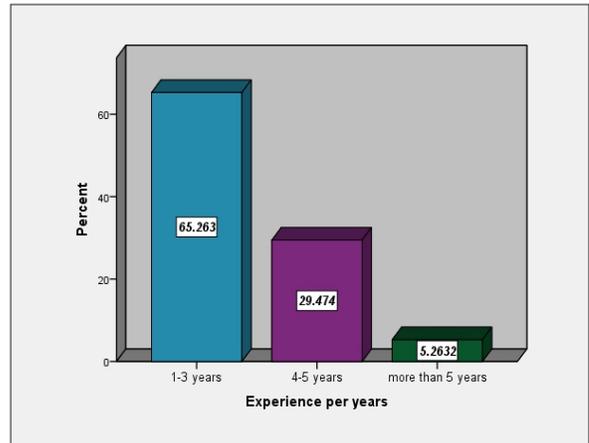


Figure (2) Distribution of nurses by yearsof experience.

Regarding nurses’ knowledge, the majority (63.2%) of participants responded with correct answers regarding definition of dental plaque (bacteria adhere to oral tissues) (Table 1), only 4.2% knew that gingivitis is a gum disease (Table 2), and 24.2% knew that plaque is the cause of gingivitis (Table 3).

Table (1) Nurses knowledge regarding dental plaque

| | Frequency | Percent |
|---------------------------------|-----------|---------|
| Bacteria adhere to oral tissues | 60 | 63.2 |
| calculus | 18 | 18.9 |
| stains | 12 | 12.6 |
| I don't know | 5 | 5.3 |
| Total | 95 | 100.0 |

Table (2) Nurses knowledge about gingivitis

| | Frequency | Percent |
|-------------------|-----------|---------|
| Gum disease | 4 | 4.2 |
| Burning sensation | 50 | 52.6 |
| Gum inflammation | 34 | 35.8 |
| I don't know | 7 | 7.4 |
| Total | 95 | 100.0 |

Table (3) Nurses knowledge about causes of gingivitis

| | Frequency | Percent |
|----------------|-----------|---------|
| Plaque | 23 | 24.2 |
| Smoking | 37 | 38.9 |
| Teeth grinding | 29 | 30.5 |
| I don't know | 6 | 6.3 |
| Total | 95 | 100.0 |

The majority (64.2%) of participants knew that periodontitis is an inflammation of tooth supporting structure, (24.2%) mentioned that it is stains, (9.5%) mentioned it is pain of the gum and (2.1%) mentioned that they don't know the answer (Table 4, 5).

Table (4) Nurses knowledge about Periodontitis

| | Frequency | Percent |
|--|-----------|---------|
| Pain in the gum | 9 | 9.5 |
| Stains | 23 | 24.2 |
| Inflammation of tooth supporting structure | 61 | 64.2 |
| I don't know | 2 | 2.1 |
| Total | 95 | 100.0 |

Table (5) Nurses knowledge about causes of Periodontitis

| | Frequency | Percent |
|---------------|-----------|---------|
| Plaque | 23 | 24.2 |
| Dental caries | 36 | 37.9 |
| Fluorosis | 27 | 28.4 |
| I don't know | 9 | 9.5 |
| Total | 95 | 100.0 |

More than one third (37.9%) of participants said that dental caries is the cause of periodontitis, 28.4% said it is fluorosis, and 24.2% said plaque. Less than half (44.2%) of participants said that it is pain of tooth, 42.1% said that it is tooth destruction due to

bacteria, and 5.3% said that it is stains (Table 6). The nurses showed a good practice regarding oral care where the majorities (57.9%) of them practice mouth care twice per a day in hospital (Table 7). Frequency can be determined using an oral assessment tool and depends on the individual's need. Patients receiving oxygen therapy or those who are vomiting will require frequent mouth care. A percentage of 55.6% of participants said that it takes 1-5 minutes for cleaning the mouth,(43.3%) of participants mentioned that they use gauze + tongue depressor for cleaning, and (44.4%) of participants practice brushing for all parts of mouth.

Nurses showed a negative attitude towards oral care of patients in ICU practices in all items concerning mouth care except hand wash, bed raise to it is highest horizontal

level lower side rail and remove dentures or partial plates if present (Table 8).

Table (6) Nurses knowledge about dental caries

| | Frequency | Percent |
|-----------------------------------|-----------|---------|
| Stains | 5 | 5.3 |
| Pain of the tooth | 42 | 44.2 |
| Tooth destruction due to bacteria | 40 | 42.1 |
| I don't know | 8 | 8.4 |
| Total | 95 | 100.0 |

Table (7) Nurses practice of frequency of mouth care

| | Frequency | Percent |
|----------------------|-----------|---------|
| Not at all | 5 | 5.3 |
| Once per day | 27 | 28.4 |
| Twice | 55 | 57.9 |
| Three times and more | 8 | 8.4 |
| Total | 95 | 100.0 |

Table (8) Participants' attitude towards oral care

| Items | Always | Sometimes | Never | Assessment |
|---|------------|------------|----------|------------|
| Wash hand | 55 (61.1%) | 29 (32.2) | 6 (6.7%) | positive |
| Raise bed to it is highest horizontal level lower side rail. | 59 (65.6) | 29 (32.2) | 2 (2.2%) | positive |
| Remove dentures or partial plates if present. | 54 (60%) | 34 (37.8%) | 2 (2.2%) | positive |
| Place towel under patients head and emesis basin under chin. | 47 (52.2%) | 35 (38.9%) | 8 (8.9%) | Negative |
| If patients is uncooperative or having difficulty keeping mouth open, insert an oral air way. | 42 (46.7%) | 46 (51.1%) | 2 (2.2%) | Negative |

| | | | | |
|--|------------|------------|------------|----------|
| For patients without teeth, use a gauze moistened in water or normal saline to clean oral cavity | 44 (48.9%) | 37 (41.1%) | 9 (10%) | Negative |
| Suctioning secretions as they accumulate .If necessary. | 37 (41.1%) | 39 (43.3%) | 14 (15.6%) | Negative |
| Apply thin layer of water- soluble gelly to lips. | 43 (47.8%) | 37 (41.1%) | 10 (11.1%) | Negative |
| Clean equipment and return to it is proper place. | 38 (42.2%) | 47 (52.2%) | 5 (5.6%) | Negative |
| Wash hands. | 37(41.1%) | 44(48.9%) | 9(10.0%) | Negative |

Discussion

Oral care forms an important part of the patient's care in a hospital set up. This specially holds true in critical care units (CCU) (7), where patients are unable to self-provide oral care and hence, depend on care givers to anticipate needs and are at greater risk for worsening oral health if staff performs inadequate oral care. The condition of mouth is one of the best indices of quality of nursing care (8). The poor oral health among intensive care unit (ICU) patients acts as a source of increasing bacterial virulence of or o-pharyngeal secretions and subsequent development of nosocomial pneumonias (9).

Based on the results of this study, it concluded that nurses knowledge regarding oral care for critically ill patients in intensive care unit was inadequate, while their practice and attitude was fair. These results are due to lack of training courses in the field of ICU about the job description and responsibility of nurses (3). Also this finding agrees with a study conducted by Batool and Ali (2011) that found that poor nursing care increases complications (10). Nurses should promptly support patients to carry out oral care and undertake oral care for those who cannot maintain a clean

mouth for themselves (11). In all ICUs studies, there was no formal unit protocol for assessment or provision of oral care for ICU patients Provision of this protocol may influence nurses' practice. However, the survey carried out by Binkley in USA (12) found that private hospitals provided more oral health care.

Recommendations

Based on conclusion the study recommended the following:

- Providing evidence-based education on the oral care skills to improve patient outcomes.
- Development of standardized oral assessment techniques and tools for nurses to improve quality of care.
- Assessment of nurses' attitudes and beliefs about the importance and benefits of oral hygiene in the ICU.
- Establishing of evidence based project to develop oral care protocol.
- Conducting further studies about importance of oral care for critically ill patients.
- Increasing training session programs for nurses for care of unconscious patients in ICU.
- Development of an assessment sheet for skills and daily nursing notes for

unconscious patients depending on hospital policy and strategy

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