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Knowledge, Perceptions and Practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children

A Thesis

Submitted by
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Submitted to the Council of Nursing, University of Babylon in Partial Fulfillment of the Requirements for The Degree of Master's in Sciences Nursing.

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بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

﴿قَالُواْ سُبْحَٰنَكَ لَا عِلْمَ لَنَآ إِلَّا مَا عَلَّمْتَنَآۖ إِنَّكَ أَنتَ ٱلْعَلِيمُ ٱلْحَكِيمُ﴾[1]

صدق الله العلي العظيم

1

[1] سورة البقرة الآية "32"

DEDICATIONS

This thesis is dedicated to my family. A special gratitude to my exceptional parents, who were the cause of my existence in this world.

My hosbend, who joined me patiently during my thesis journey.

My child, My brothers and sisters, who never stopped caring about me.

To my inspiaration, Professor Dr.Hussien Jasim, mercy and Peace upon his soul. His memory will reamain as a light that will guide me thrrough my life.

Allah bless you all!

I also dedicate this study to the martyrs of Iraq.

ACADEMIC SUPERVISORS' CERTIFICATION

I certify that this dedicated, which entitled ***"Knowledge, Perceptions and Practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children"****, was prepared under our supervision at the College of Nursing the University of Babylon as partial fulfillment of the requirements for the degree of master's in nursing sciences.*

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CERTIFICATION

*We, the examining committee, certify that we have read this thesis entitled "**Knowledge, Perceptions and Practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children"** which is submitted by **Sura Obayes Radhi**, from the Department of Child Health Nursing, and we have examined the student in its contents, and what is related to it, and we decide that it is adequate for awarding the (**Master**) in (**Nursing Sciences**) with the specialty of (Child Health Nursing) and estimate of ( ) on ( ).*

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Abstract

Background: Adequate oral care practices are essential for critically ill children in intensive care uint to prevent complications and maintain overall health. Understanding the knowledge, perception, and practices of ICU nurses regarding holistic mouth care is crucial for improving patient outcomes.

Objective: The aim of this study was to assess the knowledge, perception, and practices of intensive care uint nurses regarding oral care for critically ill children and explore any associations with demographic characteristics.

Methods A cross-sectional study was conducted among intensive care uint nurses in six intensive care uints at three selected Hillah City Hospitals. A structured questionnaire was used to collect data on demographic information, knowledge, perception, and practice related to oral care. Statistical analysis, including t-tests and correlation analysis, was performed to examine the data.

Results: This study included 170 intensive care uint nurses selected in the strata method according to sex (105 female, 65 male). Recruitment started in September 2023. The score of oral health knowledge mean was moderate (2.2), while the mean of perception of oral care was also moderate (2.5). However, the oral care practice score was good (2.02). No significant differences were observed in holistic mouth care scores based on age and education qualification, years of experience. However, a significant difference was found in the mean score for complete oral care between male and female nurses (18.37 vs. 17.85, $p = 0.021$).

Conclusion and recommendations: This study highlights that ICU nurses have a limited understanding of holistic oral care and its inclusion in basic nursing education. Although nurses recognize the

significance of oral care. The study also identifies variations in the tools and solutions used for oral cleansing, along with inconsistent frequencies of holistic mouth care. These findings underscore the necessity for enhanced education and standardized practices to achieve consistent and effective oral care for critically ill children in the ICU.

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List of Abbreviations

Item	Meaning
AAPD	American Academy of Pediatric Dentistry's
et. al.,	And others
CRA	Caries Risk Assessment
CPD	Continuing Professional Development
DF	Degree of Freedom
ECC	Early Childhood Caries
ETTs	Endotracheal Tubes
f	Frequency
IgA	Immunoglobulin
ICU	Intensive Care Unit
<	Less than
M	Mean
MV	Mechanical Ventilation
>	More than
N	Number
OCP	Oral Care Perceptions
OH	Oral Health
OHK	Oral Health Care/Hygiene Knowledge
ORPR	Oral\care Practices
ORPRE	Oral| care Practices Reasons
PICU	Pediatric Intensive Care Unit
%	Percentage
PD	Periodontal Diseases
R	person correlation
PPE	Personal Protective Equipment

P	Probability
Sig	Significant
SD	Standard Deviation
SPSS -25.0	Statistical Package of Social Science 25.0
T	t- test
VAP	Ventilator-Associated Pneumonia
Yr	Year

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Chapter One
Introduction

CHAPTER ONE

INTRODUCTION

1.1 Background

Oral hygiene care is considered an everyday component of nursing care that affects children's safety, comfort, and well-being. It is a crucial, common healthcare technique that falls under the scope of the caregivers' profession (Miranda, De Paula, De Castro Piau, Costa, & Bezerra, 2016).

In severely sick children, keeping mouth care that is a crucial healthcare task in the Intensive Care Unit (ICU) which reflected the mouth as frequently a convenient entrance point for life-sustaining procedures including endotracheal intubation for ventilation and orogastric tubes for enteral feeding. Despondently, these procedures force children to keep their mouths open and weaken their natural airway defenses. This precarious posture, when combined with other therapies, can lead to a quickly deteriorating oral condition and the need for nursing to relieve disturbance from the tube, thirst, oral lesions, and the buildup of secretions, sputum, and oral germs. So, the condition of a child's lips might be a sign of the nursing care they got (Moustafa, Tantawey, El-Soussi, & Ramadan, 2016).

Kasahara, Peterlini, & Pedreira, (2012), emphasize that Due to undernourishment, dehydration, immunosuppression, intubation or high-low oxygen treatment, reduced salivary discharges, and a deficiency of oral cavity self-cleansing, ICU children have a significantly higher risk of Oral Health (OH) issues than the rest of the kid community. In addition, weakened oral immunology devastates the protective systems that ordinarily regulate bacterial and microbe proliferation in the oropharynx.

It was mentioned by (Munro, 2014), that mouth issues in seriously unwell children may affect a child's general health, and that poor oral hygiene in ICU patients might increase the possibility of developing septicemia, bacterial endocarditis, bacteremia, respiratory tract infections, xerostomia, or halitosis. It can also cause pain and suffering. To reduce the danger of dental issues and to foster both physical and psychological comfort, complete oral care is therefore essential for ICU children.

The development of strong, healthy teeth in children and the reduction of risk for infection both depend on good oral care. Poor OH has been linked to a greater incidence of nosocomial pathogens, especially Ventilator-Associated Pneumonia (VAP), in the critical care setting, including higher dental plaque buildup, bacteria oropharynx colonization, and rising oropharynx colonization VAP (AlRababah *et al.,* 2018).

According to several studies, VAP is the most prevalent cause of death among hospital-acquired illnesses, with higher levels of mortality (29.3 percent) and morbidity rates seen. The incidence of VAP increases from 1% to 3% for each additional day a child is on a ventilator(Saied e *et al.,*t al., 2019).

As stated by (Kudchadkar, Aljohani, & Punjabi, 2014), many children who are put in ICUs are gravely unwell and vulnerable, as long they are exposed to nasogastric tubes, frequently intubated, and very sedated, are febrile, and comatose. As a result of their dehydration and mouth breathing, which alters the development of their oral flora and reduces the function of their salivary glands, the pooling of secretions that encourages the development of dangerous bacteria that are simple to introduce into the lower respiratory system, as well as

risk of pneumonia conditions like aspiration, hospital-acquired, and VAP. They are also at risk for xerostomia when receiving oxygen therapy and sympathomimetics.

Kudchadkar *et al.,* (2014), found the typical governance of viridans streptococci and associated colonizers shifts to a more varied oral flora during the first 48 hours of a severe illness. These are major risk factors for severe oral issues in pediatric ICU patients, including rising dental plaque buildup, bacterial colonization, nosocomial infection, and particularly VAP.

According to (Düzkaya, Uysal, Bozkurt, & Yakut, 2017), in 24-48 hours after being admitted to ICUs, microorganisms begin to proliferate, which quickly worsens the condition of the oral mucosa. Because Immunoglobulin (IgA) secretion in the mucosa and saliva is decreased by a nasogastric catheter/intubation tube, there may be mechanical damage. Endotracheal Tubes (ETTs) and medication like steroids, sedatives, and opioids are two causes of the throat being open all the time. Due to oxygen treatment, a fever, and the sticky tape used to hold the ETT in place, the tissue integrity in the mouth deteriorates which resulted in bad breath, mouth dryness, and lips cracked, as well as mouth sores can occur in the mouth. Improper oral hygiene leads to an increase in plaque production in the oral, growth of bacteria in teeth.

However, when children are hospitalized in ICUs for longer than 48 hours, the balance of their oral microbiota frequently changes. Gram-negative bacteria such; 1)Staphylococcus aureus, 2)Streptococcus pneumonia, 3)Acinetobacter baumanii, 4)Haemophilus influenzae, and 5)Pseudomonas aeruginosa. become more prevalent as a result of these alterations. All of these

microorganisms have been linked to nosocomial pneumonia (Miranda *et al.,* 2016).

Studies have linked biofilm on the tongue to elevated amounts of Gram-negative bacteria, which are known to worsen clinical problems in children because they provide an ideal habitat for their growth. Therefore, dentists and other healthcare providers need to be aware of the necessity of effectively eliminating these variables and preventing the growth of germs in the oral while providing care for critically ill children (Kudchadkar *et al.,* 2014).

Prendergast, Jakobsson, Renvert, & Hallberg, (2012), indicated When paired with the decreased salivary flow brought on by extended endotracheal intubation, developed tooth plaque adds to a milieu brimming with microorganisms that can cause mucositis. The dorsum of the tongue and hard palate accumulate debris and dry secretions as the time of oral intubation increases, which exacerbates discomfort and halitosis.

Mechanical Ventilation (MV) is a life-saving therapy. However, When an ETT bypasses the epiglottis, the body's natural defensive mechanism against descending microorganisms that enter the respiratory system through the oropharynx is hampered, making children receiving ventilator assistance more exposed to nosocomial airway infections. (Hillier *et al.*, 2013).

Adib-Hajbaghery, Ansari, & Azizi-Fini, (2013) and Sarefho,(2011), showed holistic oral care is advised for seriously sick children because preserving oral hygiene in these patients reduces the risks of nosocomial infections, improves child comfort and discharge outcomes, decreases thirst, and protects the integrity of the oropharyngeal mucosa.

The ability to acquire, retain, and use information is referred to as knowledge. It is a combination of comprehension, experience, judgment, and skill. People who are knowledgeable about oral hygiene have good oral hygiene habits. Additional research has demonstrated that effective OH education can aid in instilling healthy OH care habits. Oral hygiene teaching, in the words of Stillman Lowe, is "any learning activity which strives to enhance individuals' knowledge, attitudes, and abilities" related to their oral hygiene (Aljafari, 2016).

As long as nurses routinely check their patient's health, they have the ideal choice to provide dental care in hospitals. However, reports claim that nurses do not have much training in managing oral care and may not always provide their children with proper oral care, and the majority of hospitals do not employ dentists and/or dental hygienists to offer good oral hygiene (Ebrahim, Ahmmed, Eltayeb, & Sayed, 2021).

Not all nursing staff are aware of the medical relationship between normal oral flora and resulting gram-negative bacteria contamination of critically ill children's oral cavities, plaque development, xerostomia, and adverse treatment reactions. Additional polls have out in many nations have supported this. According to an Australian study, only 18% of nurses were aware of the flora and infections present in the mouth cavity(Osti, Wosti, Pandey, & Zhao, 2017).

Certain studies carried out in Brazil found that 34.8% of respondents were unaware of which medications affect the oral cavity, while 48.6% lacked an understanding of oral hygiene. Eighty-three percent (83%) of the nurses said they received no fundamental instruction in oral hygiene (Booker, Murff, Kitko, & Jablonski, 2013).

Alja'afreh, Mosleh, & Habashneh,(2018), emphasizing boosting the quality of child care they provide and shortening patients' stays in the hospital, nurses would be more confident in their ability to make the right judgments. With each day on MV, the hazard of VAP rises by 1.3 times, increasing the expense of therapy. Because nurses believe dental care for critically sick children contributes less to their health and well-being than other treatments, oral care may not be given as well as it should.

Rodriguez, (2022), found comparable to other clinical procedures, the mouth region was ignored by the healthcare staff in the ICU. A review of the literature also reveals that it has been claimed that nurses lack the skills needed to correctly manage oral care practices and assess children's OH status. Additionally, it was shown that ICU nurses' oral hygiene practices were neither recorded nor based on the most recent research. This is the result of various obstacles, including a lack of resources, inconsistent medical care, and a paucity of tools.

Although the need of maintaining good oral hygiene in critically sick children, the task is typically given low attention or given to younger nurses. According to surveys done in the past in Europe and the United States, the majority of nurses regarded giving oral care as a crucial nursing activity. However, research revealed that nurses lacked the evidence-based information necessary to provide quality oral care(Chan & Hui-Ling Ng, 2012).

Andersson, Wilde-Larsson, & Persenius, (2019), stated that nurses who provide oral care for their critically ill children; may not only predict the priority of their patient's general health and well-being, but they may also be afraid of moving the tubes and may not have the skills to do so, which could have an impact on the quality of care.

Additionally, these authors noted that the availability of high-quality oral care in ICUs is often impacted by oral expertise, ICU experience, an adequate supply of mouthcare materials, and the amount of time allotted for the procedure.

In recent years, there has been more emphasis on the prevention of respiratory infections as it relates to oral care for ICU children, but there is still a dearth of understanding in Sweden regarding how ICU nurses see the oral care concept. (Andersson *et al.,* 2019).

Although several research studies have suggested that ineffective OH care may help the virus spread, no studies have looked at nurses' perceptions of how their patients' OH was handled in hospitals during the lockdown. As a result, to stop the spread of illness in hospital wards, nurses must utilize infection control strategies including Personal Protective Equipment (PPE) correctly. However, no research has been done on the infection prevention strategies used by nurses when delivering mouth healthcare(Haresaku *et al.*, 2021).

In such study encourages nurses to abandon conventional methods in favor of evidence-based care to improve the health of children. A report from the Methodist Hospitals in Indianapolis' Nursing Research Committee found repeated oral care providing as an evidence-based preventive approach for VAP, which is considered to be a major responsibility of all healthcare professionals, particularly nursing staff as they have the most direct contact with children(Sarefho, 2011),.

The scientific care of the teeth and appropriate oral hygiene must be taught to nursing staff to keep the oral mucosa moisture, cleanliness, and absence of discharges that might lead to infection. Thus, preventing the decline of OH is a crucial component of nursing care for

clients who are seriously ill. Additionally, the provision of nursing care is still reliant on custom, tradition, and the preferences of certain nurses(Tabatabaei *et al.*, 2020).

Dental plaque and the bacterial colonization of pathogens have a direct connection to the microaspiration of germs into the lungs. Natural oropharyngeal bacteria are maintained in the mouth's moist environment, which inhibits the expansion of pathogenic germs. For intubated children, repeated dental care with a tiny head toothbrush is suggested, including twice-daily tooth brushing, which was proven to reduce respiratory tract infections by 69 percent(Gaeckle, Pragman, Pendleton, Baldomero, & Criner, 2020).

According to (Pinna, Campus, Cumbo, Mura, & Milia, 2015), who mentioned that oral tissues lose the streptococci binding sites' protective function because these bacteria die when their homeostatic environment is too moist. The loss of this defense makes the oropharynx vulnerable to pneumonia. It has been demonstrated that regular oral hygiene practices, such as tooth brushing and the use of an antiseptic rinse, can inhibit the development of oropharyngeal infections.

The promotion of good feeding, and comfort, increase children's quality of life and avoid pathogens that can develop in the respiratory system and oropharynx, in the critical care unit it is crucial to provide OH care for children's hygiene and preserve oral mucous membrane. Although in critical care pediatric patients need repeated oral care, nursing staff frequently forget about this(Ebrahim *et al.,* 2021).

However, it was revealed that nurses lacked adequate knowledge of oral care procedures and had difficulty providing it due to time restraints, an insufficiency of oral care kits, children who were

confused or uncooperative, a lack of toothpaste and toothbrushes, low education, and the low status associated with oral care (Philip *et al.,* 2019).

1.2 Importance of Study

Iraq is one of the emerging nations that is experiencing an increase in the incidence and severity of dental caries. According to numerous studies, the introduction of preventive measures like water fluoridation, the introduction of fluoridated toothpaste, mouthwashes, dietary habit changes, and dental education led to an increase in both the prevalence and severity of dental caries in developing countries, while the opposite was observed in industrialized countries(Ali, 2019).

The authors assumed that inadequate awareness and knowledge regarding OH and Periodontal Diseases(PD) in Iraqi communities would have an impact on the population's long-term OH because of the inadequate educational initiatives(Abdulbaqi, Abdulkareem, Alshami, & Milward, 2020).

Children's well-being is substantially impacted by oral hygiene, particularly in the critical care unit, which can avoid poor oral hygiene and dental plaque buildup, pathogenic oropharynx colonization, and greater nosocomial infection rates, especially VAP(Haghighi, Shafipour, Bagheri-Nesami, Baradari, & Charati, 2016). The ICU nurses should understand the importance of oral care in preventing oral and other problems in severely sick children(Türk, Kocaçal Güler, Eşer, & Khorshid, 2012).

Caries may develop as a result of poor OH, permanently damaging teeth. Poor oral care may also lead to potentially fatal consequences like VAP. Complications brought on by poor oral hygiene may result in significant health economic burdens since the

additional costs of complications are exponentially more than the costs associated with complete preventive (Mathur & Dhillon, 2018).

According to (Batiha *et al.,* 2013), overall health is significantly impacted by oral care. Numerous systemic disorders, such as bacteremia heart diseases, endocarditis, and chronic obstructive pulmonary disease, are linked to colonization of the oropharynx. Interest in the connection between OH and systemic illness in ICU has focused on VAP. The VAP results in a longer stay in ICU, higher expenses, also an increase in mortality.

Liberatha, **(**2017), showed that providing for children's OH benefits their comfort, pathogen-reduced risk, maintaining oral mucosa moisture, and hygiene of the mouth. demonstrated that good oral hygiene is successful in reducing the colonization of the oropharynx by pathogenic bacteria, which in turn lowers the risk of VAP and other mouth issues. The maintenance of healthy soft and hard tissues is aided by oral hygiene, which also reduces bacterial growth, helps remove microbial plaque, and builds up and maintains bacterial balance.

The entire treatment of children admitted to the hospital includes oral care as a crucial component. Children are the more dependent age group on the nursing staff to keep their OH, and the more seriously ill they are. Daily oral examinations by nurses are essential for children receiving intensive care since oral illness and mouth trauma may only worsen a person's medical state. Inadequate nourishment may impede all other bodily functions since mouth pain might make it difficult to eat(Alamri, 2022).

Oropharyngeal colonization is linked to VAP ,which is the most common problem in seriously sick children referred to ICUs. The frequency of VAP has been reported to increase from 10% to 65%.

Children with VAP have a 2.2 to 4.3 times higher chance of dying than other children who don't have pneumonia. The risk of this frequent nosocomial infection is decreased by holistic oral care. To determine if oral care helps prevent VAP, researchers conducted a nonrandomized experiment using historical controls. It discover that mouth care reduced the occurrence of VAP in pediatric ICU patients (Lombardo *et al.,* 2021).

Oral care behavior is promoted through a variety of learning, organizational, financial, and environmental supports. Health promotion, conceptually speaking, entails more than just health education. To sustain a healthy lifestyle and enhance the quality of life, health learning includes the dissemination of information and skills. A population's surroundings can also be manipulated to support health as part of the promotion. Children must be motivated to maintain good oral hygiene (Horowitz & Frazier, 2019).

The severity and length of stomatitis can be reduced, as can the consequences of pain, oral and systemic infection, bleeding, and malnutrition. However, holistic oral care can prevent or reduce infections, minimizing additional damage to the mouth tissue. Therefore, OH is the duty of the multidisciplinary team, as well as the child and the family caregiver(Yoon & Steele, 2012).

Modern scientific research is needed to manage oral disorders and promote good oral hygiene. To alter the public's perception of oral disease prevention, it is important to educate them on the factors that contribute to oral diseases, particularly dental caries (Aledhari, Sargeran, Gholami, & Shamshiri, 2017).

1.3 Statement of the Problem

"Knowledge, Perceptions and Practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children."

Implementing oral hygiene protocols in ICUs to improve oral health and reduce VAP rates. Also, previous study highlights the role of nursing practices in hospitals, particularly in the context of critically ill children. However, there is a need for further research in Babylon province to assess the knowledge, practices, and perceptions of ICU nurses regarding mouth care and to determine the prevalence of VAP in Babylon province ICUs.

1.4 Study Objectives

1. To assess the knowledge of nurses in delivering holistic oral health care to critically ill children.
2. To assess perceptions of nurses for oral health care and their ranking of oral care to children with critically ill.
3. To assess the practices of nurses in providing holistic OH treatment to children who are critically sick.
4. To determine the relationship between nurses' knowledge, perception, and practice with demographic characteristics such as (age, sex, education qualification, years of experience, ICU training, ICU experience).

1.5 Definition of Basic Terms

[1] Holistic oral health care:

Theoretical definition: "Holistic oral care refers to the practice of keeping the mouth clean and healthy by suctioning, brushing, rinsing, and moistening to prevent a dry mouth and the build-up of secretions and plaque that can lead to oral infections

which increase the risk for pneumonia such as VAP and hospital-acquired pneumonia."(Hua *et al.*, 2016)

Operational definition: avoidance of dry mouth, plaque formation, and secretion buildup, which can lead to oral infections and raise the risk of pneumonia, including VAP and pneumonia acquired in a hospital, one should rinse, suction, brush, and moisten the mouth.

[2] Knowledge:

Theoretical definition: "Knowledge is the information, understanding, and skills that you gain through education or experience." (*Oxford South African Secondary School Dictionary*, 2006)

Operational definition: The value and benefits of full mouth healthcare for very sick children are investigated in the current study.

[3] Practice:

Theoretical definition: "Practice is a way of doing something usual or expected way in a particular situation." (*Oxford South African Secondary School Dictionary*, 2006)

Operational definition: Practice in this study refers to providing extensive oral care to critically sick individuals regularly.

[4] Perception:

Theoretical definition: "Perception is the way you notice things, especially with the senses. It's the ability to understand the true nature of something." (*Oxford South African Secondary School Dictionary*, 2006)

Operational definition: In this study, perception refers to the child's self of the value of holistic oral care for critically sick children and their aware grasp of the ranking of oral care.

Chapter Two
Literature Review

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Systematic Process to Review of Literature

A literature review was done using (PubMed and Google Scholar, through searching of related resources as the primary search begins in the year 2022 and ends in the year 2023; as presented below.

2.2 Pediatric Intensive Care Unit

Children in ICUs are at risk for neurological consequences, which can be anticipated early through the course of illness and complications (such as sepsis). As the frequency of neurological problems rises, so do children's mortality, morbidity, and length of ICU stays (Shokoh, Mousavi Mirzaei, Khalesi, & Ganjifard, 2022).

Children who are critically sick are a diverse group, ranging from infancy to adolescence. Many of these children are morbidly healthy, while others are experiencing an acute episode due to a preexisting disease. Some critically sick children require rescue therapy in the form of intricate and invasive respiratory, circulatory, and renal support, while others only need postoperative monitoring(Ullman & Letton, 2014).

Miranda, De Paula, De Castro Piau, Costa, & Bezerra, (2016), emphasize if sufficient support is not provided, the health problems of critically ill children in the ICU may worsen. This is because children in ICUs need to practice good oral hygiene since it helps to preserve the health of their stomatognathic systems. Furthermore, children in ICUs frequently have poor oral hygiene. The production of biofilm may also be accelerated by changes in salivary flow brought on by drugs that aggravate and unbalance the oral environment.

Furthermore, children in Pediatric Intensive Care Units (PICUs) regularly get infusions and medications (including sedatives, diuretics, anticonvulsants, anticholinergics, and inotropes) that can result in or exacerbate xerostomia, a condition in which salivary production decreases and a dry mouth develops. Xerostomia is more likely to occur when the sympathetic nervous system is stimulated and when a person is dehydrated(Johnstone, Spence, & Koziol-McClain, 2010).

In ICUs, oral hygiene is mostly handled by nursing technicians as the promotion of OH by nurses and other medical personnel. However, children in intensive care need to pay close attention to daily care and labor tasks (Miranda *et al.,* 2016). (Hillier *et al.*, 2013), some nurses were found to misunderstand oral care and regard it as a comfort measure rather than a way to lower VAP. They assumed that the nursing staff's poor adherence to oral hygiene recommendations was caused by this lack of understanding. Hillier *et al.,* (2013), focus on reducing the incidence of VAP, the Centers for Disease Control and Prevention now recommend developing an oral care regimen.

2.3 Oral Care in Pediatric Intensive Care Unit

Although oral care is a crucial portion of nursing in critical care, it frequently receives less attention than other necessary procedures. Recent research suggests that oral pathogen colonization may contribute to VAP. Oral hygiene may not only be a comfort measure but also a significant VAP prevention strategy(Said, 2012).

Additionally, the patient who has been intubated orally must maintain an open mouth for long periods. Children who are not intubated are frequently subjected to oral suctioning and high-flow face oxygen, which dries out the mucosa. This makes providing high-

quality oral care to maintain a clean, humid environment essential yet challenging(Ullman & Letton, 2014).

Chipps *et al.,* (2016), exhibited that in the critical care unit, oral care is a regular procedure for those who were intubated, to avoid hospital-associated illnesses. Children's risk of infection after extubation and transfer persists, although oral hygiene receives less attention. There aren't many studies that look at how oral care affects recently extubated, critically sick kids.

As stated by (Goss, Coty, & Myers, 2011), declared oral care is a nursing intervention in the ICU, that has been demonstrated to lower the incidence of hospital-associated infections like VAP. The research does, however, show that critical nurses are not delivering oral care in line with Center for Disease Control and Prevention standards, which suggest the following as an ideal practice: Patients undergoing heart surgery go through the perioperative period, (a) oropharyngeal decontamination, (b) oropharyngeal cleaning, (c) use of oral chlorhexidine gluconate (0.12 percent) rinse, and (d) use of an antiseptic agent as an option.

Despite studies demonstrating nurses' considerable interest in learning more about VAP prevention, there is a knowledge gap in this area. Hospitals used a variety of mouth care interventions, using frequency. There are still many obstacles limiting ICU nurses from providing oral care, despite the significance of good oral care in reducing VAP. As a result of the lack of information on the procedures, standards, and particular obstacles to oral care in Croatian ICUs(Jordan *et al.,* 2014).

One of the most common problems among children who use MV is poor OH. For a variety of reasons, including malnutrition, the nasogastric tube and tracheal tube that are inserted in children's mouths

for medical treatment, decreased salivation brought on by fever, diarrhea, and burns, and decreased fluid intake, children acquire OH problems rapidly in ICUs (Atashi, Yousefi, Mahjobipoor, Bekhradi, & Yazdannik, 2018).

Nurses in critical care units have a key role in the prevention or decrease of mucositis and enhancing the quality of life for children since they have a responsibility as health care professionals to frequently follow up with children and offer oral care. There are currently no accepted, widely utilized standards of care or therapy for managing or preventing mucositis. Nursing professionals are required to adhere to evidence-based clinical recommendations to provide quality patient care and uphold nursing practice standards. Several studies are needed to identify the ideal oral hygiene guidelines for children receiving critical care (Düzkaya *et al.*, 2017).

Although nurses are aware that oral hygiene is a crucial component of treatment in ICUs, there is less understanding of the connection between oral hygiene and the decrease in oropharyngeal colonization with harmful organisms. Examining therapies and techniques to enhance children's outcomes is crucial given that ICU children are more susceptible to nosocomial infections. in ICUs, a significant cause of death from nosocomial infection is VAP. The mortality rate for VAP is between 24 and 50 percent, and it affects 9 to 28% of Kids getting MV. As well as several different techniques, such as subglottal suctioning, maintaining oral care is seen as a crucial approach for enhancing clinical results (Badovinac, Plančak, & others, 2014).

Oral issues might result from the medical care given in the ICU. Oral intubation causes mucositis, and xerostomia (dry mouth), and the

likelihood of oral lesions appearing in ventilated children is increased by the use of ETT and tape, mouth supports, and suction equipment. The ETT may make it difficult to see the mouth and restrict access to oral care (Labeau & Blot, 2011).

Children in hospitals are still critically unwell after being weaned off the ventilator and extubated, and they are still at risk for a variety of issues related to poor oral hygiene. The most prevalent adverse event among children moved out of the ICU is hospital-acquired infections(Chipps *et al.,* 2016).

2.4 Oral Health Care

The definition of OH was given as the state of being in which people may eat, talk, and interact with others without experiencing active illness, discomfort, or humiliation and that also adds to overall well-being (Kragt, Dhamo, Wolvius, & Ongkosuwito, 2016).

Especially in children receiving intubation in an ICU, oral infections can be a possible source of infection leading to many systemic disorders ICU. When a child is intubated, the ETT in the mouth can act as a point of entry and colonization for the germs that cause VAP, one of the leading causes of pediatric ICU mortality. Providing oral care interventions to preserve OH and prevent infection is a crucial duty for nurses as caregivers(Anggraeni, Hayati, & Nur'aeni, 2020).

It was mentioned by (Salamone, Yacoub, Mahoney, & Edward, 2013; Yazdani, Esfahani, & Kharazifard, 2018), that maintaining excellent OH is crucial for kids in hospitals since it helps the patients' well-being, healing, and nutritional needs and requires the help of the nursing staff. Clear speech and communication are made easier by

having a clean, healthy mouth, which also allows for fluid and nutrient intake, and improves communication and quality of life.

In addition to affecting a child's academic achievement, poor OH may also have an impact on the child's self-esteem and future success. Additionally, children with worse OH were more likely to have dental discomfort, miss school, and exhibit poor academic performance. More than 50 million school hours might be lost each year due to oral illness. Therefore, while thinking about community activities in Saudi Arabia, the OH of the children should be given top importance (Hayes, Azarpazhooh, Dempster, Ravaghi, & Quiñonez, 2013; Ruff, Senthi, Susser, & Tsutsui, 2019).

As long as medicine and dentistry are kept apart, the serious medical and financial effects of childhood oral illness may go unnoticed. To supplement current dental services, must place primary pediatric care a strong emphasis on oral care preventative due to the contagious nature of tooth decay, its start early, and the possibility of therapies early. However, a lot of doctors lack crucial information to support OH (Moffat, Foster Page, & Thomson, 2017). (Sogi *et al.,* 2016), young children are particularly vulnerable to oral illnesses, which may be avoided if parents and other caregivers were motivated to promote OH in the right ways and were well informed about the conditions' causes and remedies.

Since tooth decay is a preventable condition, research has shown that moms or other primary caregivers are generally in charge of teaching their kids good hygiene habits. Young children's dental caries can be prevented in large part by carers(Albino & Tiwari, 2016).

Five essential messages are given to moms to encourage excellent OH for their children's present and future:

1. Eat less of the following: beverages, confections, and other foods high in free sugars should be avoided. To determine the rate of tooth decay, it is vital to consider how often and how much sugar is ingested. Sugars should not be ingested between meals; they should be a component of a meal. The absence of added sugars in snacks and beverages should be the goal. To assist prevent tooth erosion, it is best to refrain from consuming acidic beverages regularly (such as fruit juice, squashes, or carbonated beverages) (Farajian, Risvas, Panagiotakos, & Zampelas, 2016).

2. Brushing teeth thoroughly with fluoride toothpaste should be done at least once a day for oral hygiene. It has been proven that daily brushing with fluoride toothpaste with 1000–1450 ppm of fluoride is an efficient method of avoiding caries. Regularly using an effective toothbrush will also reduce plaque buildup and aid in preventing periodontal disease. It is ideal to utilize interdental brushes and other oral hygiene tools after a dentist, therapist, or hygienist has demonstrated how to use them. There is some evidence to suggest that using fluoride toothpaste twice daily is more helpful for preventing cavities than using it only once daily. The advantage of twice-daily thorough brushing of the gum line and all tooth surfaces outweighs that of more frequent, superficial brushing. To make it simple and comfortable to clean all tooth surfaces and gum margins, a tiny toothbrush with a soft to medium texture should be used (Farajian *et al.,* 2016).

3 .Fluoridation is a safe, effective public health intervention that is applied to milk, salt, and water sources. Communities with a greater prevalence of dental caries should receive more water fluoride. Ineffective fluoride delivery methods can be replaced with salt and milk. Where it isn't practical, alternative fluoride measures should be

used, such as community- and school-based initiatives to encourage the use of fluoride toothpaste (Farajian *et al.,* 2016).

4 .Dental attendance: routinely mouth checked. Everyone should have an oral checkup regularly, regardless of age or dental health, to ensure that oral illnesses including cancer and other conditions of the oral mucosa are identified early and treated (Farajian *et al.,* 2016).

Promoting oral hygiene in hospitalized children is a key objective of oral care to avoid or limit bacterial colonization of the mouth, oropharynx, and teeth, which might result in illnesses linked to hospitals (Batiha *et al.*, 2013; Goss *et al.*, 2011).

2.5 Child Oral Health Care

Infancy, childhood, and adolescence all require OH to be promoted as a key aspect of overall health. Early childhood is the ideal time to start teaching children good oral hygiene practices and preventing dental cavities. For decades, dental caries has been suggested as a serious but avoidable health issue for kids (Clark *et al.*, 2016).

According to (Dye, Thornton-Evans, Li, & Iafolla, 2015), who stated as compared to other preschoolers, low-income children are twice as likely to acquire dental decay and are only half as likely to attend the dentist. ECC is a condition that may be prevented, and nurses are crucial in teaching kids and parents about practicing dental hygiene from the time the first tooth erupts and drinking fluoridated water.

As indicated by (Maharani, Adiatman, Rahardjo, Burnside, & Pine, 2017), it has been acknowledged that frequent use of sweetened foods and beverages has a crucial role in the development of caries. Dental practitioners must collaborate closely with other health care providers to help families reduce sugar consumption and hence reduce

the occurrence of childhood caries. Using fluoride-containing toothpaste to brush your teeth twice a day can tip the oral balance in favor of remineralization.

Riggs, Rajan, Casey, & Kilpatrick,(2017), discovered that dental caries, which affects 60 to 90 percent of children worldwide, is one of the most common childhood chronic illnesses. Untreated dental caries, which affects functions like speaking, eating, and sleeping as well as school performance like absenteeism, concentration, and accomplishment, is a sign of poor OH. Sepsis is also a result of persistent pain, infection, and other diseases. Additionally, children who have poor dental health may experience psychological effects such as diminished self-esteem and confidence, which can lead to social exclusion.

The most recent Bali Declaration, adopted at the 7th Asian Conference of OH Promotion for School Children, stated that dental caries, in particular, are major public health concerns in the Asian region and that children's disease burden has a significant negative impact on their health in terms of growth, as well as emotional and social well-being. Untreated tooth decay in kids results in toothaches, generalized discomfort, and oral sepsis, which restricts kids' meal options, prevents them from attending school and prevents parents from working during such days (Maharani *et al.,* 2017).

The family unit is crucial to children's dental health. According to research, consistent family routines and practices that encourage excellent OH and the development of favorable habits early in life are crucial for boosting children's OH. The degree to which other family members, particularly young children, engage in actions linked

to OH is significantly influenced by parental behaviors, attitudes, knowledge, perceptions, and self-efficacy (Virgo-Milton *et al.,* 2016).

2.6 Oral Care Assessment

As most nurses lack formal training in the evaluation of the mouth state of children in the ICU, the mouth examination is crucial in determining a child's OH. Such an evaluation attempts to highlight the significance of maintaining a high level of oral hygiene offers a foundation for evaluating oral care measures and may lessen the frequency or severity of oral problems (Moustafa *et al.*, 2016; Organization, 2013).

Children who are critically sick, regular oral assessments, tailored mouth care, and the application of standardized mouth care guidelines that includes tried-and-true modalities are stated to be essential for providing the best dental care possible. Therefore, the objectives of oral care interventions in critically sick children should include plaque removal, promotion of salivary flow, and moisturization of the oral mucosa(Organization, 2013).

According to (Perry, Iida, Patton, & Wilder, 2015), specified that nurses have not had formal training in evaluating the OH of children in ICUs and that oral care regimens for these kids are not frequently available. To increase nurses' knowledge and eventually their capacity to deliver better oral care, it has been suggested that dental hygienists participate in nursing education programs. The OH of children in the ICU should be improved by bedside nurses implementing a well-developed oral care strategy.

Additionally, nurses and other healthcare providers must get frequent in-service training on the procedures and policies that support children's OH. Oral care training has, however, gotten less emphasis

than other nursing services. It's vital to highlight that the training in oral care does not address the methods for evaluating OH, how they impact systemic health, or how they could affect hospitalized patients' results. It is therefore usually challenging for nurses to give sufficient oral care (Dagnew *et al.*, 2020).

The first step in providing children with good oral care is to evaluate their unique needs. Assessment of the oropharynx at the systemic level may shield against more severe infections. A method designed by Treloar and Stechmiller for the evaluation of patients' oropharynx who are being intubated orally includes measurements of plaque index, saliva flow, lip color, gingival index, mucosal color, and tongue color, (Labeau & Blot, 2011).

The mouth cavity has been adequately and thoroughly assessed so can oral care be successful(Labeau & Blot, 2014). In addition to (Abidia, 2021; Nascimento, Moysés, Werneck, Gabardo, & Moysés, 2019) , the crucial equipment that may be used for an oral assessment is present in ICUs, but it is frequently not utilized. This might be a result of the bedside nurse's lack of time or expertise, as well as the lack of support for nurses in recognizing specific issues like candida or herpes simplex infections. The nurse's oral care knowledge and abilities may be enhanced by working together with dental hygienists. Although they have clinical experience in practical oral care and the prevention of oral illness, dental hygienists have not traditionally been used to care for ICU patients or to counsel the ICU nursing staff.

Stacy Leigh Pettit, (2010); Vajawat & Deepika, (2012), one area of nursing practice that is still largely unexplored is the evaluation of children's OH status and related care. Few children receive routine, formal, oral examinations and treatment, with notable exclusions of

high-risk patient groups, such as those receiving chemotherapy in neonatal, critical care, and terminal care units. To disclose oral illness symptoms, systemic disease symptoms, pharmacological side effects, or trauma symptoms, such nurse-performed mouth hygiene interventions would be made available to all children, whether in the hospital or the community. They might also offer crucial diagnostic indications.

Every patient in the ICU has to have their mouth routinely examined as part of routine observation. To establish a baseline, a visual and tactile examination of the child's mouth is required. Such evaluation should be conducted methodically. Checking for moisture, color, texture, debris, and lesions in the buccal cavity, by using a flashlight and a tongue depressor or gloved finger. The gums often have a consistent pink tint. However, the gingiva becomes irritated and inflamed if plaque accumulates on the teeth(Mehta *et al.,* 2014).

Because they are present at children's bedsides 24 hours a day, nurses are best equipped to give this efficient oral care. Even while nurses are incredibly crucial for making the right judgments about patient care and are experienced and informed, they also need to follow a set process to examine the mouth cavity and provide necessary mouth care. Additionally, the hospital has to have the fundamental tools necessary for providing high-quality oral care. In South African research, 81 percent of nurses said they would require improved resources to give oral care, and 52.1% said they had no oral care procedure in place (Dagnew *et al.*, 2020).

The majority of clinical dental indices are used in traditional ways of assessing OH, which primarily concentrates on the absence or presence of oral disorders without taking into account how individuals

feel about their mouths or, for instance, their capacity to chew and enjoy food. To assess the emotional effects and physical of mouth health, QoL measures were created. These calculate the effect of dental and mouth health on everyday life and well-being as well as the results of clinical care, such as the efficiency of therapeutic strategies . Children were taken into account as well because of the wide range of oral and orofacial problems that might influence functioning, well-being, and quality of life. These include somewhat uncommon diseases like cleft lip and/or palate and craniofacial abnormalities as well as more prevalent ones like dental caries and malocclusions (Li, Zhi, Zhou, Qiu, & Lin, 2015).

The most recent research cites specific elements for complete oral care for critically sick children to support this suggestion. Regular teeth brushing, oral cleaning every two to four hours, as necessary, routine suctioning of the mouth and throat, use of a water-based mouth moisturizer, and use of an alcohol-free antiseptic oral rinse are all recommended measures(Goss *et al.,* 2011).

2.7 Nursing Diagnosis for Pediatric ICU Oral Care

Some nursing diagnoses related to oral care in the PICU according to NANDA-I in order to maintain the priority, along with their rationales:

"Risk for aspiration related to decreased oral control or impaired swallowing, as evidenced by a history of aspiration or choking during oral intake." Children with neurological or developmental conditions, such as cerebral palsy or Down syndrome, are at risk of aspiration due to their impaired ability to control their swallowing and oral secretions. This can lead to respiratory complications during their stay in the PICU. (Michetti & Caserta, 2021).

"Risk for airway obstruction related to dental trauma or oral edema, as evidenced by respiratory distress or difficulty breathing. Children in the PICU who have sustained trauma to the face or mouth or who have swelling in the mouth or throat may be at risk for airway obstruction, which can lead to respiratory arrest if not managed promptly (NANDA, 2021).

Risk for mucosal injury related to frequent oral suctioning or aggressive oral care, as evidenced by redness, swelling, or bleeding in the mouth. Children in the PICU who require mechanical ventilation or have increased secretions may require frequent oral suctioning, which can lead to mucosal injury if not performed correctly. In addition, other oral care interventions such as toothbrushing or swabbing can also lead to mucosal injury if performed too vigorously (Petersen, Weldon, & Ostovar-Kermani, 2019).

Risk for oral infection related to poor oral hygiene or immunosuppression, as evidenced by redness, swelling, or exudate in the mouth. Children in the PICU who have poor oral hygiene or who are unable to perform oral care may be at risk for oral infections such as gingivitis, periodontitis, or dental caries. These infections can lead to pain, inflammation, and other complications (Chokshi *et al.*, 2019).

Risk for dehydration related to inability to consume adequate fluids orally, as evidenced by decreased urine output or dry mucous membranes. Children in the PICU who are unable to consume adequate amounts of fluids orally, such as those who are on mechanical ventilation or who have gastrointestinal issues, may be at risk for dehydration. Dehydration can lead to complications such as electrolyte imbalances and decreased organ perfusion (Fleming, McCarthy, Wolsey, & Rees, 2020).

Risk for oral trauma related to uncontrolled movements, as evidenced by oral bleeding or pain. Children in the PICU who have seizures or other movement disorders may be at risk for oral trauma due to uncontrolled movements. Oral trauma can lead to pain, bleeding, and other complications (Clark *et al.*, 2020).

Risk for halitosis related to poor oral hygiene or medication side effects, as evidenced by bad breath. Children in the PICU may experience halitosis due to poor oral hygiene, the use of medications that cause dry mouth or altered taste, or other factors. While halitosis may not be a critical issue, it can impact a child's quality of life and social interactions (Jin *et al.*, 2018).

Risk for dental caries related to prolonged use of sweetened medications or tube feeding, as evidenced by tooth decay or sensitivity. Children in the PICU who receive prolonged use of sweetened medications or tube feeding may be at risk for dental caries, which can lead to pain, tooth loss, and other complications (Soliman, Aly, Abdallah, & Ali, 2017).

Risk for oral candidiasis related to immunosuppression or prolonged antibiotic use, as evidenced by white patches or lesions in the mouth. Children in the PICU who are immunosuppressed or receive prolonged antibiotic use may be at risk for oral candidiasis, a fungal infection that can cause discomfort and lead to other complications (Soleimani, Ebrahimi, Ebrahimi, & Nakhjavan-Shahraki, 2019).

Risk for impaired communication related to oral or facial trauma, as evidenced by difficulty speaking or expressing oneself. Children in the PICU who have oral or facial trauma may experience difficulty speaking or expressing themselves, which can impact their emotional well-being (NANDA, 2021).

2.8 Children's Oral Care Barriers in Intensive Care Unit

Children who are in critical condition are frequently intubated, have orogastric or nasogastric tubes in place, occasionally have high-flow oxygen therapy, and frequently need suctioning, which prohibits them from performing daily tasks like eating and drinking. Most children in an ICU are unable to undertake their regular dental hygiene regimen to remove plaque, either mechanically or chemically, and thus are dependent on nursing personnel to help them with this crucial task. But given the requirements of children and the complexity of their treatments, this presents a challenge for the nurses(Kim *et al.,* 2014).

Children who are mechanically ventilated, giving them oral care is very crucial. For children who have had an intubation, it is difficult to eliminate bacterial plaque. There are some practical restrictions on mouth hygiene care in ICU: (i) risk of unexpected removal or mispositioning of the ETT that may occur while providing oral hygiene care; (ii) assessment of the oral cavity is limited due to the ETT and oral airway's presence; (iii) inadequate equipment and (iv) time constraints on health professionals. For these causes, evaluating the state of a child's OH and providing oral hygiene treatment in an ICU setting while they are intubated is difficult. As a result, research on efficient and secure treatments for children who have been intubated is required (Jang & Shin, 2016).

Aboalizm & Kasemy, (2016), showed several challenges have been noted, such as a lack of knowledge, apprehension about displacing the ETT, and even a shortage of oral care supplies. In a study, Schwartz and Powell identified many obstacles to nurses providing proper oral care to critically ill children, including fear of aspiration, apprehension about increasing patient discomfort, nurse

time restraints, ignorance of proper oral assessment and care, and the belief that oral care is not a top priority for critically ill children.

When some aspects of care, such as oral hygiene, are done improperly, it may be because people lack the information, don't understand it, don't believe it, can't transfer their knowledge from theory to practice, or are hesitant to make changes to how care is delivered(Çolak, Dülgergil, Dalli, & Hamidi, 2013).

Findings indicated that barriers to the provision of appropriate OH care in ICUs in the United States of America were a lack of information about oral care, a shortage of nurses, and attitudes of nurses toward oral care(Sarefho, 2011).

Confirmed by (Florndez *et al.,* 2019), that young children generally do not prioritize frequent dental appointments, maybe related to conflicting medical requirements or because OH is not appreciated by both medical professionals and caretakers. Additionally, health issues may cause a spike in dental appointment cancellations and a delay in the provision of care. Longer dentist appointments and transportation issues can also be a factor.

The lack of equipment, standard operating procedures, staff shortages, and nurses' lack of understanding were the primary causes of improper oral care in children undergoing MV. A recent study in Kerman, Iran, found that the nurses did not pay much attention to mouth care and thought it was difficult and uncomfortable nursing care. Another study carried out in three cities in Iran's ICUs revealed that nurses placed oral care as the seventh degree of priority about other forms of treatment. According to this survey, just 29% of nurses have oral care training. In a different research, nurses said that nursing

education didn't improve their capacity to give proper oral care (Hajibagheri & Azizi Fini, 2012).

Additionally crucial is having enough time to give oral care. Many nurses have stated that they feel overworked, which is a major obstacle to providing high-quality patient care, which may be related to the present nursing shortage in the United States of America, which started in ICUs and operating rooms. Oral hygiene is sometimes the initial procedure that was postponed by nurses when they are overworked and have limited time. Findings from an investigation on the connection between rates of nosocomial infections, overpopulation, and nurse staffing revealed this factors impacting nursing personnel harmed patient outcomes(Abd Elbaky, Youssef, El-Soussi, & Abd El-Aziz, 2015).

Previous research found that having staff training, resources available, updated procedures, staff motivation and compliance, additional nursing staff, and collaboration would all help to execute evidence-based recommendations to avoid VAP. As well as cost and resource scarcity are obstacles to the application of evidence-based recommendations for VAP avoidance. The possibility of adherence to advised practices is increased and implementation challenges may be removed if people are aware of their significance. If the nurse lacks sufficient understanding of techniques that have been demonstrated to lower VAP rates, she can lack the required confidence to act and make judgments on such activities (Ahmed & Abosamra, 2015).

Unfortunately, oral care is not usually given first attention in a busy critical care situation. Contextual variables (such as time constraints) and nurse traits are obstacles to good hygiene procedures (e.g., lower education levels). However, there is frequently conceptual

and pragmatic contradiction in the literature's handling of sanitary issues. For instance, critical care nurses consider oral hygiene as difficult, although it is frequently referred to as basic care (Dale, Angus, Sinuff, & Mykhalovskiy, 2013).

However, despite the obstacles that had been noted, all of these writers fervently supported oral care as an essential VAP prevention strategy in critically sick children(Florndez *et al.,* 2019).

2.9 Caries Risk Assessment

A key component of child-centered caries care is Caries Risk Assessment (CRA). Today's treatment plans should contain the CRA to help the physician decide on the best course of action, whether to schedule follow-up appointments or other diagnostic tests and to help them decide whether to do so. High validity and dependability are essential qualities for a perfect CRA system, as well as usability and cost-effectiveness (Tellez, Gomez, Pretty, Ellwood, & Ismail, 2013).

A newborn or toddler's personalized risk assessment will enable parents, caregivers, and healthcare professionals to recognize and comprehend the risk factors for Early Childhood Caries (ECC) and to work together to create a proactive preventive care plan. The decision-making process of the dentist to design therapy and preventative guidelines for treating oral diseases in children and individuals who are considered to be at risk is guided by the particular information obtained through a systematic assessment of caries risk. avoidance of dental treatment. The CRA should be completed as soon as feasible, ideally, before the development of the disease, to ensure the optimal management and outcomes for excellent dental health(Ramos-Gomez, Crystal, Ng, Tinanoff, & Featherstone, 2010; Ramos-Gomez, Crystal, Domejean, & Featherstone, 2012).

According to (Okunseri, Gonzalez, & Hodgson, 2015), they stated that the risk is the likelihood that a negative occurrence might happen, as the caries risk evaluations are just as crucial as a precise illness diagnosis. The American Academy of Pediatric Dentistry's (AAPD) recommendations on CRA for infants, children, and adolescents view risk assessment as a part of the standard of care for treating children. It is believed that programs that recently identified children at risk for dental caries would improve the outcomes for the population by significantly reducing some of the risk factors. For the general decrease in caries incidence and for children to have great OH, medical colleagues must be educated in tooth decay risk evaluation, prevention, and referral.

Jürgensen & Petersen, (2013), emphasized that dental decay, which affects 60%-90% of children worldwide, and gingivitis are the two most prevalent oral disorders in children. Dental caries progress and accumulate over time, increasing in complexity. If left untreated, it may have an impact on a child's quality of life, including their ability to chew and consume, the foods they select, how they seem, and how they communicate. Their ability to focus and participate in class might be affected by tooth or mouth pain, which impedes not just their play and growth but prevents them from receiving the whole benefits of education.

A variety of biological and behavioral risk factors contribute to the genesis of dental caries, a common pediatric illness. Streptococcus mutans infection in early childhood increases the risk of caries development, however other factors, such as excellent oral hygiene and a noncariogenic diet, can greatly mitigate this risk. Therefore, adherence to important behavioral cues, such as twice-daily teeth brushing with fluoride toothpaste starting at a young age and lowering

the frequency of consuming sugary foods and drinks, is the primary strategy for preventing juvenile dental caries(Duijster, de Jong-Lenters, Verrips, & Loveren, 2015).

Young children who have dental caries experience unnecessary suffering and costs. Furthermore, oral infectious infections that might hinder proper responses to feeding protocols are more likely to affect kids who have craniofacial issues, neurological disorders, or cognitive impairments. The development of tooth decay is directly affected by nutrition and diet. Plans for dental preventive care are developed to maintain a balance between the dynamic demineralization and remineralization of the tooth surface. The plan includes measures for managing cariogenic bacteria, fluoride therapy, fissure sealants, and dietary counseling(Shenoy, Souza, Kundabala, Jain, & Suprabha, 2022).

Early preventative treatments, enduring at-home care, and proper periodic dental checkups, dental caries is a chronic, contagious condition that may be prevented. The AAPD places a strong emphasis on the necessity of starting early professional mouth care and continuing through adolescence and beyond. Pediatricians' participation has aided in the promotion of OH and caries prevention, especially for young children who would not otherwise be as willing to visit a dentist. Additionally, children's teeth are given a fluoride varnish treatment. As well, physicians need to give instructions on how to carry out tasks including dental screening, proactive advice, and referral. before surgical intervention, early identification, medicinal intervention, and lesion therapy(Lemos, Myaki, Walter, & Zuanon, 2014).

Once children are given sweets as snacks or when infants are put to bed with formula bottles or sucking cups filled with juice, high sugar consumption is a substantial contributor to dental caries. However, it showed that 100 out of 139 women acknowledged feeding their kids candy to praise excellent conduct, calm the child, or for no particular reason (Drummond, Meldrum, & Boyd, 2013).

The ECC can be avoided by effectively informing the primary caregivers of newborn children about this condition and inspiring them to take part in effective OH promotion activities. According to research, a lot of moms are unaware of the best ways to protect their children against dental caries (da Fonseca & Avenetti, 2017).

2.10 Dental Caries Prevention

According to (Renzaho & de Silva-Sanigorski, 2013), who itemized poor OH affects a child's growth, cognitive development, and speech by obstructing comfort, nutrition, focus, and school involvement. It also has a socially stigmatizing effect on teenagers, which affects social acceptability. Even though children's dental health has improved over the past 30 years, certain communities are still experiencing growing inequality. Additionally, caries rates are greater among those who are less socially advantaged, which is consistent with the broader socioeconomic gradient in general health.

Dental caries, sometimes referred to as tooth decay, and periodontal disease, also referred to as gum disease, are the two most prevalent oral disorders. Frequent consumption of sugars—primarily found in sweets, snacks, and soft drinks—acts on the layer of bacteria that forms on the tooth surface, generally known as plaque but technically referred to as a biofilm, and is the major contributor to

dental caries. The biofilm bacteria quickly turn the sugars into acid, and the accumulation of acid destroys the tooth surface to cause a cavity, which, if left untreated, would eventually destroy the tooth and cause pain and illness (Naidu, Nunn, & Kelly, 2013; S. Singh, Shivhare, & Sakarkar, 2013).

The ECC is a condition when one or more primary teeth of a kid under the age of six have decayed (cavitated lesions or nonactivated), missing (due to caries), or covered tooth surfaces. If a youngster under the age of three has severe ECC, the teeth's smooth surfaces will be impacted. Early and preventative dental treatment helps reduce the burden of dental disease while also laying the groundwork for a lifetime of education for prevention and mouth health care by creating a dental home. For prevention and early diagnosis, and addressing tooth decay as well as for the establishment, and maintenance of excellent general health and OH, routine or preventative dental visits are crucial(Alazmah & others, 2017).

Early-life dental problems can significantly affect young children's OH as well as their quality of life and that of their families. They also entail long-term dangers with permanent dentition(Douglass & Clark, 2015).

A simple, extremely effective method for avoiding ECC is parent-supervised twice-daily brushing with fluoride toothpaste. Sadly, young kids seldom get the help they need to adopt this crucial health practice. Even among parents who understand the value of brushing, many allow their kids to start brushing on their own at an early age rather than continuing to help them with parented toothbrushing (Tarabaih, 2016).

Interventions to encourage frequent brushing have traditionally concentrated on improving children's brushing abilities and raising caregiver understanding of the value of brushing and early childhood dental health. However, there hasn't been much focus on the techniques parents employ when cleaning their children's teeth to control behavior issues and promote cooperation. Therefore, parents may find it difficult to assist their kids adopt this practice even when they are motivated and informed on the significance of early OH (Naidu & Nunn, 2020).

Numerous studies on preschool-aged Thai children have revealed that the prevalence of ECC was significantly influenced by a variety of behavioral problems involving both parents and children, including poor dietary practices and irregular tooth-brushing habits that parents instilled in their children. Other behavioral problems included sleeping with bottle-fed infants for up to 30 months and breastfeeding infants to sleep. In other systematic studies, it was shown that sociodemographic variables, such as poor family income, inadequate parent education, and young maternal age, were significantly associated with both the prevalence and incidence of ECC(Sitthisettapong, Tasanarong, & Phantumvanit, 2021).

Isong, Dantas, Gerard, & Kuhlthau, (2014), mentioned that children's unmet medical needs are most frequently related to dental care. Those with unique healthcare needs, no health insurance, or poor or minority households are more likely to experience OH issues and have difficulty accessing care. More than 52% of children are at risk for oral illness due to these causes. Parental reports and access measurements show that there are unmet OH requirements, but they do not provide information on the specifics of those needs for children. There are particular knowledge gaps in the treatment of newborns, young children, and people with special healthcare requirements, as

well as in the training of pediatricians and other child-care practitioners in OH promotion and disease prevention.

Programs for Continuing Professional Development (CPD) are a crucial and effective way to improve the way oral hygiene is cared for in hospital settings. These initiatives promote OH and offer dental health education. The use of Web-based and Computer-Aided Learning has been widely used in CPD programs for healthcare providers due to its ability to implement programs across large geographic areas at relatively low costs and due to the reported effectiveness of such programs in changing healthcare practices and health behavior (Malik, Yatim, Lam, Jin, & McGrath, 2017).

2.11 Nurse Knowledge of Oral Care in Pediatric Intensive Care Unit

Marshall *et al.,* (2017), showed that critically ill children are placed in ICUs, which are highly specialized facilities. These kids need constant supervision from staff members who are capable of handling difficult circumstances. Nurses are regarded as the first line of defense in avoiding bacterial colonization of the oropharynx through the provision of thorough oral care. Critically sick children are dependent on nurses for their basic personal and oral care needs.

Traditionally, nursing has been viewed as a practical profession requiring little academic background. As a result, the teaching of processes was emphasized in nursing education. In a review of nurse training programs, it was discovered that the techniques taught to nurses for the care of the mouth had remained mostly unaltered over a long time (Morris *et al.,* 2011). (Bonetti *et al.,*2015), however, research indicates that some nurses may not be familiar with OH

evaluation and hygiene procedures, and they may believe that oral hygiene treatment is of low priority.

Pettit, Mccann, Schneiderman, Farren, & Campbell, (2012), found there hasn't been a holistic evaluation of nurses' knowledge, attitudes, and practices, even though the literature has some information regarding nurse education and the knowledge and practices of particular hospital nursing departments. The issue of whether this crucial requirement is being supplied in hospitals has to be addressed since it is unknown if nurses are providing oral care and if they have the skills necessary to do so.

Despite the several oral hygiene regimens that have been recommended for avoiding VAP, further research is required to update current protocols and enhance results in children who are mechanically ventilated. Additionally, many ICU nurses don't fully understand the connection between oral hygiene and VAP(Gomaa, Wahba, & El-Bayoumi, 2017).

Previous studies have shown that nurses all around the world have a good attitude about providing hospitalized children with oral care. Their understanding of OH, however, was limited and rife with misinformation. Other research concluded that oral care knowledge and abilities among nurses needed to be improved. According to several writers, nurses' abilities, knowledge, attitudes, and perceptions of the significance of oral care when caring for hospitalized children require specialized training and instruction concerning OH (AlRababah *et al.,* 2018).

A significant European survey found that 88.1 percent of ICU nurses ranked their children's OH as their top priority. In a separate Malaysian survey, 84,7% of ICU nurses said they required improved

techniques and more recent information to provide oral care. Even though oral care is ranked highly by nurses, several of these studies revealed that they believed it to be a challenging procedure and an unpleasant chore for which they lacked appropriate understanding (Alja'afreh *et al.*, 2018a).

However, they pointed out that because nurses frequently fail to give children basic oral care, hospitalized children frequently experience insufficient or nonexistent mouth care (Moreno-Monsiváis, Moreno-Rodr\'\iguez, & Interial-Guzmán, 2015).

2.12 Nurse Perception and Role in the Provision of Oral Health Care to the Critically Ill Child

The level of oral care that ICU nurses deliver is determined by both the nurses' attitudes toward the significance of oral care and the professional development opportunities made available to them. However, the status, perception, and attitude of oral care provided by nurses have not received enough attention to date (Jun, 2022).

According to a previous study, children who are unconscious, semiconscious, or not cooperative become tough patients for mouth care treatments in ICU. However, some caregivers view accessing a child's mouth as a violation of privacy, which affects how well nurses provide oral care (Liberatha, 2017).

Unfortunately, in children who are seriously sick, OH issues are sometimes overshadowed by more important demands. Additionally, OH has been a low-priority intervention since it appears that the nursing staff perceives it as the most challenging aspect of their job. Nurses must have a thorough understanding of the complex characteristics of bacterial colonization in the oropharynx that cause systemic illnesses like chronic obstructive pulmonary disease,

cardiovascular disease, and VAP in critically ill children to recognize the significance of OH (Sreenivasan, Ganganna, & Rajashekaraiah, 2018).

It has been demonstrated that providing oral care in the ICU prevents VAP, and is also regarded as a crucial element of routine care in nursing. Unfortunately, many nurses mistakenly believe that this is a comfort measure rather than a measure to prevent the germs in the mouth from building up and causing VAP, which prolongs hospital stays, raises costs, and increases fatality rates in ICUs (Liberatha, 2017).

As long as nurses perceive oral care for critically sick children contributes less to their health and well-being than other treatments, oral care may not be given as well as it should. Jordan lacks evidence-based recommendations for oral care, making training and motivation of all healthcare workers engaged in the treatment of intubated children essential. There are currently not many studies in Jordanian hospitals that look at this problem(Alja'afreh *et al.*, 2018a).

Parental knowledge and views about dental cleanliness and good eating habits have an impact on young children's OH maintenance and results. The preventative cycle greatly benefits from parents' awareness of and enthusiasm for proper tooth hygiene. According to research, parents' views regarding dentistry have a direct correlation with their children's OH (Jain, Oswal, & Chitguppi, 2014).

2.13 Oral Hygiene Practice

The best defense against periodontal disease and caries is practicing good oral hygiene. For optimal dental health, brushing should be done twice a day. However, many kids worldwide only use

their toothbrushes once a day (Angelopoulou, Kavvadia, Oulis, & Reppa, 2015).

Sarefho, (2011), supports the ICU, oral hygiene is a routine nursing process to ensure that kids' mouths are taken care of. It has been demonstrated that holistic oral care, which includes tooth brushing, antibacterial treatments, and moistening agents, improves OH by removing respiratory pathogens from the oropharynx and dental plaque. According to reports, effective oral hygiene increases salivary flow, which has antibacterial characteristics and moistens the mouth cavity, lowering the risk of respiratory infections and the associated costs associated with caring for critically ill children.

Therefore, the most significant factor in determining the risk of caries, particularly in youngsters, is a lack of adequate oral hygiene. Children who often snack on sweet foods like soft drinks, candy, fruit drinks, and high-sugar fruits are at an increased risk of developing cavities. Simple oral hygiene techniques may eliminate oral plaque and this sugar substrate with ease, lowering the risk of tooth caries. Due to increased acid production in the tooth plaque from the fermentation of sugars in the eaten meals, caries will develop when plaque pH values fall below 5.5(Ndanu, Aryeetey, Sackeyfio, Otoo, & Lartey, 2015).

Kusahara, Friedlander, Peterlini, & Pedreira,(2012), showed in mechanically ventilated children, the removal of dental plaque and bacteria from the mouth cavity involves three oral hygiene treatments: mechanical intervention, which includes pharmacological intervention, which involves using antiseptic agents, brushing teeth and rinsing the mouth; and varied interventions, that mix the two methods.

Equipment**:**

Toothbrush: - A baby toothbrush with soft bristles allows for easier access to all areas of the mouth and mechanically eliminates dental plaque and debris from tooth surfaces and crevices in children who are edentulous with no discomfort to the gingiva.

Cotton: - Swabs and foam sticks are good for moistening the mouth and stimulating the mucous membranes, but they are useless in removing plaque and other debris. They are advised for usage on kids with low platelet counts and bleeding tendencies.

Toothpaste: - The antibacterial and endozymatic effects of a pea-sized dose of fluoride toothpaste are adequate to reduce the production of plaque acids.

Mouth rinses/ mouthwashes: (mouthwashes with chlorhexidine, sodium bicarbonate, hydrogen peroxide, and sodium chloride Water, lemon, and glycerin Glycothymoline)

Moisturizer lip:(Vaseline) (Sarefho, 2011).

According to Pritchard and David, proper oral hygiene is necessary to: (achieve and maintain oral cleanliness, prevent infection and stomatitis, and Maintain the oral mucosa's moisture comfort of the sufferer(Soh *et al.,* 2012).

As confirmed by (Senirkentli, Tirali, & Cehreli, 2019), who point out to a child's first main tooth erupts, they should begin brushing their teeth with a toothbrush that always has soft bristles. Ideally, a parent or other adult caregiver should carry out this regimen. The occlusal, inner, and exterior surfaces of the teeth may be cleaned simultaneously thanks to the tiny brush head's ability to be adjusted like a triple-head toothbrush. Sonic toothbrushes with a timer and the ability to play music are excellent motivational tools that help kids brush for the necessary two minutes.

If brushing teeth with a toothbrush is not feasible, food particles and deposits on the mucosa, tongue, and gauze can be removed using a gynecological swab stick, a gauze pad, or a foam toothbrush (dental swab). These can, if necessary, be moistened with mouthwash. However, several studies have shown that toothbrushes are far better than these aids at cleaning the teeth and mucosa, thus a toothbrush should always be the technique of preference. It is advised to use a gentle (electric) toothbrush(Walker, 2014).

Almost all kids should clean their teeth using fluoride toothpaste. Only a tiny percentage of intubated children, such as those who have serious ulcerations or significant coagulation disorders that result in gingival bleeding, should not use a toothbrush. Children who have been edentulous and intubated should have their tongues softly cleaned to help preserve healthy mucosa(Avenetti *et al.,* 2020).

Children under the age of six should use fluoridated toothpaste and a soft toothbrush with a tiny brush head. Because of the possibility of swallowing, they avoid using mouthwash (Atarbashi-Moghadam & Atarbashi-Moghadam, 2018).

Children in ICUs may experience OH differences depending on the toothpaste they use. Because fluoride makes tooth enamel more resistant to decay, fluoridated toothpaste is frequently used in hospitals. Sodium lauryl sulfate, a crucial component of toothpaste, is a detergent that primarily serves as a surfactant and creates the foaming that is associated with using a toothbrush. Insufficient rinsing of the oral cavity causes the toothpaste to stick to and dry on the mucosal surface, aggravating a xerostomic condition that might result in mucosal desquamation. Therefore, using regular toothpaste during intubation may not be advised (Prendergast *et al.*, 2012).

Fluoride toothpaste usage is essential for everyday oral hygiene. The cleansing action is improved by detergents such as sodium lauryl sulfate, but they also have the potential to dry up and irritate the mucous membrane. Children who are confined to beds or who have dry lips or sensitive mucous membranes should thus avoid using products that contain detergents and flavoring ingredients (peppermint, menthol, and cinnamon)(Lambrecht, 2011).

Dental floss, interdental brushes, and dental sticks are examples of tools for effective interdental cleaning; however, they can be difficult to use. Healthcare experts should provide instructions on how to utilize them properly. Additional fluoridation with a fluoride gel or rinse can help promote dental care. For children receiving or having had radiotherapy, products that also include antiseptics like chlorhexidine or triclosan minimize the amount of germs in the mouth. It is advised to use a mouthwash that also moisturizes the oral mucosa at the same time (Lambrecht, 2011).

Maintenance of mucous membrane moisture, controlling the mouth's pH, and digesting food, saliva helps to clean the mouth. Saliva produces a biofilm or pellicle that serves as a barrier for teeth. Natural antibacterial proteins found in saliva also guard the mouth against dangerous germs. Regular eating and drinking, as well as everyday oral hygiene practices, such as flossing and using fluoride toothpaste, are mechanical and pharmacological, and all contribute to maintaining OH (Johnstone *et al.,* 2010).

Mechanical oral care procedures are designed to physically remove tooth plaque and other oral cavity detritus. Although foam swabs have been used by nurses for many years, the effectiveness of the toothbrush in eliminating dental plaque relies on how frequently

and how long it is used. In a children's ICU in the United Kingdom, where foam swabs were the most widely used oral care equipment(Marino *et al.,* 2016).

Pettit *et al.*, (2012), indicated specialized mouth care is required for many hospitalized youngsters. Children who are orally intubated require regular cleaning of all oral surfaces with a toothbrush or swab with a sponge tip. Cleaning treatments like mouthwash, saline solution, or chlorhexidine might be utilized before suction removal. To prevent aspiration, the children's airways must be shielded, and the ETT must be stabilized (this may require using an assistant). Lips should be moisturized, and if the ETT tape is damaged or contaminated, it should be replaced.

Mouthwashes help prevent gingivitis and periodontitis by lowering the number of germs in the mouth and preventing the formation of bacteria in plaque. Clinically effective compounds include triclosan, chlorhexidine, zinc fluoride, and amine fluoride (Haerian-Ardakani *et al.,* 2015).

An antibacterial rinse might be helpful if kids are at all able to rinse and spit out. Because of its negative effects, chlorhexidine-containing mouthwashes cannot be used as a long-term solution. The alternative is to switch to rinses based on amine or stannous fluoride. These could further help prevent fungal invasion (Pitts *et al.,* 2012).

Learning oral hygiene skills from childhood, especially in the preschool years, is crucial. Early childhood learning and maintenance of oral hygiene skills might help these abilities become established habits that are less likely to shift as adults. Since moms play a key role in assisting their children in developing appropriate oral hygiene habits, parents need to be aware of dental problems. For instance,

teaching pregnant or nursing mothers the importance of oral cleanliness through prenatal courses, home health visitors, midwives, nurses, and auxiliaries at child health centers and hospitals may help children and adolescents develop good oral hygiene practices early on in childhood and adolescence (Zotti, Pietrobelli, Malchiodi, Nocini, & Albanese, 2019).

Daily oral hygiene should be done every four hours; for children at risk, for instance, chemotherapy patients, have a temperature or are on a neuromuscular blocking medication, this should be done every two to four hours) by

Use disposable sponge sticks and chlorhexidine-0.12 percent-containing mouthwashes. if the child is edentulous, gently brush their teeth and gums. A moisturizer gel should be applied to the mucous membrane to keep the tissues moisturized. To stop lips from drying out after oral care, moisten them. When removing toothpaste or secretions, use a sponge or irrigation syringe to rinse the mouth. If necessary, secretions can be removed using suction at a modest negative aspiration pressure (50–80 mm Hg). Use gentle fasteners to secure the intubation tube, paying close attention to the skin's contact region. When removing the fasteners, take care to avoid damaging the skin, and massage the areas where the tube is secured to maintain circulation(Düzkaya *et al.,* 2017).

Reduction the risk of cross-infection, caregivers should wash their hands with an antibacterial skin cleanser and put on disposable gloves before providing care. Cleaning may require the use of a range of tools and materials. Nurses should assess their patients' children for conditions that put them at risk for OH issues(Williams, 2016).

2.14 Previous Studies

First Study

In a study conducted in Botswana study by (Sarefho, 2011)on "Exploring Nurses Knowledge, Practices and Perceptions Regarding Holistic Oral Care for Critically Ill Patients Among ICU Nurses" which resulted from the questionnaire received replies from 34 nurses (response rate 89 percent). While the majority, 82% (n=28), were not knowledgeable of crucial components of mouth care, just 18 percent (n=6) of participants were educated about these issues. At the beginning of their nursing education, 59% of the n=20 participants got training on holistic oral care, and 44% of them (n=15) received unit-level orientation. (97%) of the participants (n=33) asked for further information on complete oral care. The demographic traits of nurses and their understanding of holistic oral care did not significantly relate. Oral care was regarded as extremely essential for critically sick patients by 91 percent of the n=34 nurses, who all (100%) assigned it a high priority. Only 50% (n=17) of nurses who reported using mouthwash also reported using a toothbrush and toothpaste. Lack of resources and not anticipated in the unit protocol were the reasons why mouthwashes were not used, even though none of the units had a system in place for oral care (Sarefho, 2011).

Second Study

A study conducted by (Ullman & Letton, 2014) entitled "Survey of Australian pediatric critical care nurses' attitudes, practice, knowledge and education surrounding oral care" resulted in the vast majority of the 54 individuals giving prioritizing OH. The frequency, device, and oral care solution choices all varied significantly. The majority of the nurses who responded to the survey believed that the

present practice was unsatisfactory and that they wanted to learn more. They based their treatment decisions on knowledge gained from nursing colleagues or past work.

Third Study

Astudy entitled "Knowledge of Pediatric Critical Care Nurses Regarding Evidence-Based Guidelines for Prevention of Ventilator-Associated Pneumonia (VAP) " conducted by (Ahmed & Abosamra, 2015) aimed to evaluate the knowledge of children's critical care nurses of evidence-based recommendations for preventing VAP in both children and neonatal ICU. According to the current study, pediatric critical care nurses lack an appropriate understanding of evidence-based recommendations for preventing ventilator-associated diseases. Years of experience, prior instruction on the evidence-based guidelines for the prevention of VAP, and nurses' awareness of these guidelines are all highly correlated. Furthermore, there is no relationship between nurses' understanding of evidence-based recommendations for VAP prevention and their age. The study came to the conclusion that as updates and new evidence for best practices are always being developed, written unit protocols should be available and evaluated regularly, and staff members should be trained in the new protocols.

Four Study

This is done by (Liberatha, 2017) A cross-sectional research design of Kigali, Rwanda study related to "Exploring ICU Nurses' Knowledge, Practices and Perceptions about Holistic Mouth Care for Ventilated Patients at a Specific University Teaching Hospital" Their aim was to explore ICU nurses‟ knowledge, practices, and perceptions about holistic mouth care for ventilated patients at one specific university teaching Hospital, Kigali, Rwanda. Study results showed

that just 2 (4.3%) of the ICU nurses were aware that poor oral hygiene might lead to VAP. Holistic oral care was ranked 10th among 17 (36.2%) procedures that were crucial for ventilated patients. Furthermore, it was shown that most of the ICU nurses 37(78.7 percent) had low practice in providing complete oral care.

Five Study

The type of sample constituted a descriptive cross-sectional study entitled "Nurses' perception and attitudes towards oral care practices for mechanically ventilated patients" The aimed to investigate how ICU nurses perceive and believe about the use of oral care in patients who are being ventilated mechanically. 96 nurses took part in the research, according to the study's findings. The percentage of responses was 76.8%. The findings showed that only 65% of people follow a particular oral hygiene protocol. Minimum criteria were not followed by nurses. Although nurses had a very favorable attitude about providing oral care, 68 percent of them thought it was uncomfortable to work and 29 percent felt that they had the necessary training; 78 percent of them agreed that they should find out more about the most effective way to give mouth care. For all baseline data, standard descriptive statistics were generated (sociodemographic characteristics). Means and standard deviations for continuously distributed normally distributed variables were presented., whereas binary variables were expressed as proportions (Alja'afreh *et al.*, 2018a).

Chapter Three
Methodology

CHAPTER THREE

Methodology

This chapter designates the methods which considered a means to achieve the objectives settled for the purpose of the study.

3.1 Study Design

A descriptive study design (Cross-Sectional), which was applied to assess" Knowledge, Perceptions and Practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children" in Babylon Governorate during the period (1, September 2022 to 31, May 2023)

3.2 Official Approvals

Administrative agreements reached before gathering data needed for the study as demonstrated in Appendix (A).

1. The University of Babylon, College of Nursing, and Higher Studies Committee provided the initial approval after presenting the title and its objectives.
2. Submitting the format and research protocol to the Scientific Research and Ethical Committee at the College of the Nursing University of Babylon, the researcher was provided with consent.
3. Submitting requests to the Ministry of Health's Babylon Health Office Development and Training Center, official permission was acquired in Appendix (A).
4. A formal agreement was reached with Imam-Sadiq-Teaching Hospital (general hospital), Babylon Maternity and Children Teaching Hospital, and Morgan-Teaching Hospital for data collection.

3.3 Setting of the Study

The Hillah City Hospitals were the chosen hospitals for study setting, a local province facility with a wide range of pediatric and adult divisions. Three hospitals were located in Hillah City, which were in the province of Babylon. Participants were recruited in three setting, as follows: Babylon Maternity and Children Teaching Hospital (a pediatric and obstetric hospital), Imam Sadiq Teaching Hospital (a general hospital), and Morgan Teaching Hospital.

3.4 Sample of the Study

Participants were recruited and stratified into two strata included: 1) male; 2) female, all nurses who are working in specific critical care units particularly, those whose working experience is not less than three months and who offer nursing care to hospitalized males and/or female patients who are within or/ and under the age of 15, whether at morning or evening shifts. The settings were (Two Sterile Preterm Infants, One PICU, Two Coronary Care Units, and One Respiratory Care Unit, taken as a simple random sample of the two strata and according to the size of each stratum. Children with a range of diagnostic categories receive nursing care, and nursing staff in specific hospitals do not work in two units at once.

The enrollment period began in September 2022. The total sample that participated in the current study consisted of 170 participants who have been recruited for the study as shown in (Figure 3.1). The selection of participants was described in the flow diagram as shown in (Figure 3.2) below.

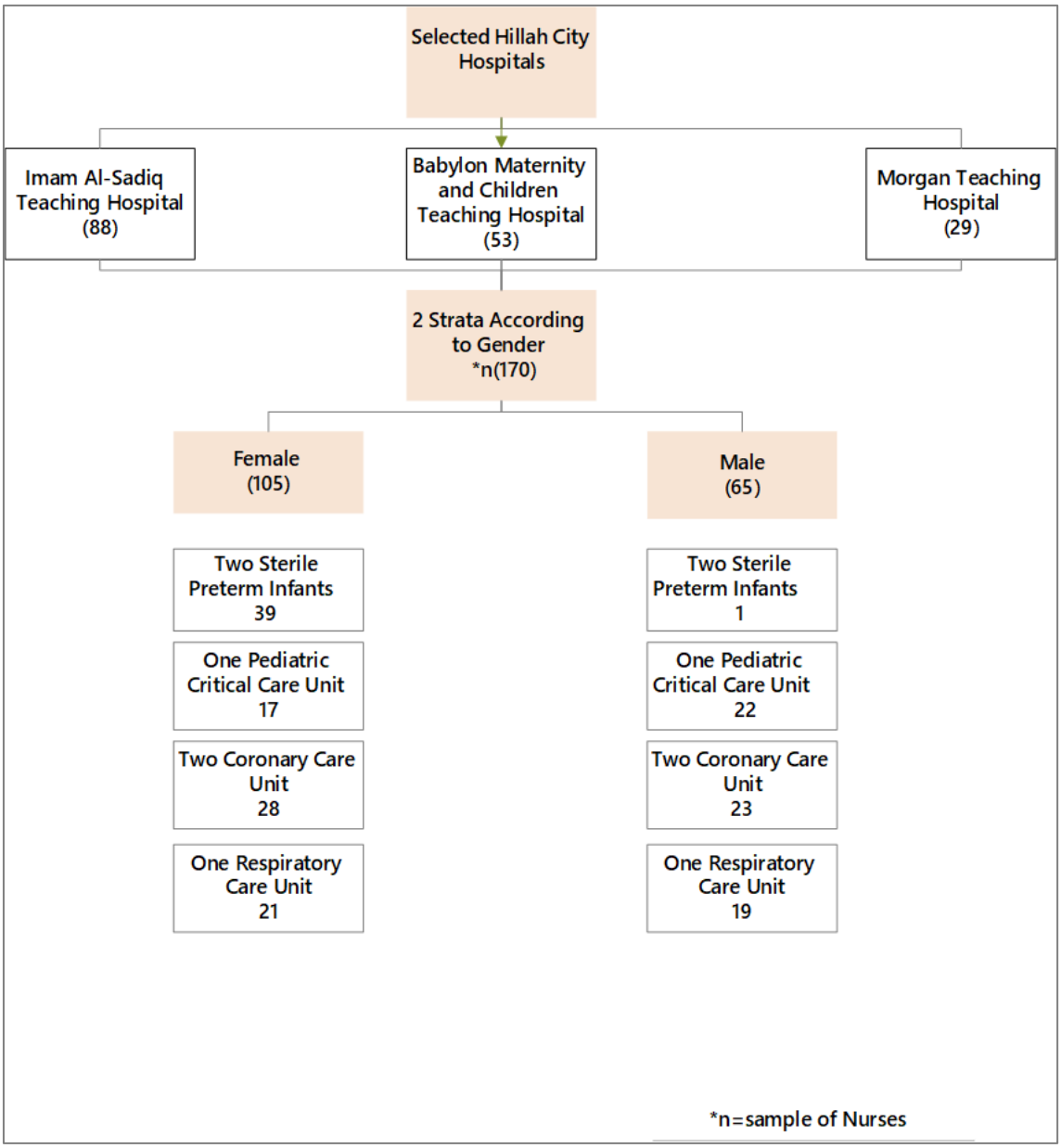

Figure 3.1 Participant stratification.

3.5 Sample Size

The principal investigator makes the following assumptions in determining the proper sample size: The average number of nursing staff in the three chosen settings is 302, and the number of nurses working in each setting who are eligible for inclusion was determined before the study by surveying all of the included settings. Based on these presumptions, it is necessary to take a sample size of 170 nursing personnel, with a 95 **%**level of confidence and a 5 **%** margin of error, for the correlation. to take into consideration sex-specific intra-

stratified correlations. The researcher introduced an additional organizational unit, utilizing more critical care units as a result, to catch up on the nursing staff not shifting in time, which finished in 170 staff nursing members. Calculations of sample size were conducted using the online sample size calculator (see Appendix B).

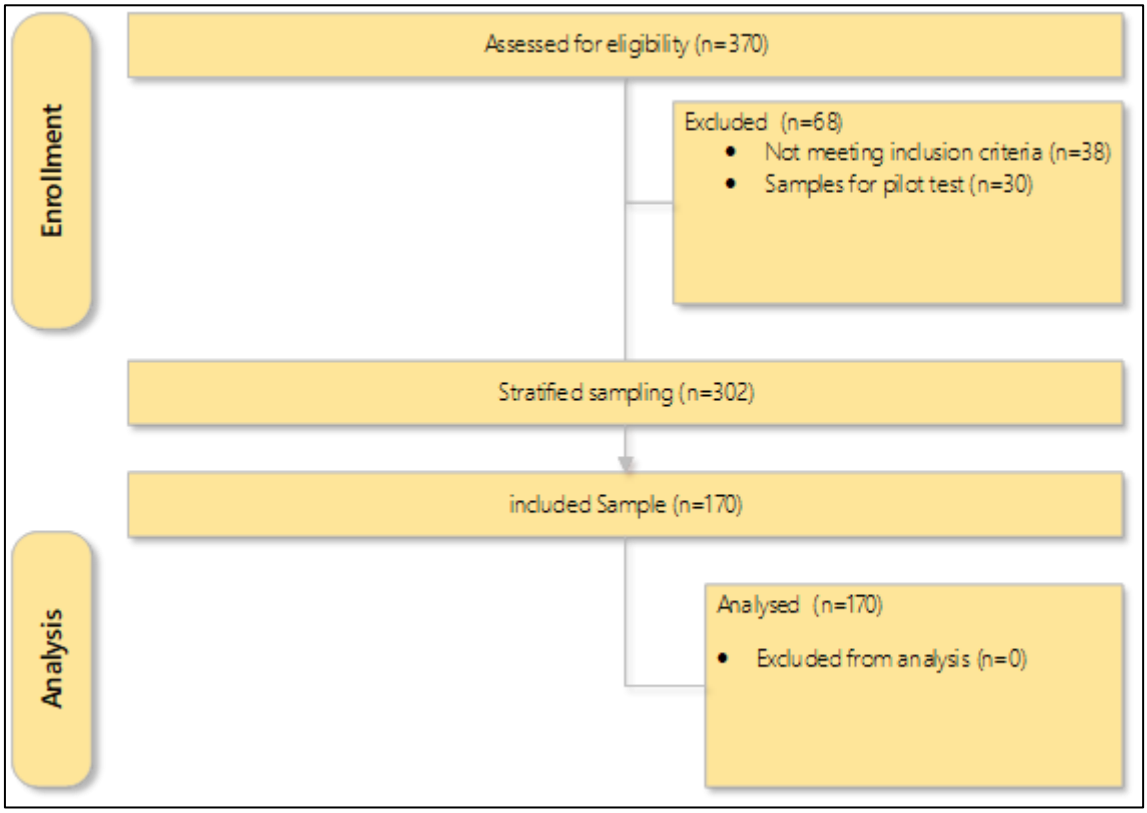

Figure 3.2 Participant Flow.

3.6 The Structure of the Nurse's Oral Care Instrument

The data on nurses' practices, knowledge, and perceptions regarding the significance of holistic oral care was gathered using a 37-item self-administered, structured instrument. The questionnaire, which was developed and formulated after a thorough review of the literature, also contained a modified version of (Liberatha, 2017), a survey he used to assess nurses' knowledge of providing OH care in ICU wards and which is available to the public. As a result, the

researcher with the help of the study supervisor modified and created the questionnaire to fit the issue.

Four parts of multiple-choice questions with open- and closed-ended answers made up the questionnaire to balance each section's strengths and weaknesses (Appendix C). Section A covered demographic information (6 items), Section B covered nurses' knowledge of OH care and hygiene (10 items), Section C was a self-report on perceptions of oral care (7 items), and Section D covered oral care procedures, including oral care instruments, mouthwashes, and moistening agents (20 items). The researcher translated the questionnaire into Arabic Fusha language with the assistance of meetings with experts and further adjustments (Appendix C) to provide the nurses the choice of using their language if they were not familiar with English.

Self-administered surveys are less expensive and may provide total anonymity (Polit & Beck, 2017) . Because respondents cannot be linked to their replies, they have more time to think about the questions thoroughly before replying and are less likely to agree, which may lead to more honest responses.

3.7 Process of Gathering Data

The data was gathered using a self-administered, coded questionnaire that was a modification of (Liberatha, 2017). The researcher distributed the instrument to specific nurses and was present to react to any questions responders could have if they required more explanations. The benefit of personally distributing questionnaires is that they get a better response rate (Lacey & Gerrish, 2010).

3.8 The Scoring of the Nurse's Oral Care Instrument

The Arabic version of the questionnaire scale consists of 20 Likert scales and 10 scales of items, and 7 short answer items, moreover, the items in section B are addressed for 4 items scale that 2-point "1-yes", "2-no."

In order to assess the level of knowledge that ICU nurses possessed regarding oral health care, they were presented with a range of questions that varied in format between multiple choice, open-ended, and closed-ended. Each question was assigned a point value, either 1 or 2 points, and the nurses received marks for every question that they answered accurately. The total number of points possible was 10. The questions that were asked included the identification of various aspects of holistic oral care (2 points), recognition of common nosocomial infections that can result from poor oral care (2 points), awareness of prevalent oral flora found in critically ill patients (2 points), knowledge of less important tissues to consider when assessing oral health status in critically ill patients (1 point), ability to identify indicators of poor oral care in critically ill patients (1 point), understanding of drugs that can have adverse effects on critically ill patients (1 point), and recognition of the class of drugs that can interfere with salivary production in critically ill patients (1 point). A knowledge score was then calculated for each individual by summing up the points earned for correctly answered questions. However, questions (6) in section (C) were responded to on a 5 Likert scale, starting with "Strongly Disagree (5)" to "Strongly Agree (1)." In Table (3-1),

Table 3-1 Rating Scale of 5 items in section C of Nurse's Oral Care Instrument.

-Strongly disagree-	-Disagree-	-Neither agree nor disagree-	-Agree-	-Strongly Agree-
5	4	3	2	1

A Likert scale responded to with 10-point in 1 item in sections C beginning from "As least important" to "As very important" was revealed in Table (3-2).

Table 3-2 Section (C) of The Nurse's Oral Care Instrument Rating Scale.

As least important									As very important
1	2	3	4	5	6	7	8	9	10

However, 12 items in section D were responded to employing a Likert scale 3-point, (1 - Always, 2 - Rarely, or 3 -Never). However, 4 items in section D were responded to employing a scale of 2-point, (1-yes, 2 - no). Other One item in section D was responded to employing a 6-point Likert scale. The last item in section D was responded to employing a Likert scale 3-point, (1-yes, 2-no 3 - not sure).

3.9 Content Validity of Instrument

The content validation of the instrument's items involves a panel (n = 17) of researchers and practitioners with expertise in complicated health treatments, as indicated in (Appendix D). The experts were: Four professors from the University of Babylon's College of Nursing. There are four College members from the University of Baghdad's College of Nursing, two from the University of Karbala's College of Nursing, one from the University of Thiqar College of Nursing, one from the University of Kirkuk's College of Nursing, and five from the Al- Mustaqbal College University department Nursing.

A purposeful sample of researchers and the colleagues of supervisors was used as experts. Regarding roles and disciplines, the panel was made up of a variety of individuals. The experts were asked to rank the significance of each item. They were also urged to offer feedback on the items, their expressions, and the design, organization, and readability of the instrument.

3.10 Pilot Study

The original Arabic-oral care questionnaire structured version was used in pilot research, which served as the study's implementation launch point, beginning in September 2022, and continuing through October 2022.

Although the goals of the pilot sample were to test the instruments, make any required adjustments, and then test them again. experimenting with other components of the study, such as how to contact participants(Perez & Sussman, 2021). In light of this, the pilot study indicated recruitment-related issues that may be resolved before the start of the main research.

The methods for this research were used to carry out the pilot. The study analysis excluded the outcome data that had been gathered. The survey is completed by 10% of the sample (30 members), resulting in a 100% response rate.

3.11 Reliability of Arabic- Version Instrument

Study instrument consistency about variable evaluation is related to reliability. Dependent on internal consistency is the questionnaire's determination of reliability. On the same pilot sample, the researcher applied one Cronbach's Alpha reliability step.

Cronbach's -Alpha: The Cronbach's -Alpha technique was used to measure the questionnaire's reliability. Table (3-3) demonstrates that reliability coefficients (between 0.70 and 0.730) were accepted for the questionnaire axis. The whole survey's Cronbach's Alpha coefficient was 0.711, which indicates good reliability. The following equation states:

The dependability coefficient is equal to 2*r/1 + r. where r is the correlation coefficient.

Table 3-3 Cronbach's Alpha for questionnaire Variables.

Variables	No.	Cronbach's Alpha
Oral health care/hygiene knowledge	10 items	0.700
Oral care perceptions	7 items	0.730
Oral care Practices	20 items	0.703
Total	37 items	0.711

According to the mentioned, scale reliability also was good, with a pilot research analysis's Cronbach's Alpha coefficient of (0.71) being regarded as reliable and representative.

3.12 Data Encoded and Analysis

Data from the questionnaire's sections were encoded and input into the computer using various level scales (Table) (3-4). The range (Max-Min= Range of Score), divided by the rating, the width of the Likert scale applied in the study axis is defined by the width of the interval of the components. The upper limit for the first period is then calculated by adding this number to the scale's accurate lowest value. As a result, the interval width shown in Table (3-4) is as follows:

$$\text{Score Range} = \{\frac{\text{Max} - \text{Min}}{\text{Rating}}\}$$

Table 3-4 The Sections of Questionnaire- Scale Width Interval.

Section	Items	Type of scale	Range of Score	The intervals	Categorization
B	1-10	interval	$max - min = R$ $= \frac{R}{CUT\ OF\ POINT}$ $= \frac{R}{3}$	1	Poor Knowledge
				2	Moderate knowledge
				3	Good knowledge
B	8, 9, 10	2 point - scale	$\frac{2-1}{2} = 0.5$	1-1.5	Yes
				1.5-2	No
C	1, 2, 3, 4, 5, 6	5 point - Likert scale	$\frac{5-1}{5} = 0.8$	1 - 1.8	Strongly Agree
				1.8 - 2.6	Agree
				2.6 - 3.4	Uncertain
				3.4 – 4.2	Disagree
				4.2 – 5	Strongly Disagree
C	7	10 point- Likert scale	$\frac{10-1}{3} = 3$	1-4	Low Importance
				4-7	Medium Importance
				7-10	High Importance
C	1-7	interval	$max - min = R$ $= \frac{R}{CUT\ OF\ POINT}$ $= \frac{R}{3}$	1	Poor Perception
				2	Moderate Perception
				3	Good Perception
D	1-12	3 point - Likert scale	$\frac{3-1}{3} = 0.66$	1-1.66	Always
				1.66-2.33	Rarely
				2.33-3	Never Use Them
D	1-12	6 point - scale	$\frac{6-1}{6} = 0.83$	1-1.83	Not included in the ICU protocol
				1.83-2.66	limited time
				2.66-3.49	lack of equipment and supplies
				3.49-4.32	Lack of skills
				4.32-5.15	It makes children uncomfortable
				5.15-6	Any others (specify).....
D	13, 15, 16,	2 point - scale	$\frac{2-1}{2} = 0.5$	1-1.5	Yes

	17, 18			1.5-2	No
D	19	6 point - scale	$\frac{6-1}{6} = 0.83$	1-1.83	Not at all
				1.83-2.66	Once per day
				2.66-3.49	Twice per day
				3.49-4.32	Three times per day
				4.32-5.15	a minimum of three times daily
				5.15-6	as required
D	20	3 point - scale	$\frac{3-1}{3} = 0.66$	1-1.66	Yes
				1.66-2.32	No
				2.32-3	Not Sure
D	1-20	interval	$max - min = R$ $= \frac{R}{CUT\ OF\ POINT}$ $= \frac{R}{3}$	1	Poor practice
				2	Moderate practice
				3	Good practice

3.13 Statistics

The data were analyzed using SPSS V. 25.0 software. Descriptive analysis, such as “mean” (M), range, and “standard deviation” (S.D), were utilized to present the data in terms of percentage distributions and indications. The primary data analysis involved predicting the mean difference of questionnaire scores with a 95 percent confidence interval. To assess relationships between categorical and quantitative variables, Pearson correlation tests were conducted, while t-tests, ANOVA test were employed to assess if differences between variables are significant. A 0.05 p-value was regarded as statistically significant., following consultation with a statistician.

3.14 Limitation

The strength of this study's conclusions is limited by several factors:

- ★ Data on practice were self-reported instead of observing nurses doing holistic mouth care for ICU patients.
- ★ Respondents were working in ICUs in Hillah city and the results of the study cannot be generalized to other healthcare workers in other countries or healthcare facilities**.**
- ★ Failed to assess whether the institution had an oral care protocol or standard of care; this indicator of institutional support may have affected the variable relationships found.

Chapter Four
Results

CHAPTER FOUR

THE RESULTS

It offers the research's findings, which include a thorough examination of the many factors employed in data collecting. Demographic data, participation knowledge, participant views, and participant practices are all covered by the data analysis.

4.1 Social Demographic Characteristics

Demographic data of participation show as:

Table 4.1: Social Demographic Characteristics of Nurses (N=170).

Variables	**Categories**	***F***	***%***
Age	(20–39 years)	166	97.6%
	(40–65 years)	4	2.4%
	Mean	26.78	
	±SD	4.197	
Total		170	100.0
Sex	Male	75	44.0%
	Female	95	56.0%
Total		170	100.0
Education Qualification	High Nursing school	15	8.8%
	Diploma Graduate	44	25.9%
	Bachelor's Graduate	110	64.7%
	Postgraduate	1	0.6%
Total		170	100.0
Nursing experience/service	Less than one year	33	19.4%
	1-2 years	50	29.4%
	3-5 years	53	31.2%
	6-10 years	27	15.9%
	11-15 years	4	2.4%
	More than 15 years	3	1.8%
	Mean	2.58	
	±SD	1.145	
Total		170	100.0
Experience of Intensive care	Less than one year	51	30.0%
	1-2 years	67	39.4%
	3-5 years	45	26.5%
	6-10 years	2	1.2%
	11-15 years	2	1.2%
	More than 15 years	3	1.8%
	Mean	2.09	
	±SD	0.999	
Total		170	100.0
	I Did not get any session	73	42.9%
	One-session	66	38.8%

The number of local training courses that participated in ICU	Two sessions	17	10.0%
	3 or more sessions	14	8.2%
	Mean	1.84	
	±SD	0.915	
Total		170	100.0

f, frequency, S.D, the scores standard-deviation

Table (4.1) provides the social demographic characteristics of 170 nurses who participated in the study. The sample's average age was 26.78 yr., and the half of participants were females 56.0%. Bachelor's Graduate, participants had 64.7%. had 2.58 years of work experience, and 2.09 years of experience in the ICU. The mean number of training courses received related to the ICU was 1.84.

4.2 Analysis of the Study Survey Items

4.2.1: Section (A) Focuses on Knowledge and Training Related to Oral Health Care/Hygiene

Table 4.2.1: Distribution of Grade About Knowledge concerning holistic oral care among Participants N=170

No.	Items		*f*	%
O.H.K.1:	Holistic oral care	The process of suctioning secretions from the endotracheal tube and applying a moisturizer to the lips.	26	15.3%
		Brushing teeth, suctioning the endotracheal tube, and hydrating the mouth are oral assessments.	102	60.0%
		Brushing teeth and doing endotracheal suctioning.	7	4.1%
		using oral hygiene techniques such as tooth brushing, suctioning, and moisturizing the oral cavity.	23	13.5%
		Others	12	7.1%
O.H.K.2:	Less significant tissues in assessing oral health status	**Trachea**	45	26.5%
		Others	125	73.6%
O.H.K.3:	Indicators of poor oral hygiene	Bleeding Gums	83	48.8%
		Dental Plaque	66	38.8%
		Bleeding Gums + Dental Plaque	9	5.3%
		Others	21	12.4%
O.H.K.4:	Prevalent microorganisms in the oral cavity	**The gram-positive streptococci and microorganisms commonly found in dental infections.**	13	7.6%
		Gram-negative streptococci and oral pathogens.	15	8.8%

		One and two	97	57.1
		Various types of pathogen strains.	45	26.5%
O.H.K.5:	Medications with negative effects on oral health	**Yes**	151	88.8%
		No	19	11.2%
O.H.K.6:	Drugs disrupting salivary production	**Sympathomimetic**	111	65.3%
		Others	59	34.7%
O.H.K.7:	Respiratory nosocomial infection associated with inadequate oral care	Don't know	86	50.6%
		Organisms	19	11.2%
		Sores/ulcers	4	2.4%
		TB/Bronchitis	9	5.3%
		Pneumonia	52	30.6%
O.H.K.8:	Inclusion of oral care in basic nursing education	Yes	44	25.9%
		No	126	74.1%
O.H.K.9:	Instruction on oral health care since assignment to the unit	Yes	33	19.4%
		No	137	80.6%
O.H.K.10:	Desire for additional training or updates on oral health care	Yes	154	90.6%
		No	16	9.4%
OHK Total		***N***	**170**	
		M	**2.2**	
		±SD	**0.461**	
		t	**-80.71**	
		P	**0.000**	
		Df	**169**	

f, *frequency;* |***OHK***|*, Oral Health Care/Hygiene Knowledge (ITEMS) see details in appendix (**E**).* ***M*** *represents the mean,* ***±SD*** *the score standard deviation,* ***t*** *refers to the t-test value, p-value (with a significance level of less than 0.05), and* ***df*** *refers to the degree of freedom.*

The table above provides insights into the knowledge level of ICU nurses regarding holistic mouth care. Among the 170 participants, (60.0%) correctly recognized brushing teeth, suctioning the endotracheal tube, and hydrating the mouth as oral assessments (O.H.K.1). However, there are such areas of limited knowledge, as only 25.9% of the nurses recognized the inclusion of oral care in basic nursing education (O.H.K.8), and just 19.4% received instruction on oral health care since their assignment to the unit (O.H.K.9).

Furthermore, the mean |OHK| score of the sample was 2.2, indicating a relatively low level of knowledge, which was significantly lower than the maximum possible score ($t = -80.716$, $df = 169$, $p < 0.05$).

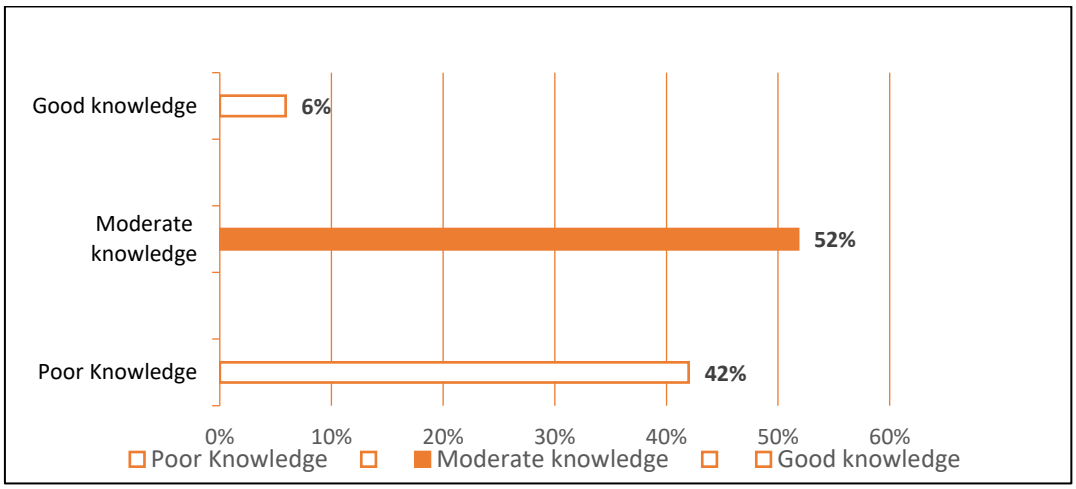

Figure 4.1 *Nurses' Knowledge Score (N=170).*

Figure (4.1) displays the distribution of respondents' levels of knowledge about oral health care, which were categorized as poor, moderate, or good. Out of the 170 respondents, 72 (42.4%) were categorized as having poor knowledge, 88 (51.8%) were categorized as having moderate knowledge, and 10 (5.9%) were categorized as having good knowledge.

4.2.2 Section C: Oral Care Perceptions

Table 4.2.2: Distribution of scores among participants on their perception about holistic mouth care for children N=170.

	Items	Strongly Agreed	Agreed	uncertain	Disagreed	Strongly Disagreed
OCP1:	Priority of holistic oral care in the care of critically ill children	64.1%	28.8%	4.1%	1.8%	1.2%
OCP2:	Impact of holistic oral care on the health and	15.9%	42.4%	15.3%	18.8%	7.6%

	well-being of critically ill children					
OCP3:	Perceived unpleasantness of oral cavity cleaning for critically ill children by ICU nurses	9.4%	18.8%	16.5%	30%	25.3%
OCP4:	Discomfort experienced by critically ill children during oral cavity cleaning	24.7%	49.4%	14.7%	8.2%	2.9%
OCP5:	Challenges faced by nurses in cleaning the oral cavity of critically ill children	15.9%	47.1%	24.1%	11.2%	1.8%
OCP6:	Deterioration of oral cavity in ventilated children regardless of oral care provided	20.6%	28.2%	34.1%	15.3%	1.8%
OCP Total		***M***	***±SD***	***t***	***P***	***Df***
		2.5	**0.495**	**-0.943**	**0.347**	**169**

OCP Oral Care Perceptions (OCP) see appendix (E). ***M*** *represents the mean,* ***±SD*** *the score standard deviation,* ***t*** *refers to the t- score value, the* ***p-****value significance level of less than| 0.05|, and* ***df*** *refers to the degree of freedom.*

Table (4.2.2) provide intuitions into the participants' perceptions regarding holistic mouth care for critically ill children. The majority of participants emphasized the high priority of oral care for these children. However, concerns were expressed about the

unpleasantness and discomfort experienced during oral cavity cleaning. Nurses also perceived challenges in performing oral cavity cleaning, highlighting the need for targeted interventions. Furthermore, participants recognized a moderate deterioration of the oral cavity in ventilated children, regardless of the oral care provided. The average score for Oral Care Perception (OCP) was 2.5 with a standard deviation of 0.49597. According to statistical analysis, there was not-statistically sig. differences between ICU nurses' opinions on oral care for critically sick children. The p-value of 0.347 indicates that the variations in mean scores for OCP were not significant.

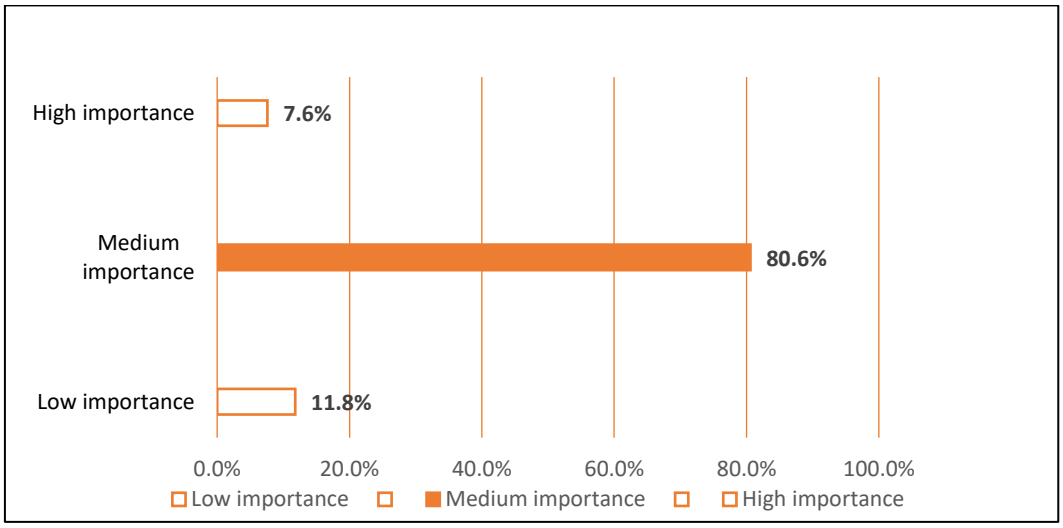

Figure 4.2 *The Importance of Examining a Child's Mouth on Admission N=170*

Figure (4.2) shows that the majority of ICU nurses (80.6%) ranked the importance of examining a child's mouth.

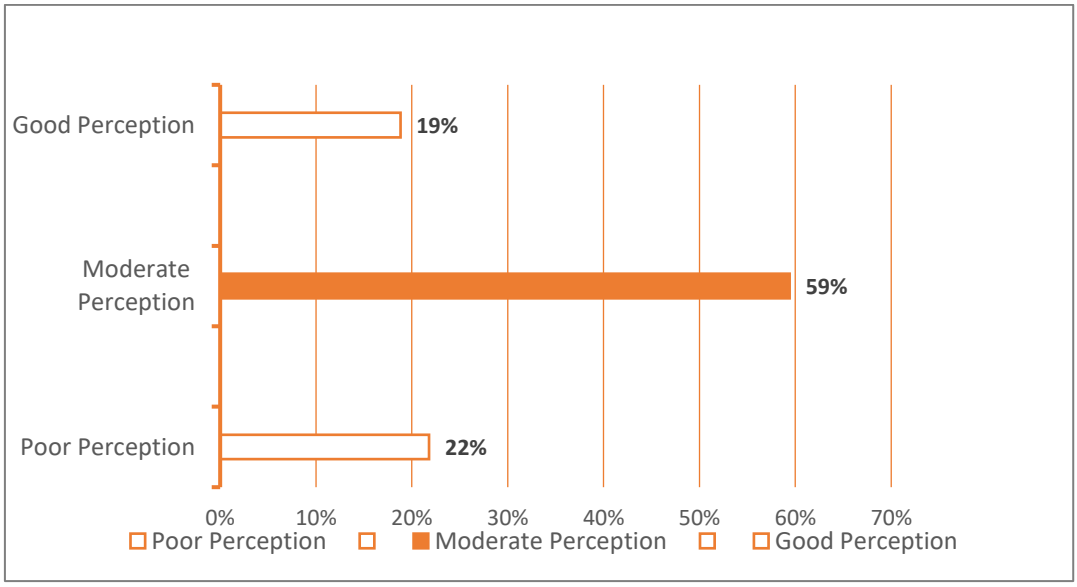

Figure 4.3 *Perception Level of Nurses About Holistic Mouth Care N=170*

Figure (4.3) shows that 37 participants (22%) had a poor perception, 101 (59.4%) had a moderate perception, and 32 (19%) had a good perception.

4.2.3 Section D: Oral Care Practice Analysis

Table 4.2.3: Distribution of grades among ICU nurses about mouthwashes, equipment, and frequency of performing holistic mouth care N=170.

	Items	Always	Rarely	Never Use
ORPR1:	Toothbrush cleansing tool	13.5%	40.6%	45.9%
ORPR2:	Toothpaste cleansing tool	10.6%	40.6%	48.8%
ORPR3:	Swab cleansing tool	31.8%	46.5%	21.8%
ORPR4:	Sterile water cleansing tool	57.6%	29.4%	12.9%
ORPR5:	Tap water cleansing tool	14.1%	35.9%	50%
ORPR6:	Normal saline cleansing tool	60%	22.4%	17.6%
ORPR7:	Glycothymoline cleansing tool	0%	30.6%	69.4%
ORPR8:	Lemon & glycerol cleansing tool	0%	38.8%	61.2%
ORPR9:	Sodium bicarbonate cleansing tool	9.4%	48.2%	42.4%

ORPR10:	Hydrogen peroxide cleansing tool	2.4%	25.3%	72.4%
ORPR11:	Vaseline/lip balm cleansing tool	35.9%	40.6%	23.5%
ORPR12:	Other (specify)	0.6%	0.6%	98.8%
ORPR Total		***N***	**170**	
		M	**2.02**	
		±SD	**0.853**	
		t	**-0.036**	
		p	**0.971**	
		Df	**169**	

For oral care Practices (ORPR) see appendix (E). ***M*** *represents the mean,* ***±SD*** *the score standard deviation,* ***t*** *refers to the t- score value,* ***p****-value |a| significance level of less than| 0.05|, and* ***df*** *refers to the degree of freedom.*

Table (4.2.3) displays the percentage distribution of responses for each item. For ORPR1 (using a toothbrush), 13.5% of participants reported always using a toothbrush, 40.6% reported rarely using a toothbrush, while 45.9% reported never using a toothbrush. Similarly, for ORPR5 (Tap water cleansing tool), 14.1% of participants reported always using it, 35.9% reported rarely using it, and 50% reported never using it. a t-value of -0.036 with 169 degrees of freedom and a p-value of 0.971, The calculated p was higher than sig. (≤0.05). The mean is 2.02, and the 95% confidence interval.

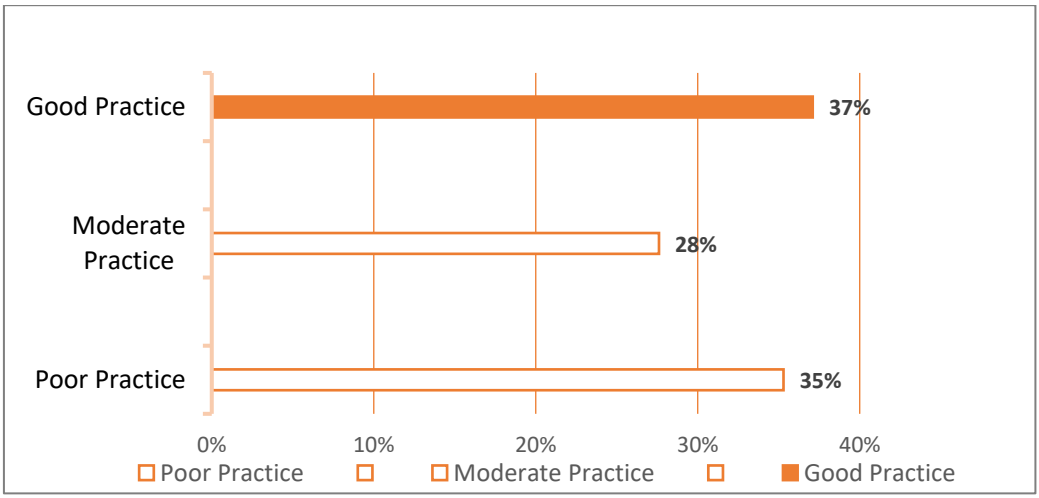

Figure 4.4 *Level of Practice N=170*

Figure (4.4) displays the distribution of nurses' practice scores after presenting holistic mouth-nursing care to critical children.

Results indicate that 35% of the nurses demonstrated poor practice, 28% exhibited moderate practice, and 37% showed good practice.

4.2.3.1 Availability and Use of Mouth Care Protocol In ICU

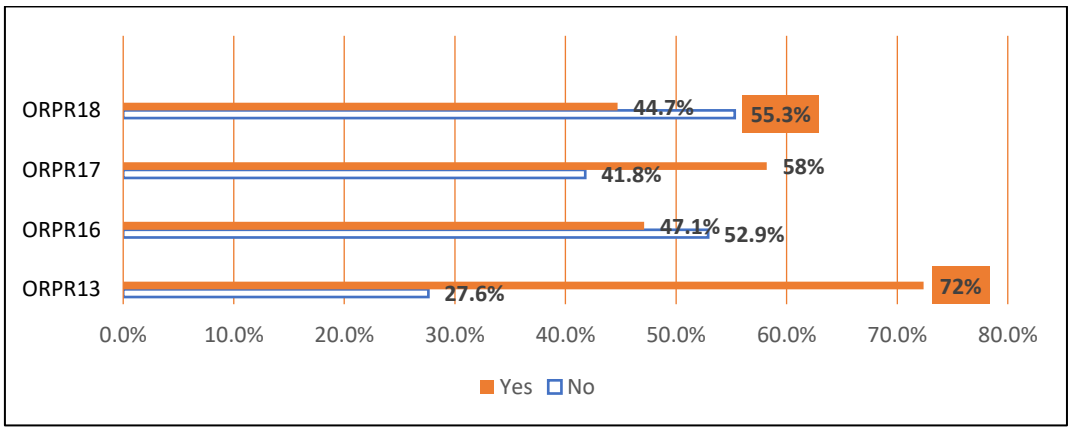

Figure 4.5 *Performing Holistic Mouth Care N=170*

Figure (4.5) shows the percentage of participants who answered "Yes" or "No" to the question "Do you carry out OH assessment on a child on admission?". The majority of participants (72.4%) answered "Yes" indicating that they do conduct an OH assessment upon admission of a child, while 27.6% answered "No" indicating that they do not. The findings revealed that among the 170 participants, 80 (47.1%) reported using an assessment tool or guide to evaluate the oral care condition of the child, whereas 90 participants (52.9%) reported not using any such tool or guide.

A significant number of respondents (58.2%) face difficulties in providing regular oral health care for children in their unit. Based on the results, it seems that only 44.7% of the respondents have a protocol for oral care in their unit, while the majority of 55.3% do not have one.

4.2.3.2 Difficulties Met with Nurses While Doing Holistic Mouth Care for ICU Children.

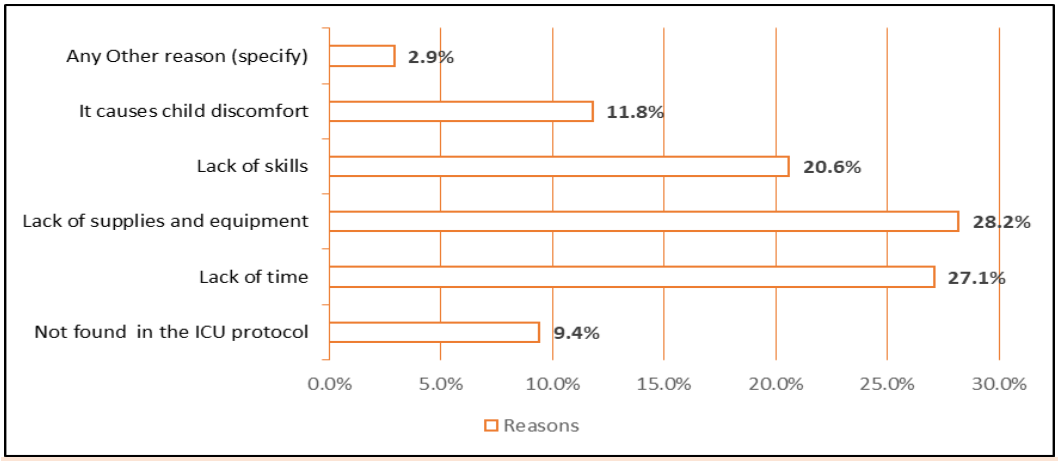

Figure 4.6 *Difficulties Met with Nurses While Doing Holistic Mouth Care for ICU Children N=170*

Figure (4.6) shows that the most common difficulties that nurses face when providing holistic mouth care for critically ill children are a lack of time (27.1%), a lack of supplies and equipment (28.2%), and a lack of skills (20.6%).

Table 4.2.4: T-test results for items in study sections

Items	*N*	*M*	*±SD*	*t*	*P*	*Df*
|OHK|	170	2.2	0.33145	-736.930	0.000	169
OCP	170	2.5	0.49597	-484.527	0.000	169
ORPR	170	58.1	24.69691	19.620	0.000	169
ALL	170	20.9	8.28385	0.000	0.000	169

M *represents the mean,* ***S, D*** *the score standard deviation,* ***t*** *refers to the t- score value,* ***p****-value |a| significance level of less than| 0.05|, and* ***df*** *refers to the degree of freedom.*

Table (4.2.4) presents the outcomes of one-sample t-tests conducted on different sections' items in the study. All elements combined were 20.9, revealing diverse outcomes.

4.3. Testing of the Correlation Study Variables

Table 4.3: Correlation matrix of the 4 factors, along with 95% percent confidence interval.

Factors	Poor Practice	Moderate Practice	Good Practice
Poor Perception	0.240	0.177	0.235
Moderate Perception	0.398	0.013	0.278
Good Perception	0.525	0.032	0.194
Poor knowledge	0.411	0.055	-0.019
Moderate knowledge	0.062	-0.167	-0.179
Good knowledge	0.382	-0.077	0.478*

*, Sig. (p < 0.05); r, person correlation.

Table (4.3) of a correlation matrix, clarified that there are positive correlations between the factors of perception and practice of ICU nurses about holistic mouth care Specifically, as well as a positive correlation between poor practice and poor perception (r = 0.240), moderate practice and moderate perception (r = 0.013), and good practice and good perception (r = 0.194).

A positive correlation that is not statistically significant. Similarly, the correlation coefficients between "Moderate knowledge" and "Moderate practice" (-0.167) and "Good knowledge" and "Moderate practice" (-0.077) are negative, indicating an inverse relationship between these factors.

There is a weak positive correlation between Poor Knowledge and Poor practice, a negative correlation between Moderate Knowledge and Moderate practice not significant, there is a significant positive correlation (at $\alpha \leq 0.05$) between the good knowledge and good practice of ICU nurses regarding holistic oral care.

Table 4.4: T-Test for the difference between the Mean of Holistic Mouth Care according to variable sex.

Sex	***N***	***M***	***±SD***	***t***	***p***	***Df***
Male	75	17.85	1.06087	-2.330	0.021	156.435
Female	95	18.37	1.80025			

M *represents the mean,* ***S.D*** *is the score standard deviation,* ***t*** *refers to the t- score value,* ***p****-value |a| significance level of less than| 0.05|, and* ***df*** *refers to the degree of freedom.*

Table (4.4) reveals that there was a sig. difference ($\alpha \leq 0.05$) between the Mean of holistic mouth care for male and female ICU nurses. The t-value of -2.330 and the p-value of 0.021 indicate that

female nurses had a higher mean score (M=18.37) compared to male nurses (M=17.85), as depicted in (Figure 4.7).

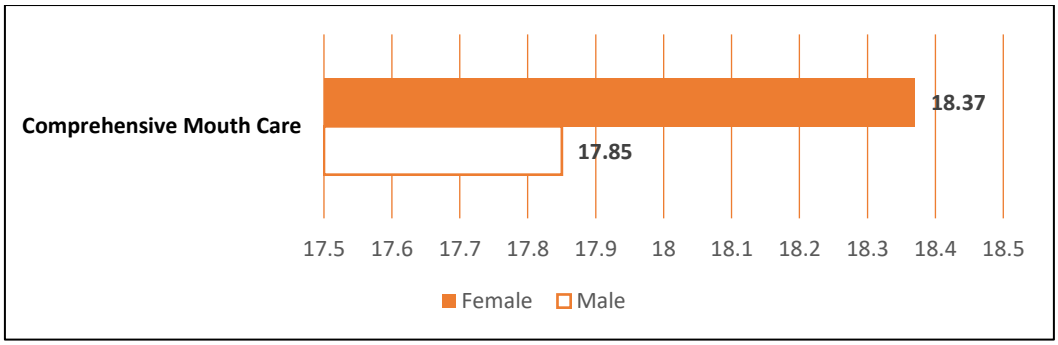

Figure 4.7 *Holistic Mouth Care according to Sex.*

However, there would be significant differences among nurses' knowledge, perception, and practices with demographic characteristics such as sex relating to knowledge of oral care to critically ill children. Therefore, it seems that sex may indeed play a role in the holistic mouth care practices of ICU nurses.

Table 4.5: The T-Test results for the difference between the Mean of Holistic Mouth Care according to age.

AGE	*N*	*M*	*±SD*	*t*	*p*	*Df*
20-39 y	166	18.145	1.549	-0.038	0.970	168
40-65 y	4	18.1750	0.950			

M *represents the mean,* ***±SD*** *the score standard deviation,* ***t*** *refers to the t- score value,* ***p****-value |a| significance level of less than| 0.05|, and* ***df*** *refers to the degree of freedom.*

T-test analysis in table (4.5), revealed no sig. difference (p > 0.05) in M. scores for holistic mouth care among different age groups of ICU nurses. The calculated t-value of -0.038 and the corresponding p-value of 0.970 indicate that age is not a significant factor in determining the knowledge, perception, and oral nursing care practices for critical children among the participants in the present study.

Table 4.6: one-way ANOVA results according to the education qualification

The difference between the Mean of Knowledge, Perception, & Practices according to the Education Qualification.	*N*	*M*	*±SD*	*F*	*P*

Holistic Mouth Care	High school	15	18.3	1.660	1.404	0.244
	Diploma	44	18.15	1.606		
	Bachelor's degree	110	17.89	1.482		
	Postgraduate	1	18.83	\		

M represents the mean, ±SD represents the standard deviation, df stands for degrees of freedom, F represents the f-value, and P represents the p-value with statistical significance at a threshold of less than 0.05.

The results presented in Table (4.6) show that The One-Way ANOVA results show that there was a not significant difference in Holistic Mouth Care F (1.404) p (0.244) among nurses with different educational qualifications.

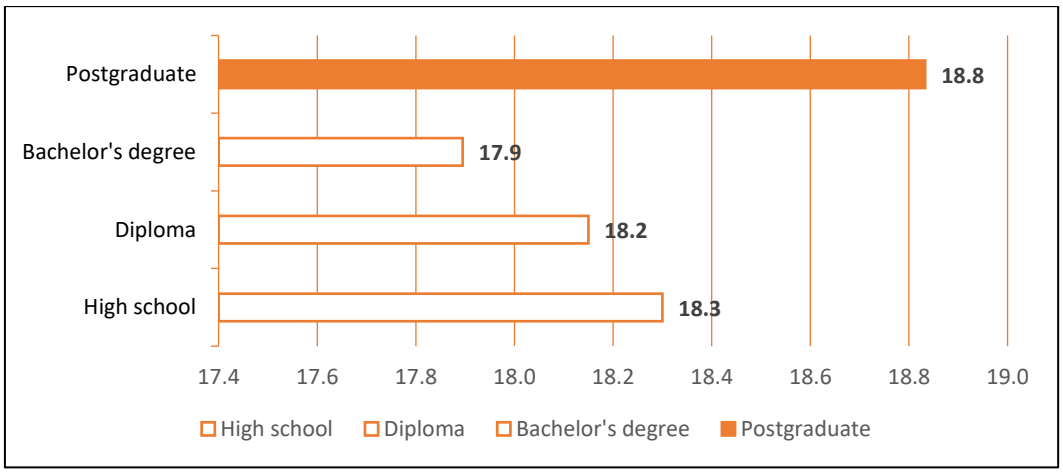

Figure 4.8 *Holistic Mouth Care according to The Education Qualification.*

Table 4.7: One-Way-ANOVA test according to the experience years in the work.

The difference between the Mean of Knowledge, Perception, & Practices according to the experience years in the work.		*N*	*M*	*±SD*	***F***	***P***
Holistic Mouth Care	Less than one year	33	18.16	1.544	2.030	0.077
	1-2 years	50	18.44	1.477		
	3-5 years	53	17.64	1.539		
	6-10 years	27	18.58	1.594		
	11-15 years	4	18.32	1.050		
	More than 15 years	3	17.70	0.000		

M represents the mean, ±SD represents the standard deviation, df stands for degrees of freedom, F represents the f-value, and P represents the p-value with statistical significance at a threshold of less than 0.05.

The outcomes of the test, presented in Table (4.7), demonstrate that there are no sig. differences between holistic mouth care, the p-values (0.077).

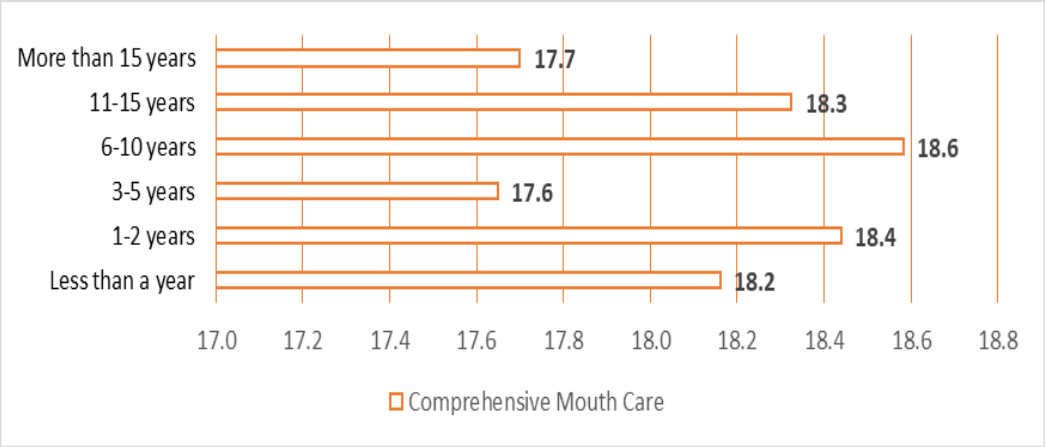

Figure 4.9 *Holistic Mouth Care according to the years of experience in the work (mean).*

Table 4.8: One-Way ANOVA Test according to the experience years in Intensive care.

The difference between the Mean of Knowledge, Perception, & Practices according to the experience years in Intensive care.		N	M	±SD	***F***	***P***
Holistic Mouth Care	Less than one year	51	18.33	1.486	0.607	0.695
	1-2 years	67	17.96	1.680		
	3-5 years	45	18.16	1.452		
	6-10 years	2	18.80	1.272		
	11-15 years	2	19.10	0.7071		
	More than 15 years	3	17.70	0.000		

M represents the mean, ±SD represents the standard deviation, df stands for degrees of freedom, F represents the f-value, and P represents the p-value with statistical significance at a threshold of less than 0.05.

As for holistic mouth care, there was no significant difference found among participants with different experience years in intensive care (F = 0.607, p = 0.695)

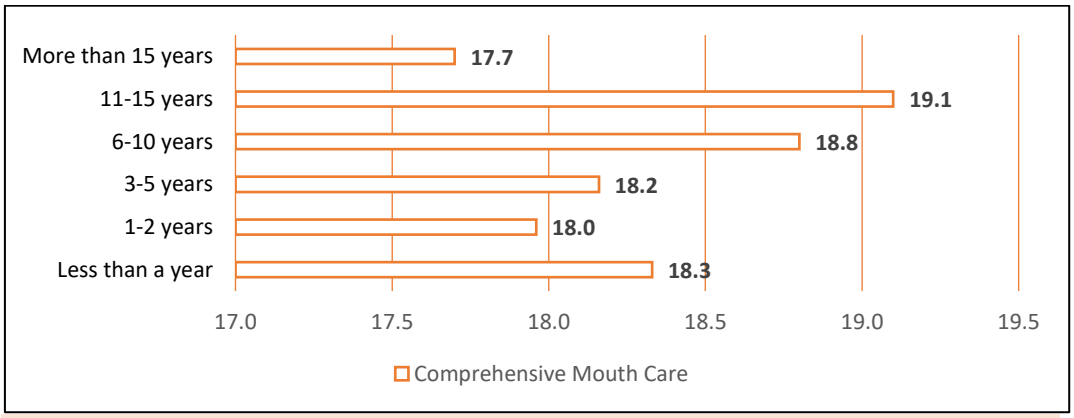

Figure 4.10 *Holistic Mouth Care according to the experience yrs. in Intensive care.*

Table 4.9: The One-Way ANOVA results according to the training of ICU.

The difference between the Mean of Knowledge, Perception, & Practices according to training ICU.		***N***	***M***	***±SD***	***F***	***P***
Holistic Mouth Care	Did not get any session	73	18.405	1.4507	1.474	0.224
	One-session	66	17.993	1.4767		
	Two sessions	17	18.047	2.2663		
	Three or more sessions	14	17.628	1.0102		

M represents the mean, ±SD represents the standard deviation, df stands for degrees of freedom, F represents the f-value, and P represents the p-value with statistical significance at a threshold of less than 0.05.

Table (4.9), show One-Way ANOVA as a not significant difference in nurses' Holistic Mouth Care according to the number of local training courses that participated in the ICU (F=1.474, p=0.224).

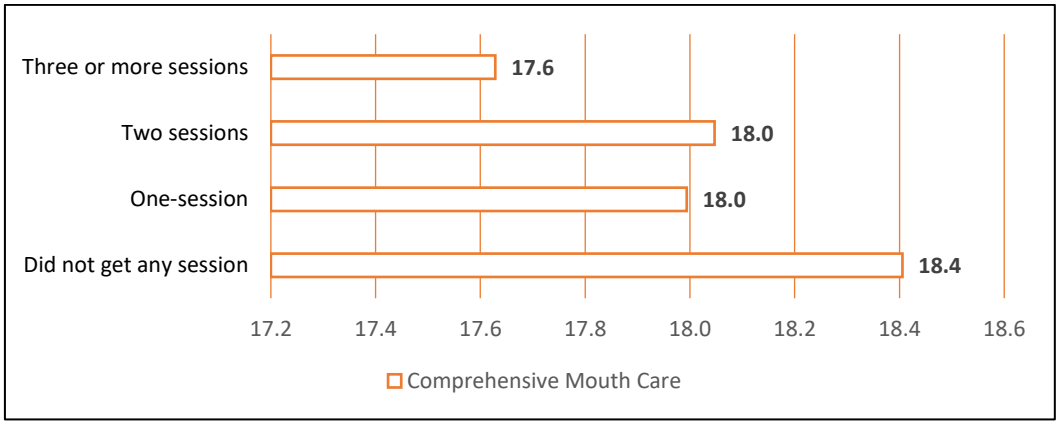

Figure 4.11 Holistic Mouth Care according to ICU training.

Chapter Five
Discussion

CHAPTER FIVE

THE DISCUSSION

The existing study discuss, analyze the findings, with relevance to similar studies. The debate also emphasized how crucial it is for nurses to take part in oral care training courses since doing so has been demonstrated to enhance their understanding and expertise in providing oral care for critically sick patients.

5.1 Social Demographic Characteristics of Nurses

The socio-demographic details of the 170 nurses who took part in the study are shown in Table (4.1) the data reveal that a substantial proportion of the participants were more than half were female and most were young, with a bachelor's degree being held by less than two-thirds. nurses had 1-2 years of experience in critical care were two fifth, followed by less than one year of experience where one-third and approximately one-third had attended local training sessions focused on ICU-related topics.

The insights provided by these findings highlight on the social demographic characteristics of ICU nurses and their level of exposure to oral care training. The study reveals that most nurses who participated in the research were young females, which is consistent with previous studies.

However, a study by(Malfait *et.al.*, 2016), aimed to explore the relationship between nurses' demographics and patient participation in hospitals. Data from 260 nurses working in various hospitals in Belgium were gathered for the study using a cross-sectional approach, which found that most of the nurses were vast

majority female and young adults between 20-29 years old two fifth. Less than two-thirds of them had bachelor's degrees and between one and five years of nursing experience were More than half, with Most of them having less than a year of experience working in an ICU were Less than half.

Another cross-sectional study conducted in Malaysia(Syed Alwi *et al.*, 2021), collected data from 306 nurses working in public hospitals in Malaysia and found that most of the nurse's Vast majority were female and young adults between 20-29 years old were Less than half. Most of them were bachelor's degrees holders More than half had worked in nursing for less than 5 years were more than two-thirds. In terms of ICU experience, most of them had worked in ICU for less than one year two fifth.

Another study used cross sectional design also found that most nurses had received at least one local training session related to ICU, which is consistent with the literature. a study by (Sreenivasan *et al.*,2018), aimed to evaluate the ICU nurses in India' understanding and awareness of oral care procedures for critically sick patients. The study's findings showed that were Majority of ICU nurses were aware of the significance of oral care for seriously sick patients. However, the survey also discovered that only More than half of the nurses had recently received training on oral care procedures.

5.2 Assessment of ICU Nurses' Training and Knowledge

The results in table (4.2.1) present the majority of participants Less than two-thirds reported knowledge about mouth assessment, tooth brushing, endotracheal suctioning, and moisturizing the mouth in the ICU setting indicating a good level of knowledge

about oral care practices. However, some questions, such as O.H.K.1: "Holistic oral care" and O.H.K.3: "Indicators of poor oral hygiene", had a higher proportion of "Others" responses.

These findings align with previous studies that have reported varying levels of knowledge among ICU nurses concerning oral care practices. (Singh *et al.*, 2019), conducted across sectional survey among 115 ICU nurses working in Two hospitals, in India to evaluate the ICU nurses' understanding and awareness of oral care procedures for critically sick patients. The results showed that although most ICU nurses were vast majority understood the value of oral care, only One-quarter of the nurses reported receiving education on oral care practices, and only were two fifth felt confident in providing oral care.

Similarly, a study in Jordan titled "Nurses' perception and attitudes towards oral care practices for mechanically ventilated patients", (Alja'afreh *et al.*, 2018), The authors suggested creating instructional programs to remove obstacles and raise the standard of oral care for patients with MV.

On the other hand, research in Egypt by(Abdelhafez & Tolba, 2023) cross-sectional descriptive study, aimed to at identifying intensive care uint nurses' self-assessment of oral care frequency of 105 nurses ,found that ICU nurses had problems in their assessments of oral care frequency, expertise in oral care skills, documentation, oral care equipment, and barriers to providing optimal oral care. Many of the participating nurses in this study admitted that their oral care abilities needed to be improved and noted a lack of participation in training programs.

Additionally, a qualitative multiple-case study with 25 nurses was conducted in Canada. The study found that nurses often perceived oral care as optional and that practices varied, lacking evidence-based approaches. It was underlined how critical it is for nurses to have the right information, evaluation abilities, and oral care methods. The study recommended more investigation into the role of nurses in influencing patients' OH literacy as well as evidence-based oral hygiene care practices (Bhatia, Bashaireh, Albashtawy, & Shennaq, 2012).

Also, the findings presented in Table (4.2.1) indicate that the mean score for ICU nurses (OHK) is 2.2, which suggests that the nurses' knowledge level is adequate. The significant t-value and p-value of 0.000 indicate that this result is statistically significant.

The current study's findings regarding oral-care knowledge of ICU professional practices in critically ill patients align with some previous studies (Winning, Al-Omari, & Al-Qudah, 2021), emphasizing the need for educational programs and improved training. However, some studies reported deficiencies in nurses' knowledge, skills, and adherence to oral care protocols. These findings highlight the importance of addressing gaps and barriers through targeted interventions to improve ICU nurses' understanding of attitudes toward, and behaviors surrounding oral care in the critical care environment.

From the researcher point of view, one possible explanation for the higher proportion of "Others" responses could be the lack of standardized guidelines or clear definitions provided for holistic oral care and indicators of poor oral hygiene. Without specific guidelines

or a common understanding among participants, they may have interpreted these terms differently, leading to diverse responses.

5.3 Assessment The Nurses' Perception of Holistic Mouth Care

Table (4.2.2) presents the distribution of scores reflecting participants' perceptions about holistic mouth care for children. The majority of participants exhibited positive perceptions, with high agreement scores. Less than two-thirds strongly agreed, and One quarter agreed that holistic mouth care is essential for children's overall health (OCP1).

However, certain items received mixed responses, such as perceived unpleasantness of oral cavity cleaning for critically ill children by ICU nurses (OCP3), where only a small percentage strongly agreed and One quarter agreed, while one-third disagreed, and One quarter strongly disagreed.

These findings align with previous studies examining healthcare professionals' perceptions of oral care practices. This a cross sectional study by (Dagnew *et al.*, 2020), conducted in Eritrea. The results indicated a favorable attitude among nurses, with were vast majority agreeing that oral cavity assessment is their responsibility. Similarly, a study by(Al-Qahtani *et al.*, 2018), in Saudi Arabia aimed to determine pediatric nurses' level of OH.

Conversely, a descriptive qualitative research design study conducted in Tanzania investigated the perceived needs of parents caring for critically ill children. The study emphasized the importance of nurses understanding and addressing parental needs, supporting and informing them during care procedures, and advocating for flexible

visiting times to foster parent-child connection (Saria, Mselle, & Siceloff, 2019).

An additional study was conducted by(Doddasomanahalli Sreenivasan *et al.*, 2018) in India. Aimed to assess the knowledge, attitude, and practices of ICU nurses on oral care in critically ill patients, included a total of 200 nurses working in 21 deferent hospitals. The results highlighted the need for more training to improve clinical outcomes, lower hospital mortality, and increase the competence of ICU nurses.

Regarding the current study, the mean score for (OCP) was 2.5, slightly above the midpoint score of 2, indicating a generally positive perception of holistic oral care for children. However, statistical analysis showed no significant difference (t=-0.943, p=0.347) between participants' perceptions and the midpoint score.

These results are consistent with earlier research. Research by (Charalambous *et al.*, 2020), in Cyprus. Aimed to assess nurses' perceptions and practices regarding oral care in hospitalized patient, which demonstrated that there were no statistically significant variations between nurses' perceptions of oral care and how important they felt it was for critically sick children.

Another research investigated the attitudes of nursing home caregivers about oral care and the factors that affected them. Positive attitudes were noted, however, caregivers lacked faith in their ability to deliver oral without harming the patients. Higher attitudes ratings were linked to the need for oral hygiene training and institutional requirements (Goh *et al.*, 2016).

However, different findings have been reported. According to research conducted in Cyprus by (Charalambous *et al.*, 2020), hospitalized patients' OH needs are frequently overlooked and underappreciated.

From the point of view of a researcher, the mixed responses and variations in knowledge and perceptions among participants could be due to differences in educational backgrounds, training, and exposure to oral care practices. Participants may have received varying levels of education and training on oral care, which can influence their understanding and perceptions.

5.4 Assessments the Nurses practice of Holistic Mouth Care In ICU

Table (4.2.3) presents the distribution of grades among ICU nurses regarding the use of mouthwashes, equipment, and frequency of performing holistic mouth care. The results show that for most of the items (ORPR1-ORPR5, ORPR9, ORPR11), the majority of nurses either "always" or "rarely" perform holistic mouth care, while for some items (ORPR6, ORPR7, ORPR8, ORPR10), the majority of nurses "never" perform holistic mouth care. In addition, item ORPR12, which asks about the use of mouthwash, shows that the majority of nurses Most "never" use mouthwash for their patients.

However, A holistic review and meta-analysis were carried out by (Nobahar *et al.*, 2016), According to the study, the incidence of VAP was considerably decreased by following standardized oral care procedures, which included activities including cleaning teeth, using chlorhexidine mouthwash, and suctioning. This conclusion, which is in line with the findings of the current study, underlines the significance

of regular and evidence-based oral care procedures in reducing respiratory problems in ventilated patients.

Hillier *et al.*, (2013), conducted a systematic review, identified the lack of standardized oral care protocols as a barrier to providing effective oral care in ICUs, emphasized the requirement for evidence-based procedures addressing oral hygiene evaluation, toothbrushing, and the use of antiseptic solutions. The incidence of VAP and associated problems can be decreased in ventilated patients by standardizing oral care procedures.

Other studies, including (Illsley, 2015), (Atay & Karabacak, 2014), and (Nobahar *et al.*, 2016), also support current findings by highlighting the significance of a toothbrush being used as the main dental care instrument in ventilated patients. According to this research, cleaning the teeth twice a day would help you eliminate dental plaque and debris effectively and prevent issues like VAP.

In contrast, studies by (Atay & Karabacak, 2014b; Cuccio et al., 2012; A. L. Hillier et al., 2013; Snyders, Khondowe, & Bell, 2011), The need of utilizing chlorhexidine mouthwash for oral care in ventilated patients should be emphasized. Chlorhexidine has demonstrated effectiveness in lowering the incidence of VAP, a common consequence in patients with severe diseases. However, current research revealed that many ICU nurses never used chlorhexidine.

Regarding the conclusions of the research by(Nobahar *et al.*, 2016), which indicated that normal saline was always used by the majority of participants It’s crucial to remember that their research highlighted concerns regarding the use of normal saline for mouth care.

The study emphasized that normal saline could have a drying effect on the oral mucosa, which may not be beneficial for OH.

Overall, the rationale for the results can be attributed to a lack of awareness and knowledge, time constraints and inadequate staffing, lack of resources and equipment, lack of guidelines and protocols, and the need for organizational support and teamwork.

The findings of a one-sample t-test performed on the oral care practices (ORPR) scores are shown in Table (4.2.3) The average result was 2.02 with a 0.853 standard deviation. According to the t-value of -0.036 and the p-value of 0.971. Current findings suggest that the nurses' oral care practices were not significantly different from what was expected based on previous studies or guidelines. Several studies support the Current study's findings .

These results agree with, (Coker *et al.*, 2017), carried out qualitative multiple-case research on 25 nurses to examine the nightly oral hygiene treatment given by nurses to hospitalized elderly patients in post-acute settings. According to the study, nurses frequently thought about patients' oral hygiene as optional and tried to respect their autonomy in this area of care.

Abdelhafez & Tolba, (2023), investigated oral care practices and obstacles among ICU nurses in Egypt. The study revealed suboptimal overall oral care practices among the participating nurses, highlighting the need for improved implementation of oral care protocols and guidelines in the ICU setting. This finding corresponds to the current study's results.

Similarly to this, a narrative review by(Winning *et al.*, 2021), backed up the conclusions of a Recent investigation by emphasizing

the well-known link between oral bacteria and lung infections, particularly in elderly and critically sick people. Maintaining excellent OH and avoiding respiratory issues need adequate oral care. The ideal method for oral care in patients who are being intubated.

Khasanah *et al.*, (2019), conducted research with 28 nurses and 47 intubated patients in an ICU to assess the efficacy of applying an oral nursing care guideline. According to the research, Most of the patients who received oral care in accordance with the advice had acceptable OH status, and nurses' practice accuracy varied by Majority percent.

These results are consistent with other studies(Khasanah *et al.*,2019), identifying enablers and challenges to using evidence-based recommendations in healthcare settings. Additionally, studies have underlined the significance of oral hygiene in reducing respiratory problems, particularly in patients who are severely sick. It has been demonstrated that implementing an oral nursing care guideline significantly improves patients' OH in the ICU.

The rationale for the results can be recognized as a lack of awareness and knowledge among healthcare professionals, preservation of patient autonomy, suboptimal implementation of oral care protocols, lack of standardized guidelines, and limited use of recommended interventions.

The results presented in Figure 4-6 reveal that nurses encounter several challenges when delivering holistic mouth care to critically ill children. The most commonly reported difficulties include lack of time, supplies and equipment, and skills. These findings align

with previous studies that have identified similar barriers to implementing oral care practices in ICU settings.

Recent results are in accord with a systematic study by (McArthur *et al.*, 2021), that aimed to synthesize barriers and facilitators to implementing evidence based guidelines in long term care. According to that survey, challenges include time constraints, a lack of teamwork among team members, a lack of organizational support, and a lack of employees, resources, and funding. Facilitators included leaders and supporters, well-designed strategies, processes, and tools, as well as enough services, resources, and time.

Similar indicators between the current study's findings and the study by (Ibrahim *et al.*, 2015). In both studies, it was found that there was a lack of mouth care protocols in the ICU, which influenced nurses' practice. This consistency suggests a broader issue within ICU settings regarding the absence or inadequate implementation of standardized protocols for mouth care.

Comparing current findings to (Cherian & Karkada, 2015), a study, found that more than three-quarters of nurses reported the absence of a mouth care protocol in the ICU. This indicates a potential gap in standardized protocols, which may impact patient outcomes, including VAP prevention.

Similarly, (Dagnew *et al.*, 2020), identified a lack of time and workload as major barriers to implementing oral care practices among healthcare professionals, including nurses. These findings support the current study's results, highlighting the significant difficulty nurses face due to time constraints when providing holistic mouth care to critically ill children.

However, a narrative review (Winning *et al.*, 2021), entitled" Oral health care for the critically ill." These points indicate potential barriers arising from the absence of standardized protocols and differing professional opinions.

From the researcher point of view, the rationale for the results can be attributed to the insufficient allocation of resources and variability in healthcare settings and resources.

5.5 Holistic Mouth Care for ICU Children

Table (4.2.4) provides an analysis of the study sections composed of (OHK), (OCP), and (ORPR), along with the overall score (ALL). The mean score for OHK was 2.2, indicating that the nurses had moderate knowledge of OH. The mean score for OCP was 2.5, indicating that the nurses' oral care perception was at a moderate level. The mean score for ORPR was 58.1, indicating that the nurses had a good level of oral care practice. The overall mean score was 20.9.

The present study's findings align with the research conducted by (Hua *et al.*, 2021) in China, which included 300 ICU nurses. They found that nurses in ICU settings had good knowledge of oral care practices but faced barriers to implementing these practices effectively.

A cross-sectional study by (Ibrahim *et al.*,2013), was carried out in Jordan. The study included 125 nurses who worked in (ICUs). According to the survey, more than half of nurses practiced average oral care, one quarter practiced poorly, and only One quarter practiced well. Oral care difficulties include a lack of education and uncooperative patient conduct.

From the point of view of the researcher, the rationale for the results was that the nurses had a moderate level of knowledge and perception regarding OH, while their oral care practice was rated as good. These findings highlight the importance of continuing education and training programs to enhance nurses' knowledge and perception, ultimately improving the overall quality of oral care provided to patients.

5.6 Regarding Perception, Knowledge, and Practice of Holistic Mouth Care for Critically Ill-Children

The correlation matrix presented in Table (4.3) illustrates the correlation coefficients among the three factors (perception, knowledge, and practice) related to oral care practices for critically ill children. The results indicate that there are associations between the factors, although the strength and direction of the correlations vary. These findings underscore the significance of perceptions and knowledge in relation to OH practices.

Similar findings were made in cross-sectional research at Orotta National Referral Hospital in Asmara, Eritrea, where it was shown that although nurses had a positive attitude toward oral care, their level of practice was inadequate (Dagnew *et al.*, 2020).

Another qualitative study carried out in Cyprus revealed that hospitalized patients' oral care is frequently disregarded and not acknowledged as a crucial health need. The study found a number of obstacles and enablers that either positive or negative impacted oral health care, including patient characteristics, nurses' knowledge and abilities, resources, and working conditions (Charalambous *et al.*, 2020).

The rationale for these results is that perceptions and knowledge play significant roles in shaping nurses' oral care practices for critically ill children. Positive perceptions about the importance of oral care and adequate knowledge in this area are likely to lead to better practices. Conversely, negative perceptions or lack of knowledge can hinder the implementation of appropriate oral care interventions.

The findings from Table (4.4) reveal a statistically significant difference in the mean scores for complete oral care between male and female ICU nurses, with female nurses exhibiting a slightly higher mean score than male nurses (18.37 vs. 17.85, $p = 0.021$).

A study entitled "Oral Health Knowledge, Attitude, and Practices Among Health Professionals in King Fahad Medical City, Riyadh" also supported these findings. The study, which involved 495 health professionals, including physicians, nurses, dentists, and other healthcare providers, discovered that good OH behaviors and greater levels of OH knowledge were more prevalent among female nurses than male nurses(Al-Anazi, Al-Ghamdi, & Al-Zahrani, 2017).

Similar to this research, (Rajeh, 2022), looked in Jeddah, Saudi Arabia, and differed by sex in their awareness of and behaviors toward OH. The study found that men and women had quite different knowledge and habits when it comes to OH. Women were more knowledgeable about OH, moreover, they had a higher propensity to regularly clean their teeth and floss.

In contrast, research by (Júnior *et al.*, 2013), carried out in a Korean ICU, found no significant differences in oral care knowledge, attitudes, or practices between male and female nurses. Therefore, this

study disagrees with the present finding of a significant difference between male and female ICU nurses in holistic mouth care.

From the point of view of the researcher, the rationale for these results could be attributed to various factors, including differences in attitudes, beliefs, and practices related to oral care between male and female nurses. It is possible that female nurses may have greater awareness or sensitivity towards oral care practices or may prioritize it more than male nurses.

Based on the data presented in Table (4.5), According to age, there was no discernible variation in the mean score for complete oral care (t=-0.038, p=0.970). Consequently, there are no significant differences among nurses' knowledge, perception, and practice with demographic characteristics such as age.

Similar to the current study, (Kwok et.al., 2018), the study aimed to establish a link between nurses' demographic traits and their comprehension and critically ill clients' oral-care use. The study found no association between age and ICU nurses' oral care knowledge and practice.

The research by (Haresaku *et al.*, 2020), which looked at parameters related to nurses' performance of oral exams and dental referrals for hospital inpatients, is one study that disagrees with the present findings. According to the study, a nurse's age, level of education, and years of experience are all related to how well they do oral evaluations and send patients to the dentist. Oral examinations and dental referrals for patients were more likely to be performed by older nurses with greater experience and education.

Doddasomanahalli Sreenivasan, Kumar, *et al.*,(2018),among 200 ICU nurses .The majority of the ICU nurses who were surveyed, according to the research, with a mean age of 27.5 years. According to the study, nurses had a good understanding of the targeted infection theory and the potential effects of poor oral hygiene in the critical care unit. The majority of nurses often offered oral care, although it was discovered that mechanical obstruction posed a significant obstacle.

The rationale for these results is, it is possible that the educational background, training, and professional experience of nurses in the study were similar across different age groups, leading to consistent levels of knowledge and practice. Additionally, the study may have included a diverse range of age groups, but the age differences were not substantial enough to influence oral care practices significantly.

Moving on to education qualification, as one of the study objectives, the results from Table (4.6) indicate no significant differences in knowledge and practice scores based on education qualification ($p>0.05$). Nurses with a diploma education had significantly lower knowledge and practice scores compared to those with a high school or bachelor's degree.

Adib-Hajbaghery *et al.*, (2017), study conducted in Iran investigated the relationship between education level and oral care knowledge and practice among ICU nurses. The research found Higher education levels were linked to improved oral care knowledge and practice ratings among ICU nurses, according to the study, which showed disagreement with current results.

According to research by (Feider *et al.*, 2010), conducted in the United States ,is a descriptive cross sectional study, nursing professionals with a bachelor's degree displayed distinctive oral care practices in comparison to other nurses.

Based on the information in Table (4.7), demonstrate that there were no sig. differences between holistic mouth care according to the experience years in the work, it can be concluded that there is an appreciable difference in the mean score of oral care among ICU nurses with varied years of experience).

The research by (Aziz *et al.*, 2018), however, disagreement the most recent findings. In this study, Pakistani ICU nurses were assessed for their oral care knowledge and skills, as well as the value of their years of experience. The study found that years of experience had a substantial impact on an ICU nurse's oral care knowledge and practice.

Contradicted the most recent findings. (Jun, 2022),aimed to assess the oral care practice ,perception ,and attitude of nurses in ICU in Korea .The study included a convenience sample of 212 ICU nurses .The study found that characteristics such as experience working as a nurse, ICU employment experience, and oral care practice frequency were statistically significant with regard to views regarding oral care and its relevance in ICU patients.

Disagree study by (Ahsberg *et al.*, 2018), conducted in Quebec, Canada, entitled "Factors influencing oral care in intubated intensive care patients." The study found significant differences in oral care knowledge and practices among nurses with different levels of experience.

The rationale for these results could be that nurses with more experience have had more opportunities to refine their knowledge and perception of oral care through practical experience and exposure to various patients and healthcare contexts. However, it is important to note that the difference in practice scores was not statistically significant, indicating that overall, nurses with different years of experience demonstrated similar levels of oral care practice.

According to the findings of Table (4.8) of the present study, there were no variations between ICU nurses' knowledge, perception, practice, and complete oral care scores according to their ICU years of experience ($p>0.05$). This suggests that a nurse's understanding, perception, and application of oral care for seriously sick children may not be significantly influenced by the length of time spent working in an ICU.

This result is in line with research by (Tabatabaei *et al.*, 2020), which used a Delphi study methodology in Iran, with reference to the study involving a panel of ICU nurses experts. Both studies acknowledge the need of addressing the educational requirements of nurses in oral care, despite some parallels and variances.

Where the researcher considers that nurses with more experience have had more opportunities to refine their knowledge and perception of oral care through practical experience and exposure to various patients and healthcare contexts.

However, it is important to note that the difference in practice scores was not statistically significant, indicating that overall,

nurses with different years of experience demonstrated similar levels of oral care practice.

Based on the number of local training courses they attended in the ICU, the findings from Table (4.9) demonstrate there was no significant difference in nurses' Holistic Mouth Care according to the number of local training courses that participated in the ICU.

These results are in line with other research, such as (Salmi *et al.*, 2018) in Finland, The results of the study revealed that older persons frequently have OH issues and that oral hygiene habits are not well understood. Another factor in the nursing staff's apparent lack of abilities was the minimal training and direction they received in oral care.

They disagree with a study entitled "Oral health nursing education and practice program." by (Dolce *et al.*, 2012), The study involved a pre-and post-test design, with nurses participating in a holistic OH education program. found that education and training programs have a positive impact on nurses' knowledge and practice. In the current study, nurses who received more local training sessions had higher knowledge and practice scores, indicating the importance of ongoing education.

A study that disagreement with current study, entitled "Nurses perceptions and attitude toward oral care practices for mechanically ventilated patients" (Alja'afreh *et al.*, 2018) that descriptive cross sectional design , investigated 96 ICU nurses' perceptions of oral care education and practice guided by dental professionals as well as their education and understanding of oral

illnesses. Found that and One quarter agreed that they had insufficient training in this area.

These findings suggest that the number of local training courses alone may not be a determining factor in improving nurses' Holistic Mouth Care practices.

In conclusion, the current study concludes by emphasizing the significance of resolving the gaps and inconsistencies in nurses' understanding, perception, and practice of oral care for very sick children. For patients who are critically sick, improving oral care practices and encouraging better OH outcomes can be achieved by ongoing education and training programs, as well as enhanced coordination amongst healthcare practitioners.

Chapter Six
Conclusions and Recommendations

CHAPTER SIX:
CONCLUSION and RECOMMENDATIONS

6.1 Conclusions

The findings provide valuable comprehension of the current state of oral care in the ICU and highlight areas that require improvement. The following key conclusions were taken from the analysis of the data:

1. Knowledge: ICU nurses demonstrated moderate understanding of holistic oral care for critically ill children. While they were familiar with certain practices such as tooth brushing and endotracheal tube suctioning, there were gaps in knowledge regarding OH assessment and identification of common oral microorganisms. The study also revealed a lack of inclusion of oral care in basic nursing education.
2. Perceptions: ICU nurses acknowledged the importance of holistic oral care for critically ill children; however, concerns were raised about patient discomfort during oral cavity cleaning and the challenges faced by nurses in performing oral care, regardless of the oral care provided, indicating the need for a greater understanding of the impact of oral care on OH outcomes.
3. Practices: Variations were observed in the tools and solutions used for oral cleansing among ICU nurses. While some practices, such as Normal saline and the use of swab cleansing tool, were somewhat employed, other practices were infrequently utilized. Inconsistent occurrences of holistic mouth care were also noted.

6.2 Recommendations

The following recommendations are proposed to improve the knowledge, perceptions, and practices of ICU nurses regarding holistic oral care for critically ill children:

1. Education and Training: It is crucial to enhance the knowledge and understanding of ICU nurses regarding holistic oral care for critically ill children.
2. Standardized Guidelines and Protocols: Developing and implementing standardized guidelines and protocols for holistic oral care in the ICU is essential.
3. Interdisciplinary Collaboration: Promoting interdisciplinary collaboration (such as dentists) among healthcare professionals is crucial for ensuring holistic and holistic oral care for critically ill children.
4. Research and Quality Improvement Initiatives: Further research is needed to explore the impact of holistic oral care on the health outcomes of critically ill children.

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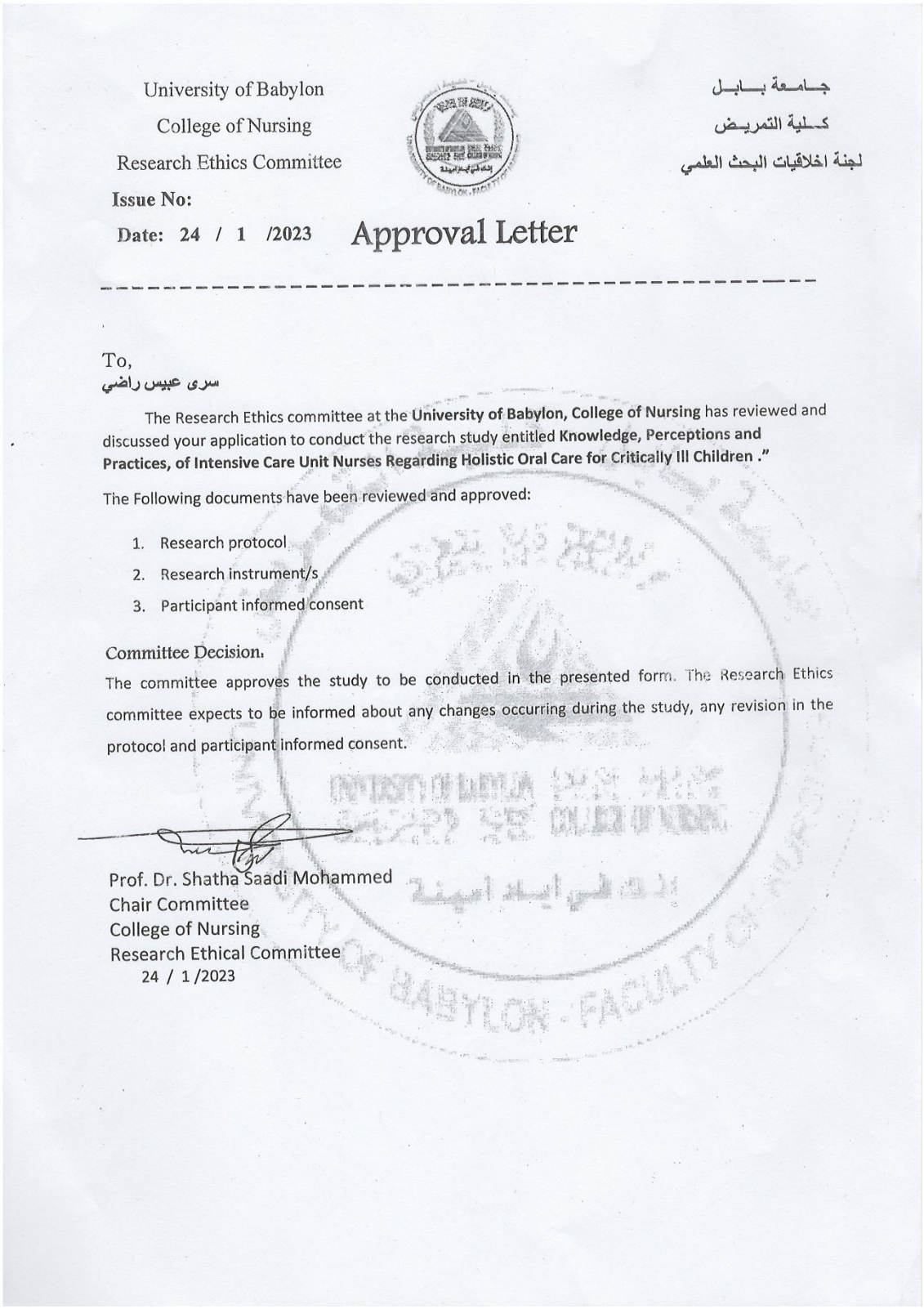
Appendices

APPENDICES

Appendix A Official Approval for Conducting Research



University of Babylon
College of Nursing
Research Ethics Committee

جـامـعة بـــابـل
كـلية التمريـض
لجنة اخلاقيات البحث العلمي

Issue No:

Date: 24 / 1 /2023

Approval Letter

To,
سرى عبيس راضي

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **Knowledge, Perceptions and Practices, of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children ."**

The Following documents have been reviewed and approved:

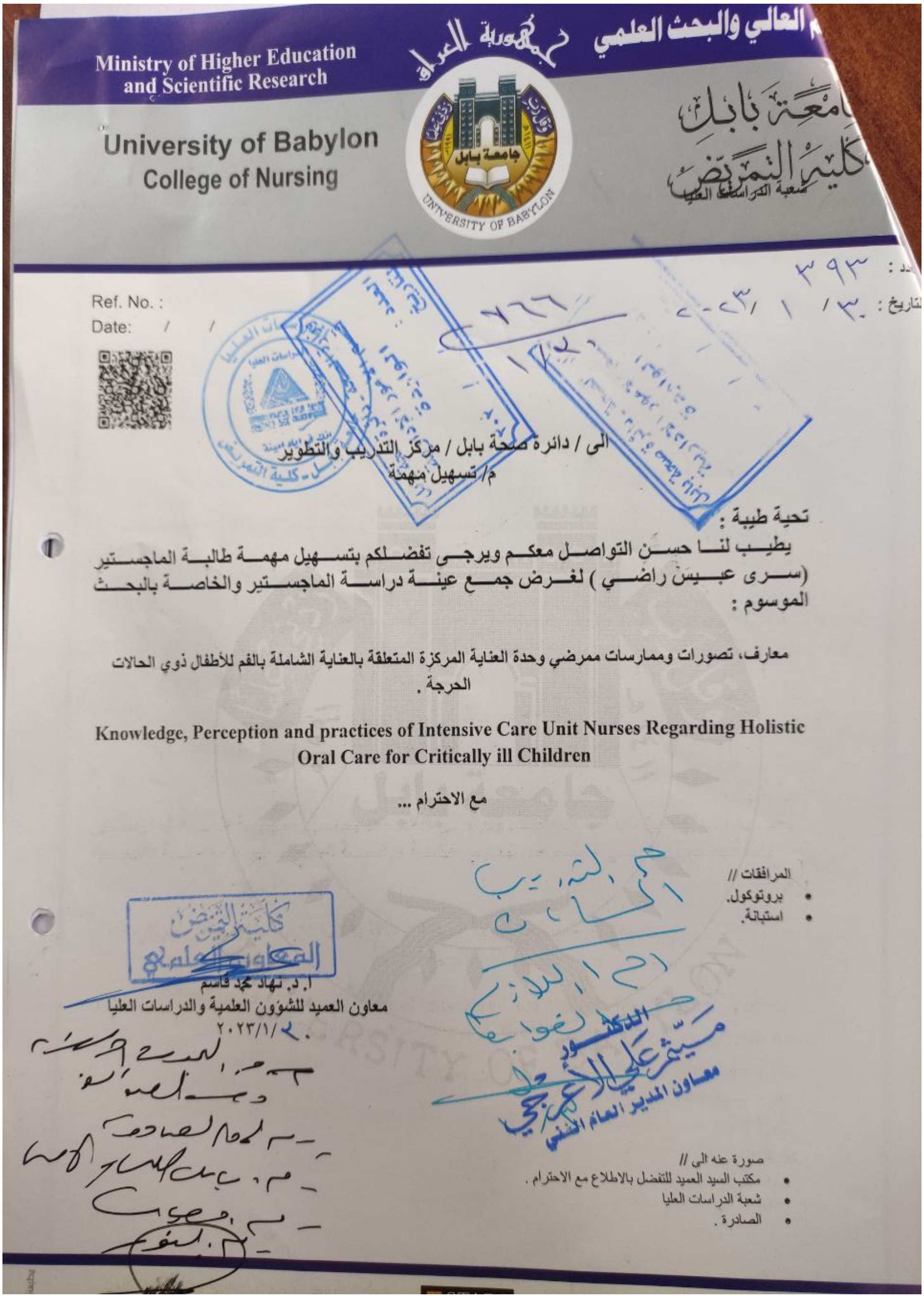
1. Research protocol
2. Research instrument/s
3. Participant informed consent

Committee Decision.

The committee approves the study to be conducted in the presented form. The Research Ethics committee expects to be informed about any changes occurring during the study, any revision in the protocol and participant informed consent.

Prof. Dr. Shatha Saadi Mohammed
Chair Committee
College of Nursing
Research Ethical Committee
24 / 1 /2023

Appendix A Official Approval for Conducting Research



Ministry of Higher Education and Scientific Research

جمهورية العراق

وزارة التعليم العالي والبحث العلمي

University of Babylon

College of Nursing

جامعة بابل

كلية التمريض

شعبة الدراسات العليا

Ref. No. :

Date: / /

العدد : ٣٩٣

التاريخ : ٣٠ / ١ / ٢٠٢٣

الى / دائرة صحة بابل / مركز التدريب والتطوير

م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الماجستير (سرى عبيس راضي) لغرض جمع عينة دراسة الماجستير والخاصة بالبحث الموسوم :

معارف، تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة .

Knowledge, Perception and practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically ill Children

مع الاحترام ...

المرافقات //

- بروتوكول.
- استبانة.

أ. د. نهاد محمد قاسم

معاون العميد للشؤون العلمية والدراسات العليا

٢٠٢٣/١/٢٠

الدكتور

ميثم علي الأعرجي

معاون المدير العام الفني

صورة عنه الى //

- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
- شعبة الدراسات العليا
- الصادرة .

Appendix A Official Approval for Conducting Research

جمهورية العراق

Ministry Of Health Babylon Health Directorate Email:- Babel_Healthmoh@yahoo.com لأجل عراق اخضر مستدام ..سنعمل معا لترشيد استهلاك الطاقة الكهربائية والمحافظة على البيئة من التلوث		وزارة الصحة دائرة صحة محافظة بابـــل المديـــر العـــام مركـز التدريب والتنمية البشرية وحدة أدارة البحوث العدد : ١٠٢ التاريخ: ٢٠/ ١ /٢٠٢٣

إلى/ مستشفى الأمام الصادق (ع)
مستشفى بابل التعليمي للنسائية والأطفال
مستشفى مرجان التعليمي
مستشفى النور للأطفال

م// تسهيل مهمة

تحية طيبة ...
أشارة إلى كتاب جامعة بابل/ كليه التمريض / الدراسات العليا ذي العدد ٣٩٣ في ٢٠٢٣/١/٣٠
نرفق لكم ربطا استمارات الموافقة المبدئية لمشروع البحث العائد للباحثة طالبة الدراسات العليا / ماجستير (سرى عبيس راضي)
للتفضل بالاطلاع وتسهيل مهمة المومأ أليه من خلال توقيع وختم استمارات أجراء البحث المرفقة في مؤسساتكم وحسب الضوابط والإمكانات لاستحصال الموافقة المبدئية ليتسنى لنا أجراء اللازم على أن لا تتحمل مؤسساتكم أية تبعات مادية وقانونية .... مع الاحترام

المرفقات :
استمارة عدد /٢

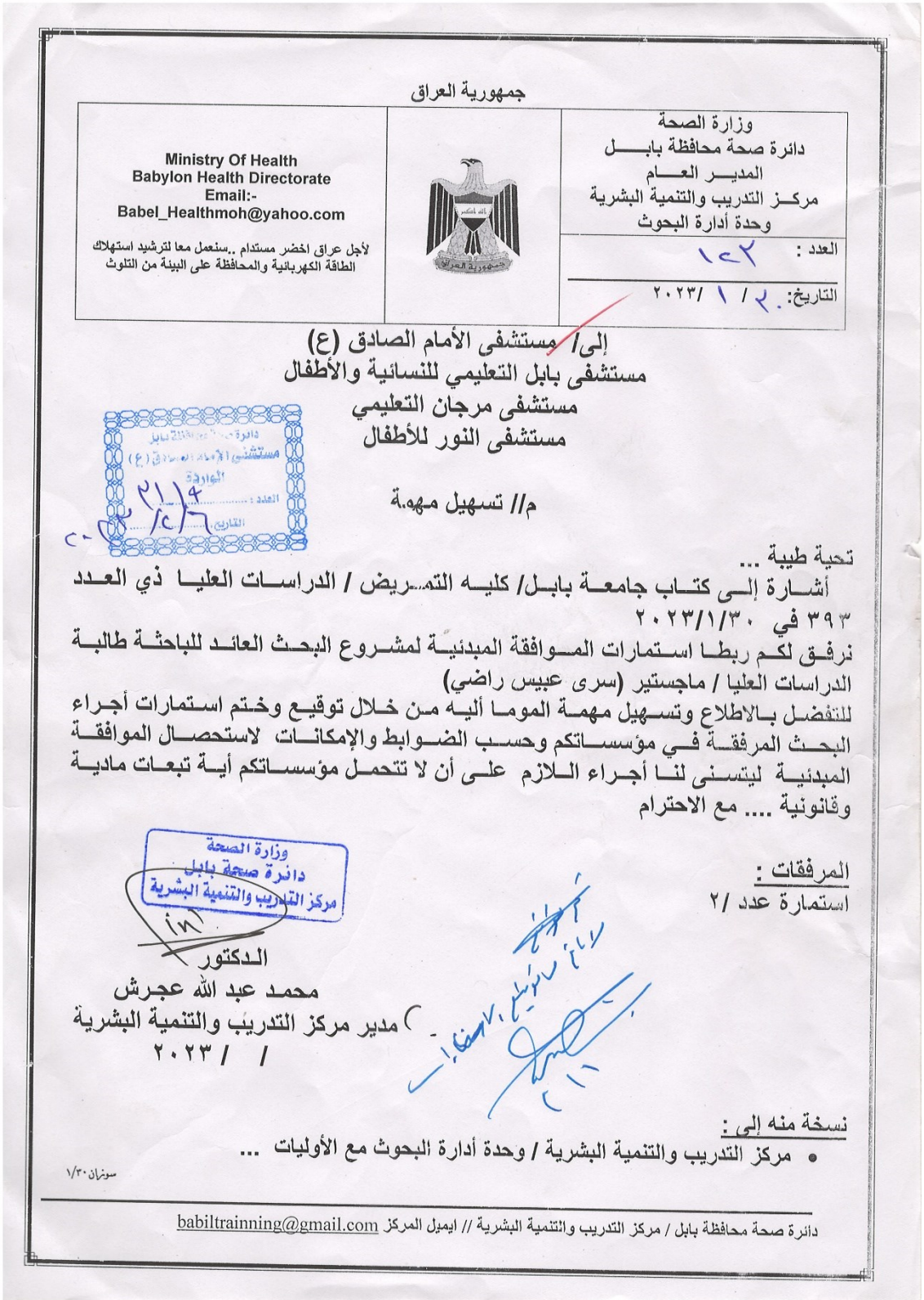
وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية

الدكتور
محمد عبد الله عجرش
مدير مركز التدريب والتنمية البشرية
/ / ٢٠٢٣

نسخة منه إلى :
- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

سونران ٧/٣٠

Appendix A Official Approval for Conducting Research



جمهورية العراق

Ministry Of Health Babylon Health Directorate Email:- Babel_Healthmoh@yahoo.com لأجل عراق اخضر مستدام ..سنعمل معا لترشيد استهلاك الطاقة الكهربائية والمحافظة على البيئة من التلوث		وزارة الصحة دائرة صحة محافظة بابـــل المديـــر العـــام مركـز التدريب والتنمية البشرية وحدة أدارة البحوث العدد : ١٤٢ التاريخ: ٢٠ / ١ /٢٠٢٣

إلى/ مستشفى الأمام الصادق (ع)
مستشفى بابل التعليمي للنسائية والأطفال
مستشفى مرجان التعليمي
مستشفى النور للأطفال

م// تسهيل مهمة

تحية طيبة ...
أشارة إلى كتاب جامعة بابل/ كليه التمريض / الدراسات العليا ذي العدد ٣٩٣ في ٢٠٢٣/١/٣٠
نرفق لكم ربطا استمارات الموافقة المبدئية لمشروع البحث العائد للباحثة طالبة الدراسات العليا / ماجستير (سرى عبيس راضي)
للتفضل بالاطلاع وتسهيل مهمة الموما أليه من خلال توقيع وختم استمارات أجراء البحث المرفقة في مؤسساتكم وحسب الضوابط والإمكانات لاستحصال الموافقة المبدئية ليتسنى لنا أجراء اللازم على أن لا تتحمل مؤسساتكم أية تبعات مادية وقانونية .... مع الاحترام

المرفقات :
استمارة عدد /٢

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية

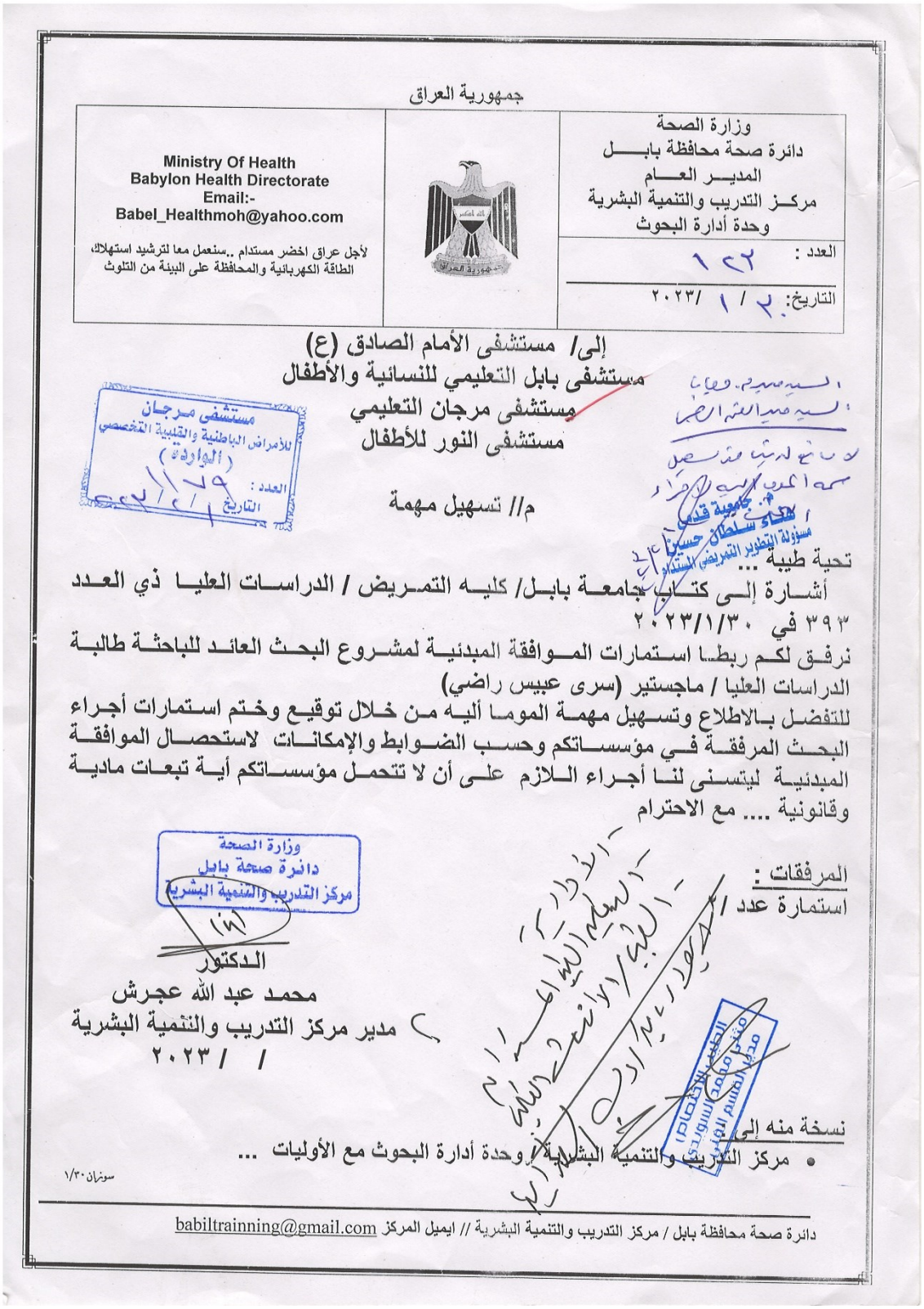
الدكتور
محمد عبد الله عجرش
مدير مركز التدريب والتنمية البشرية
/ /٢٠٢٣

نسخة منه إلى :
- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

سونران ١/٣٠

دائرة صحة محافظة بابل / مركز التدريب والتنمية البشرية // ايميل المركز babiltrainning@gmail.com

Appendix A Official Approval for Conducting Research



جمهورية العراق

وزارة الصحة
دائرة صحة محافظة بابـــل
المديـــر العـــام
مركـــز التدريب والتنمية البشرية
وحدة أدارة البحوث

العدد : ١٤٢
التاريخ: ٢٠/ ١ /٢٠٢٣

Ministry Of Health
Babylon Health Directorate
Email:-
Babel_Healthmoh@yahoo.com

لأجل عراق اخضر مستدام ..سنعمل معا لترشيد استهلاك الطاقة الكهربائية والمحافظة على البيئة من التلوث

إلى/ مستشفى الأمام الصادق (ع)
مستشفى بابل التعليمي للنسائية والأطفال
مستشفى مرجان التعليمي
مستشفى النور للأطفال

مستشفى مرجان للأمراض الباطنية والقلبية التخصصي (الوراثة)
العدد : ١١٧٩
التاريخ ٢٠٢٣/١/٣٠

م// تسهيل مهمة

تحية طيبة ...

أشـارة إلـى كتـاب جامعـة بابـل/ كليـه التمـريض / الدراسـات العليـا ذي العـدد ٣٩٣ في ٢٠٢٣/١/٣٠

نرفـق لكـم ربطـا اسـتمارات المـوافقة المبدئيـة لمشـروع البحـث العائـد للباحثـة طالبـة الدراسات العليا / ماجستير (سرى عبيس راضي)

للتفضـل بـالاطلاع وتسـهيل مهمـة المومـا أليـه مـن خـلال توقيـع وخـتم اسـتمارات أجـراء البحـث المرفقـة فـي مؤسسـاتكم وحسـب الضـوابط والإمكانـات لاستحصـال الموافقـة المبدئيـة ليتسـنى لنـا أجـراء الـلازم علـى أن لا تتحمـل مؤسسـاتكم أيـة تبعـات ماديـة وقانونية .... مع الاحترام

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية

الدكتور
محمد عبد الله عجرش
مدير مركز التدريب والتنمية البشرية
٢٠٢٣/ /

المرفقات :
استمارة عدد /

نسخة منه إلى :
- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

سونران ١/٣٠

دائرة صحة محافظة بابل / مركز التدريب والتنمية البشرية // ايميل المركز babiltrainning@gmail.com

Appendix A Official Approval for Conducting Research

جمهورية العـــراق

Ministry Of Health Babylon Health Directorate Email:- Babel_Healthmoh@yahoo.com Tel:282628 or 282621		وزارة الصحة والبيئة دائرة صحة محافظة بابـــل المديـــر العـــام مركـز التدريب والتنمية البشرية لجنة البحوث

استمارة رقم :- ٢٠٢٢/٠٣

رقم القرار :- ١٥
تاريخ القرار :- ٢٠/٢/٢٠٢٣

قرار لجنة البحوث

تحية طيبة ...

درست لجنة البحوث في دائرة صحة بابل مشروع البحث ذي الـرقم (٢٠٢٣/٠١٧/ بابل) المعنون (معارف تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة)
والمقدم من الباحثة (سرى عبيس راضي حمد) إلى وحدة أدارة البحوث والمعرفي مركز التدريب والتنمية البشرية في دائرة صحة بابل بتاريخ ٢٠٢٣/٢/٧ وقررت :

قبول مشروع البحث أعلاه كونه مستوفيا للمعايير المعتمدة في وزارة الصحة والخاصة بتنفيذ البحوث ولا مانع من تنفيذه في مؤسسات الدائرة .

مـــــع الاحتـــرام

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية
لجنة البحوث

الـدكتور
محمد عبد الله عجرش
رئيس لجنة البحوث
/ / ٢٠٢٣

نسخة منه إلى :
- مكتب المدير العام / مركز التدريب والتنمية البشرية / وحدة إدارة البحوث ... مع الأوليات.

سونران

Appendix A Informed Consent Form

رقم الاستمارة:
التاريخ 15-12-2022

كلية التمريض – جامعة بابل
لجنة أخلاقيات البحوث العلمية

نموذج موافقة الاشخاص للمشاركة بالبحوث العلمية
استمارة رقم (3)

وزارة التعليم العالي والبحث العلمي
جامعة بابل - كلية التمريض

السيد / السيدة .....

أنت مدعو للمشاركة بمشروع بحث علمي بعنوان:

معارف، تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة.

يرجى أن تأخذ الوقت المناسب لقراءة المعلومات الآتية بتأنٍ قبل أن تقرر إذا ما كنت راغباً بالمشاركة أم لا. وبإمكانك طلب مزيداً من الإيضاحات أو المعلومات الإضافية عن أي أمر مذكور بالاستمارة أو عن الدراسة من الباحث أو اي مختص أخر.

أولا : معلومات البحث	
اسم الباحث	سرى عبيس راضي حمد
اسم المشرف	أ.د نهاد محمد قاسم
أهداف البحث	1-لتقييم معارف الممرضين حول الرعاية الصحية الفموية الشاملة للأطفال المصابين بأمراض خطيرة. 2-لتقييم تصورات الممرضين وترتيبهم للعناية بصحة الفم لدى الأطفال المصابين بأمراض خطيرة. 3-لتقييم ممارسات الممرضين حول رعاية الفم الشاملة للأطفال المصابين بأمراض خطيرة. 4- لتحديد العلاقة بين المعارف والتصورات والممارسات مع البيانات الديموغرافية كـــ (العمر، الجنس، المستوى العلمي، سنوات الخبرة).
الفترة المتوقعة لمشاركة الشخص في البحث	20-30 دقيقة
الاجراءات المتبعة في جمع العينات	مليء الاستمارة الاستبيان من خلال مشاركة التمريضيين في وحدة الرعاية الحرجة في مستشفيات المبحوثة
المخاطر المتوقعة كنتيجة للمشاركة في البحث	لا يوجد
الفوائد التي ستعود على الشخص مقابل الاشتراك في البحث	التعرف على المهارات والمعلومات الرعاية التمريضية للأطفال المصابين بحالات حرجة في وحدة العناية المركزة فيما يتلق بالرعاية الفم

ثانيا: معلومات للشخص المشارك بالبحث
1. ان المشاركة في هذا البحث طوعية
2. بإمكانك سَحب مشارَكتك من الدِراسة متى شئت ولأي سبب
3. من حقك ان لا تجيب عن اي سؤال لا ترغب بإجابته
4. ان مشاركتك بالبحث لن تحملك اي نفقات مالية
5. ان مشاركتك بالبحث لا يترتب عليها اي مسائلة قد تضر بك شخصيا أو بعملك.
6. ان اسمك سيكون سريا وإن المعلومات الناتجة عن مشاركتك سوف تعامل بسرية تامة ولن يطلّع عليها أي شخص ما عدا الباحث والمشرف ولجنه الاخلاقيات عند الضرورة.
7. وأن المعلومات التي اداليت بها والنتائج العلمية لهذا البحث هي للأغراض العلمية فقط ولن تكون هناك أية إشارة إلى لك أو لعائلتك في أي منشور عن هذه الدراسة.
8. ان من حقك بمعرفة النتائج العامة للبحث، او اي نتائج تتعلق بك بصورة خاصة.

ثالثا: معلومات الاتصال
في حال وجود اي استفسار او شكوى من قبلك حول مشروع البحث بإمكانك الاتصال بالباحث أو لجنة اخلاقيات البحث في جامعة بابل – كلية التمريض
اسم الباحث سرى عبيس راضي رقم الهاتف 07813472978 البريد الالكتروني sri.hamad.nurh69@student.uobabylon.edu.iq

اسم المشترك بالبحث:

توقيعه :

التاريخ: / / 2022

في حال كون عمر الشخص المشارك اقل من 18 سنة، او كونه غير قادر على فهم أو قراءة الاستمارة يرجى توقيع ولي أمره الشرعي.

اسم ولي أمر المشترك:

صلة القربى:

توقيعه :

التاريخ:

Appendix B Sample Size Calculators

https://www.qualtrics.com/uk/experience-management/research/determine-sample-size /

Appendix C English Version of Questioner

Cover Letter for e-Questionnaire Recruitment

Dear brother... Sister.

this questionnaire seeks to study (**Knowledge, Perceptions and Practices of Intensive Care Unit Nurses Regarding Holistic Oral Care for Critically Ill Children**)

Objectives:

5. To assess knowledge of nurses in delivering holistic oral health care to critically ill children.
6. To assess nurses' perceptions and their ranking of oral health care in critically ill children
7. To assess nurses' practices in delivering holistic oral care to critically ill children
8. To determine the relationship between nurses' knowledge, perception, and practice with demographic characteristics such as (age, sex, education qualification, years of experience, ICU training, ICU experience).

And our belief that you are the best source of deep access to the required information, the fact that you people of expertise and the competence, and we entrust to your completion and permanent readiness to support scientific research, serving society and its development, so we went to you to fill in this questionnaire. We hope to find the absolute cooperation with you.

Note that your desire to provide adequate information correctly and objectively will without a doubt - to reach the best results for the subject of the study, which will benefit and goodness for the benefit of our country God willing.

This study is voluntary, so you may withdraw at any time. Your responses will be kept confidential.

- If you have any questions about participating in or learning more about this thesis study, please reach me at sri.hamad.nurh69@student.uobabylon.edu.iq

We thank you for your cooperation....

Researcher: ***sura obayes radhi***

Supervisor: ***Prof. Dr. Nuhad Mohammed Qasim***

Questionnaire

Section A

1. Demographic Data

Please tick your response in the box (√)

1.1 Age Years……..

1.2 Sex

1) Male ☐ 2) Female ☐

1.3 education qualification

1) High school ☐ 2) Diploma ☐ 3) Bachelor Degree ☐ 4) Post Graduate ☐

1.4 Length of nursing experience/service

Month…… Year……..

1.5 Length of Intensive care experience

Month…… Year……..

1.6The number of local training courses that participated for ICU:

1)Did not get any session ☐ 2) One-session ☐ 3) Two sessions ☐ 4)Three or more sessions ☐

Section B

2. Oral health care/hygiene knowledge

2.1 Holistic oral care includes:

1) Endotracheal suctioning and moisturizing of lips ☐

2) Oral assessment, brushing teeth, endotracheal suctioning and moisturizing oral cavity ☐

3) Endotracheal suctioning and brushing teeth ☐

4) Brushing teeth, suctioning and moistening the mouth cavity ☐

2.2 Which tissues are less important when assessing oral health status for critically ill children?

1) Lips ☐

2) Gums ☐

3) Tongue ☐

4) Trachea ☐

2.3 What signs do you think would make you suspicious of a poor oral care

1) Moist lips ☐

2) Bleeding gums ☐

3) Dental plague ☐

4) Pink tongue ☐

2.4 Which oral flora/organisms are predominant in critically ill children?

1) Gram positive streptococci and dental pathogens ☐

2) Gram negative streptococci and dental pathogens ☐

3) Both 1 and 2 ☐

4) Different strains of pathogens ☐

2.5 Are there drugs adversely affect oral health in critically ill children?

1) Yes ☐ 2) No ☐

2.6) which class of drugs commonly used in ICU interfere with salivary production in critically ill children?

1) Dormicum ☐

2) Amoxicillin ☐

3) Furosemide ☐

4)Sympathomimetics ☐

2.7 which is the most common respiratory nosocomial infection associated with poor oral care in critically ill children?

(Specify).....

2.8 Did you receive training/instruction in assessment and provision of holistic oral care for critically ill children at basic nursing training?

1) Yes ☐ 2) No ☐

2.9 Did you receive training/instruction in assessment and provision of holistic oral health care to critically ill children since allocated in your unit?

1) Yes ☐ 2) No ☐

2.10 Would you like further training/updates on assessment and provision of holistic oral health care for critically ill children?

1) Yes ☐ 2) No ☐

Section C

---

3. Oral care perceptions

Please indicate whether you: 1- Strongly Agree, 2- Agree, 3- Uncertain, 4- Disagree Or 5- Strongly Disagree to the following

statements by ticking (√) under the number that best describe your point of view.

Statement	1	2	3	4	5
3.1 Holistic oral care is a very high priority in critically ill children					
3.2 Holistic oral care contributes less to critically ill children health and wellbeing					
3.3 Cleaning the oral cavity for critically ill children is an unpleasant task					
3.4 Cleaning oral cavity of critically ill children causes patient discomfort					
3.5 The oral cavity of critically ill children is difficult to clean					
3.6 The oral cavity of ventilated children get worse no matter what I do					

3.7 Rank importance of examination of a children mouth on admission on a ten-point scale with 1 as Least Important And 10 as Very Important (just tick (√) your response below the number)

Rank	1	2	3	4	5	6	7	8	9	10
response										

Section D

4. Oral care Practices

Appendices

Some of the internationally used and evidence-based oral care mouthwashes, cleansing tools and moistening agents for critically ill children are listed below, indicate whether you: 1 - Always, 2 - Rarely Or 3 -Never Use Them by ticking (√) against each agent and indicating on the reasons column by putting a number that corresponds with the reason for rarely or never using the agent.

Lists of reasons and their numbers

1. Not found in the ICU protocol
2. Lack of time
3. Lack of supplies and equipment
4. Lack of skills
5. It causes child discomfort
6. Any Other reason

   (specify).....

Mouthwashes, cleansing tools and moistening agents	1	2	3	Reasons
4.1 Tooth brush				
4.2 Tooth paste				
4.3 Swab				
4.4 Sterile water				
4.5 Tap water				
4.6 Normal saline				
4.7 Glycothymoline				
4.8 Lemon & glycerol				
4.9 Sodium bicarbonate				
4.10 Hydrogen peroxide				
4.11 Vaseline/lip balm				
4.12 Other(specify)				

4.13 Do you carry out oral health assessment on a child on admission?

1) Yes ☐ 2) No ☐

4.14 What percentage (%) of children in your ICU requires assistance with oral care? (Please specify)- (1%-100%)……

4.15Who caries out mouth care in your unit? 1) You ☐ 2) ☐ Others

4.16 Is there an assessment tool/guide that you use to establish your child oral care status?

1) Yes ☐ 2) No ☐

4.17 Do you have any practical difficulties in carrying out regular oral health care for children in your unit?

1) Yes ☐ 2) No ☐

4.18 Does your unit have a mouth care protocol?

1) Yes ☐ 2) No ☐

4.19 How frequently is a children oral care provided each day in your unit?

1) Not at all ☐

2) Once per day ☐

3) Twice per day ☐

4) Three times per day ☐

5) More than three times per day ☐

6) As needed ☐

4.20 Do you feel your hospital provides adequate resources/supplies for the provision of oral care?

1) Yes ☐ 2) no ☐ 3) not sure ☐

Thank you very much for your time

Appendix C Arabic Version of Questioner

(أ) الْاِسْتِبَانَةُ (النُّسْخَةُ الْعَرَبِيَّةُ)

الأخ الفاضل ...الأخت الفاضلة.

يسعى الباحث في هذه الاستبانة إلى (معارف، تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة)

يجري الباحث هذا البحث استكمالاً لمتطلبات الحصول على درجة الماجستير في علوم في التمريض، ويهدف الباحث الى:

1) **لتقييم معارف الممرضين حول الرعاية الصحية الفموية الشاملة للأطفال المصابين بأمراض خطيرة.**
2) **لتقييم تصورات الممرضين وترتيبهم للعناية بصحة الفم لدى الأطفال المصابين بأمراض خطيرة.**
3) **لتقييم ممارسات الممرضين حول رعاية الفم الشاملة للأطفال المصابين بأمراض خطيرة.**
4) **لتحديد العلاقة بين المعارف والتصورات والممارسات مع البيانات الديموغرافية كـــ (العمر، الجنس، المستوى العلمي، سنوات الخبرة ،سنوات الخبرة في العناية المركزة ،الدورات التدريبية للعناية المركزة).**

ولإيماننا العميق بأنكم خير مصدر للوصول إلى المعلومات المطلوبة، كونكم أهل خبرة واختصاص، ونعهد بكم الإتمام والاستعداد الدائمين لمؤازرة الأبحاث العلمية، التي تخدم

المجتمع وتطوره، لذا توجهنا إليكم لتعبئة هذه الاستبانة وكلنا أمل أن نجد التعاون المطلق من قبلكم.

علماً أن حرصكم على تقديم المعلومات الكافية بدقة وموضوعية سيؤدي – بدون شك – إلى الوصول إلى أفضل النتائج لموضوع الدراسة، مما سيعود بالنفع والخير لما فيه مصلحة بلدنا بإذن الله.

- **مشاركتك في هذا الاستبانة تطوعية، ويمكنك الانسحاب في أي وقت. جميع البيانات سوف تحفظ بكل سرية.**
- **إذا كان لديك أية استفسارات، يرجى التواصل من خلال**

الايميلsri.hamad.nurh69@student.uobabylon.edu.iq

للمشاركة في الاستبيان

ونشكركم لحسن تعاونكم....

الباحث:

طالبة الماجستير *سرى عبيس راضي*

اشراف الأستاذ الدكتور: *نهاد محمد قاسم*

الاستبانة

يسعى الباحث في هذه الاستبانة إلى (معارف، تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة)

الجزء الاول

1-البيانات الديموغرافية

يرجى وضع علامة(√) على إجابتك في المربع

1.1العمر بالسنوات .....

2.1 الجنس

1) ذكر ☐ 2) انثى ☐

3.1 الشهادة

1) اعدادية ☐ 2) دبلوم ☐ 3) بكالوريوس ☐ 4) ☐

دراسات عليا

4.1 الخبرة في العمل

شهر ..... سنة .....

5.1 مدة الخبرة في وحدة العناية المركزة

شهر ..... سنة.....

6.1 كم عدد الدورات التدريبية التي تلقيتها حول وحدة العناية المركزة

1) لم احصل على أي دورة ☐ 2) دورة واحدة ☐ 3) دورتين ☐ 4) ثلاث دورات فأكثر ☐

الجزء الثاني :مقياس لتقييم معارف الممرضين حول العناية الشاملة بالفم للأطفال ذوي الحالات الحرجة.

2- العناية بصحةالفم/ المعارف

لطفا ضع علامة (√) في المربع امام الاختيار الصحيح

1.2 تشمل العناية الشاملة بالفم مايلي:

1) شفط داخل الرغامي وترطيب الشفاه ☐

2)تقييم الفم وتنظيف الأسنان وشفط القصبة الهوائية وترطيب تجويف الفم ☐

3) شفط الرغامي وتنظيف الأسنان ☐

4)تفريش الأسنان وشفط وترطيب تجويف الفم ☐

2.2 ما هي الأنسجة الأقل أهمية عند تقييم حالة صحة الفم للأطفالمصابين بأمراض خطيرة؟

1)الشفاه ☐ 2)اللثة ☐

3)اللسان ☐ 4)القصبة الهوائية ☐

3.2ما هي العلامات التي تعتقد أنها تجعلك تشك في سوء العناية بالفم

1) شفاه رطبة ☐

2)نزيف اللثة ☐

3) تصبغ او تلون الأسنان ☐

4)اللسان الوردي ☐

4.2 ما هي الكائنات الحية الفموية السائدة في الأطفال المصابينبأمراض خطيرة؟

1)العقديات موجبة الجرام ومسببات أمراض الأسنان ☐

2)العقديات سالبة الجرام ومسببات أمراض الأسنان ☐

3) كلاهما 1 و2 ☐

4)سلالات مختلفة من مسببات الأمراض ☐

5.2 **هل توجد أدوية تؤثر سلباً على صحة الفم لدى الاطفالالمصابين بأمراض خطيرة؟**

1)نعم ☐ 2) لا ☐

6.2 **ما هي فئة الأدوية المستخدمة بشكل شائع في وحدة العناية المركزة التي تتداخل مع إنتاج اللعاب فيالاطفالالمصابين بأمراض خطيرة؟**

1)دورميكوم ☐

2)أموكسيسيلين ☐

3)فوروسيميد ☐

4) محاكي الودي كـ (ادرينالين ، دوبامين، دوبوتامين) ☐

7 .2 **ما هي عدوى المستشفيات التنفسية الأكثر شيوعًا المرتبطة بسوء العناية بالفم لدىالاطفال المصابين بأمراض خطيرة؟ (حدد).....**

8.2 هل تلقيت تدريبًا /تعليمات في التقييم وتوفير رعاية الفم الشاملة للأطفال ذوي الحالاتالحرجة في تدريب التمريض الاساسي؟

1)نعم ☐ 2) لا ☐

9.2 **هل تلقيت تدريبًا /تعليمات في التقييم وتوفير رعاية صحية شاملة للفم للأطفال ذوي الحالات الحرجة منذ تخصيصهاعند حدوثها في وحدتك؟**

1)نعم ☐ 2) لا ☐

10.2 **هل ترغب في المزيد من التدريب /التحديثات على التقييم وتوفير رعاية صحية للفم الشاملة للأطفالذوي الحالات الحرجة؟**

1)**نعم** ☐ 2) **لا** ☐

الجزء الثالث: مقياس لتقييم تصورات الممرضين عن العناية الشاملة بالفم للأطفال ذوي الحالات الحرجة.

3. تصورات العناية بالفم

يرجى توضيح ما إذا كنت :**1- موافق بشدة ، 2- موافق ، 3- غيرمتأكد 4-غيرموافق 5- لا اوافق بشدة** بوضع علامة (√) **على العبارات التالية تحت الرقم الذي يصف وجهة نظرك بشكل افضل .**

الفقرة	1	2	3	4	5
3-1 تعتبر العناية الشاملة بالفم أولوية عالية جدًا في الاطفال ذوي الحالات الحرجة	○	○	○	○	○
3-2 تساهم العناية الشاملة بالفم بشكل أقل في صحة الطفل المصاب بأمراض خطيرة وعافيته	○	○	○	○	○
3-3 يعتبر تنظيف تجويف الفم للأطفال المصابين بأمراض خطيرة مهمة غير مرغوب بها	○	○	○	○	○
3-4 تنظيف تجويف الفم للمرضى المصابين بأمراض خطيرة يسبب إزعاجالطفل	○	○	○	○	○
3-5 يصعب تنظيف تجويف الفم للأطفال المصابين بأمراض خطيرة	○	○	○	○	○
3-6 التجويف الفموي للأطفالالذين يخضعون للتهوية يزداد سوءًا بغض النظر عما أفعله	○	○	○	○	○

3-7 رتب أهمية فحص فمالطفل عند الدخول على مقياس من عشر نقاط مع 1 الأقل أهمية و 10اعلى أهمية ضععلامة (√) على اجابتك تحت الرقم

الترتيب	1	2	3	4	5	6	7	8	9	10
الاجابة										

الجزء الرابع: مقياس لتقييم ممارسات الممرضين تجاه العناية الشاملة بالفم للأطفال ذوي الحالات الحرجة.

4. ممارسات العناية بالفم

تم تعداد بعض غسولات الفم وأدوات التنظيف وعوامل الترطيب للأطفال المصابين بأمراض خطيرة والمستخدمة دوليًا والقائمة على الأدلة العلمية أدناه، حدد ما إذا كنت: **1 -دائما، 2 – نادرا أو 3 - لا تستخدمها أبدًا** عن طريق وضع علامة (√) مقابل كل اختيار والإشارة في

عمود الأسباب عن طريق رسم دائرة حول رقم يتوافق مع سبب الاستخدام الاختيار: 2- **نادرًا** أو 3-**لا تستخدمها أبدًا**.

قوائم الأسباب وأرقامها *(لطفاً ارسم دائرة حول رقم احدى أسباب الاستخدام المذكورة ادناه والذي تختاره في حقل الأسباب في الجدول ادناه)*

1- غير موجود في بروتوكولات العناية المركزة 2-ضيق الوقت 3- نقص المستلزمات والمعدات 4- نقص المهارات 5- يسبب انزعاج المريض 6- أي سبب آخر(يرجى التحديد).....

غسولات الفم وأدوات التنظيف وعوامل الترطيب	1 دائمًا	2 نادراً	3 لا تستخدمها أبدًا	الأسباب *ارسم دائرة على رقم السبب*
4-1 فرشاة الأسنان	○	○	○	1 2 3 4 5 6_____
4-2 معجون الأسنان	○	○	○	1 2 3 4 5 6_____
4-3 المسحة	○	○	○	1 2 3 4 5 6_____
4-4 الماء المعقم	○	○	○	1 2 3 4 5 6_____
4-5 مياه الصنبور	○	○	○	1 2 3 4 5 6_____
4-6 محلول ملحي عادي	○	○	○	1 2 3 4 5 6_____
4-7 الجليكوثيمولين	○	○	○	1 2 3 4 5 6_____
4-8 الليمون والجلسرين	○	○	○	1 2 3 4 5 6_____
4-9 بيكربونات الصوديوم	○	○	○	1 2 3 4 5 6_____
4-10 بيروكسيد الهيدروجين	○	○	○	1 2 3 4 5 6_____
4-11 فازلين / مرطب شفاه	○	○	○	1 2 3 4 5 6_____
4-12 أخرى(حدد)_____	○	○	○	1 2 3 4 5 6_____

4-13 **هل تُجري تقييمًا لصحة الفم لدى طفلعند الدخول؟**

1) نعم ☐ 2) لا ☐

14-4 ما هي النسبة المئوية (%) للمرضى الاطفال في وحدة العناية المركزة الذين يحتاجون إلى المساعدة في العناية بالفم؟

(يرجى التحديد) (1% - 100%) .....

15-4 من الذي يتولى العناية بالفم في وحدتك؟ 1) انت ☐ 2) غيرك ☐

16-4 هل هناك أداة / دليل تقييم تستخدمه لتحديد حالة العناية بالفم للطفل؟

1)نعم ☐ 2) لا ☐

17-4 هل تواجه أي صعوبات عملية في إجراء رعاية صحة الفم بانتظام للأطفالفي وحدتك؟

1)نعم ☐ 2) لا ☐

18-4هل يوجد في وحدتك بروتوكول للعناية بالفم؟

1)نعم ☐ 2) لا ☐

19-4 كم مرة يتم تقديم العناية بالفم للطفلكل يوم في وحدتك؟

1) لا على الإطلاق ☐

2) مرة في اليوم ☐

3) مرتين في اليوم ☐

4) ثلاث مرات في اليوم ☐

5) أكثر من ثلاث مرات في اليوم ☐

6) حسب الحاجة ☐

20-4 هل لديك علم أن مستشفاك يوفر موارد / لوازم كافية لتوفير العناية بالفم؟

1)نعم ☐ 2) لا ☐ 3) غير متأكد ☐

شكرا جزيلا على وقتك

Appendix D Panel of Expert

ت	اسم الخبير	الاختصاص	اللقب العلمي	مكان العمل	سنوات الخدمة
1	د. سعدية هادي حميد	تمريض صحة الام والوليد	استاذ	كلية المستقبل الجامعة/قسم التمريض	42
2	د. عبد المهدي عبد الرضا حسن	تمريض الصحة النفسية	استاذ	جامعة بابل/كلية التمريض	41
3	د. عفيفة رضا عزيز	تمريض صحة الطفل	استاذ	جامعة بغداد/كلية التمريض	41
4	أ.د. امين عجيل الياسري	تمريض صحة المجتمع	استاذ	جامعة بابل /كلية التمريض	39
5	د. سلمى كاظم جهاد	تمريض صحة المجتمع	استاذ	جامعة بابل/كلية التمريض	38
6	د. سحر أدهم علي	تمريض بالغين	استاذ	جامعة بابل/كلية التمريض	31
7	د. هالة سعدي عبد الواحد	تمريض صحة المجتمع	استاذ	جامعة بغداد/كلية التمريض	29
8	د. ختام مطشر حطاب	تمريض صحة الطفل	استاذ	جامعة بغداد/كلية التمريض	26
9	د. خميس بندر عبيد	تمريض صحة الطفل	استاذ	جامعة كربلاء /كلية التمريض	24
10	د. وفاء احمد امين	تمريض صحة الام والرضيع	أستاذ مساعد	جامعة بابل/كلية التمريض	35
11	د. جنان أكبر شكور	تمريض صحة المجتمع	أستاذ مساعد	جامعة كركوك/ كلية التمريض	32
12	د. زيد وحيد عاجل	تمريض صحة الطفل	أستاذ مساعد	جامعة بغداد/كلية التمريض	14
13	د. احمد عبدالله عبد	تمريض صحة الطفل	أستاذ مساعد	جامعة ذي قار/كلية التمريض	13
14	د. نور محمد عبدالله حسين	تمريض صحة المجتمع	مدرس	كلية المستقبل الجامعة/قسم التمريض	23
15	د. برهان هادي درب	تمريض الصحة النفسية	مدرس	كلية المستقبل الجامعة/قسم التمريض	8
16	د. مصطفى علي غازي	تمريض صحة الطفل	مدرس	جامعة القاسم الخضراء/كلية التقانات الاحيائية	6
17	د. صادق سلام حسوني	تمريض بالغين	مدرس	كلية المستقبل الجامعة/قسم التمريض	4
18	د. زكي صباح مصيحب	تمريض صحة الطفل	مدرس	جامعة كربلاء /كلية التمريض	3

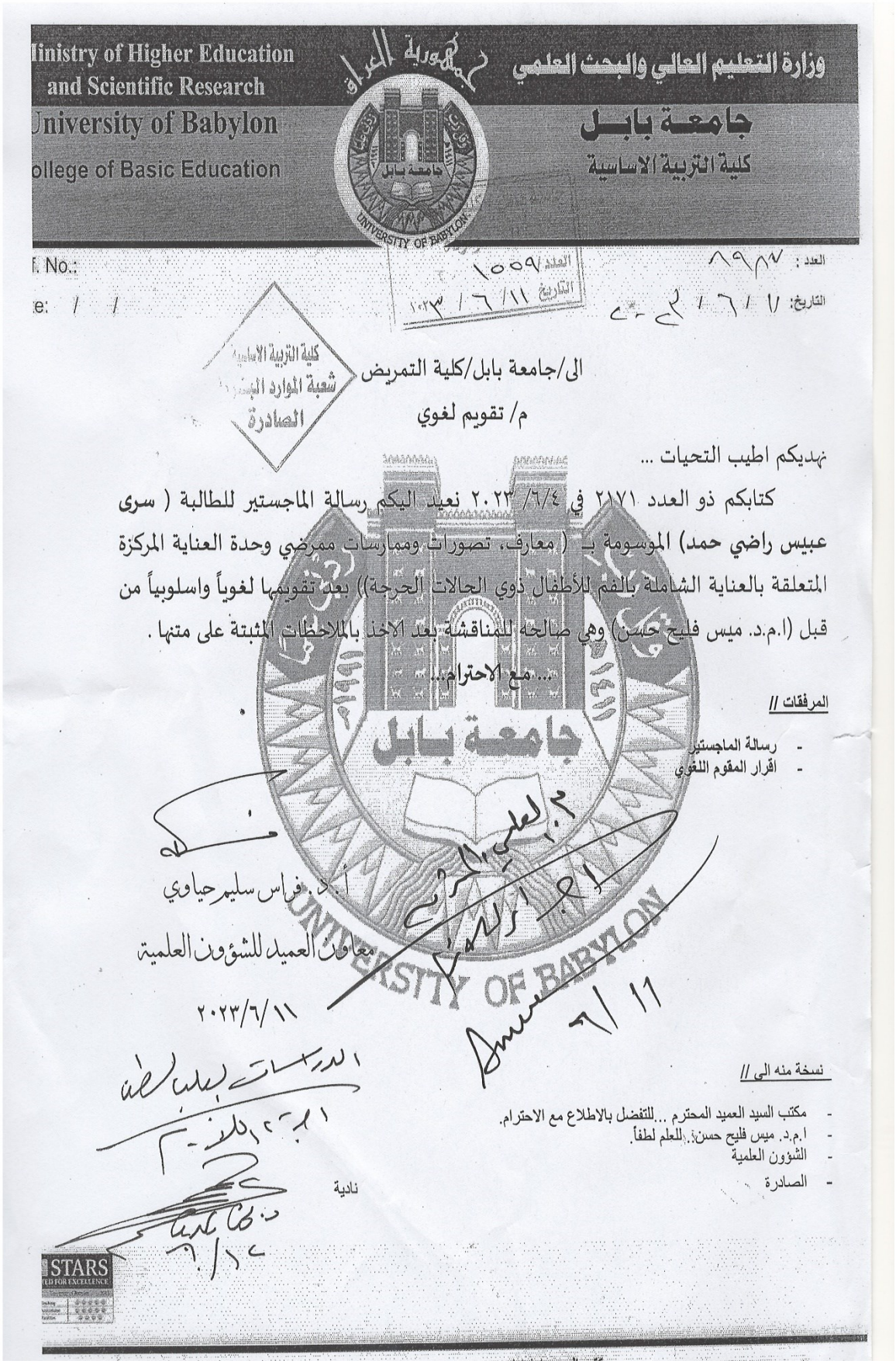
Appendix E Section Codes

Table The study Survey includes codes for each section and its related components separately.

Section	Question	Code of Ver.
Oral Health Care/Hygiene Knowledge (OHK)	⊙ Holistic oral care includes	OHK1
	⊙ Which tissues are less important when assessing oral health status for critically ill children?	OHK2
	⊙ What signs do you think would make you suspicious of a poor oral care?	OHK3
	⊙ Which oral flora/organisms are predominant in critically ill children?	OHK4
	⊙ Are there drugs adversely affect oral health in critically ill children?	OHK5
	⊙ which class of drugs commonly used in ICU interfere with salivary production in critically ill children?	OHK6 OHK7
	⊙ which is the most common respiratory nosocomial infection associated with poor oral care in critically ill children? (Specify)	OHK8
	⊙ Did you receive training/instruction in assessment and provision of holistic oral care for critically ill children at basic nursing training?	OHK9
	⊙ Did you receive training/instruction in assessment and provision of holistic oral health care to critically ill children since allocated in your unit?	OHK10
	⊙ Would you like further training/updates on assessment and provision of holistic oral health care for critically ill children?	
Oral Care Perceptions (OCP)	⊙ Holistic oral care is a very high priority in critically ill children.	OCP1
	⊙ Holistic oral care contributes less to critically ill children health and wellbeing.	OCP2
	⊙ Cleaning the oral cavity for critically ill children is an unpleasant task.	OCP3
	⊙ Cleaning oral cavity of critically ill children causes patient discomfort.	OCP4
	⊙ The oral cavity of critically ill children is difficult to clean.	OCP5 OCP6
	⊙ The oral cavity of ventilated children gets worse no matter what I do	OCP7
	⊙ Rank importance of examination of a children mouth on admission	
Oral care Practices (ORPR)	Mouthwashes, cleansing tools and moistening agents:	ORPR1
	⊙ Toothbrush	ORPR2
	⊙ Toothpaste	ORPR3
	⊙ Swab	ORPR4
	⊙ Sterile water	ORPR5
	⊙ Tap water	ORPR6
	⊙ Normal saline	ORPR7

	⊙ Glycothymoline	ORPR8
	⊙ Lemon & glycerol	ORPR9
	⊙ Sodium bicarbonate	ORPR10
	⊙ Hydrogen peroxide	ORPR11
	⊙ Vaseline/lip balm	ORPR12
Oral care	⊙ Other(specify)	
Practices	Lists of reasons for use and their numbers:	ORPRE1
REasons (ORPRE)	⊙ Not found in the ICU protocol	ORPRE2
	⊙ Lack of time	ORPRE3
	⊙ Lack of supplies and equipment	ORPRE4
	⊙ Lack of skills	ORPRE5
	⊙ It causes child discomfort.	ORPRE6
	⊙ Any Other reason (specify).....	ORPR13
	⊙ Do you carry out oral health assessment on a child on admission?	ORPR14
	⊙ What percentage(%) of children in your ICU requires assistance with oral care? (Please specify)- (1%-100%)	ORPR15
	⊙ Who caries out mouth care in your unit?	ORPR16
	⊙ Is there an assessment tool/guide that you use to establish your child oral care status?	ORPR17
	⊙ Do you have any practical difficulties in carrying out regular oral health care for children in your unit?	ORPR18
	⊙ Does your unit have a mouth care protocol?	ORPR19
	⊙ How frequently is a children oral care providing each day in your unit?	ORPR20
	⊙ Do you feel your hospital provides adequate resources/supplies for the provision of oral care?	

Appendix F Linguistic Approval



Ministry of Higher Education and Scientific Research
University of Babylon
College of Basic Education

وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التربية الاساسية

العدد: ٨٩٨٧
التاريخ: ٢٠٢٣/٦/١١

No.:
Date: / /

العدد ١٥٥٩
التاريخ ٢٠٢٣/٦/١١

كلية التربية الاساسية
شعبة الموارد البشرية
الصادرة

الى/جامعة بابل/كلية التمريض
م/ تقويم لغوي

تهديكم اطيب التحيات ...

كتابكم ذو العدد ٢١٧١ في ٢٠٢٣/٦/٤ نعيد اليكم رسالة الماجستير للطالبة (سرى عبيس راضي حمد) الموسومة بـ (معارف، تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة)) بعد تقويمها لغوياً واسلوبياً من قبل (ا.م.د. ميس فليح حسن) وهي صالحه للمناقشة بعد الاخذ بالملاحظات المثبتة على متنها .

....مع الاحترام...

المرفقات //

- رسالة الماجستير
- اقرار المقوم اللغوي

جامعة بابل

أ.د. فراس سليم حياوي
معاون العميد للشؤون العلمية
٢٠٢٣/٦/١١

نسخة منه الى //

- مكتب السيد العميد المحترم ...للتفضل بالاطلاع مع الاحترام.
- ا.م.د. ميس فليح حسن ..للعلم لطفاً.
- الشؤون العلمية
- الصادرة

نادية

UNIVERSITY OF BABYLON

STARS
TED FOR EXCELLENCE

الخلاصة

المـــقدمـــة: تعتبر ممارسات العناية بالفم الكافية أمرًا أساسيًا للأطفال ذوي الحالات الحرجة في وحدة العناية المركزة لمنع المضاعفات والحفاظ على الصحة. حيث ان فهم معرفة وتصور وممارسات ممرضات وحدة العناية المركزة بشأن العناية بالفم الشاملة ضروري لتحسين نتائج المرضى.

اهـــداف الـــدراسة: هدفت هذه الدراسة إلى تقييم معارف وتصورات وممارسات ممرضي وحدة العناية المركزة بشأن الرعاية بالفم للأطفال ذوي الحالات الحرجة واستكشاف أي ارتباطات مع السمات الديموغرافية والمهنية للممرضين.

منـــهجية الدراســـة: شملت الدراسة 170 ممرض/ة في وحدة العناية المركزة تم اختيار العينة بطريقة الطبقة المستهدفة وفقًا للجنس (105 إناث و65 ذكور). بدأت الدراسة في شهر فبراير 2023. أجريت هذه الدراسة المقطعية بين ممرضي وحدة العناية المركزة في ست وحدات عناية مركزة في ثلاثة مستشفيات محددة في مدينة الحلة. تم استخدام استبانة لجمع البيانات حول المعلومات الديموغرافية والمعرفة والتصور والممارسة المتعلقة بالعناية بالفم. تم إجراء تحليل إحصائي، بما في ذلك اختبارات t وتحليل الترابط، لفحص البيانات.

نـــتائج الـــدراسة: استنتجت الدراسة الى ان متوسط درجة المعرفة بشأن العناية بالفم متوسطة (2.2) ، في حين بلغت متوسط تصور العناية بالفم أيضًا متوسطة (2.5). ومع ذلك، كانت درجة ممارسة الرعاية التمريضية بالفم جيدة (2.02). لم يتم ملاحظة اختلافات كبيرة في درجات العناية الشاملة للفم بناءً على العمر والمؤهل التعليمي وسنوات الخبرة. ومع ذلك، وجدت الدراسة اختلاف كبير في متوسط درجة العناية بالفم الشاملة بين الممرضات والممرضين (18.37 مقابل 17.85 ، $p = 0.021$).

الاستنتاجـــات والتـــوصيـــات: توصلت هذه الدراسة الى أن ممرضي وحدة العناية المركزة لديهم فهم محدود للرعاية بالفم الشاملة وضرورة تضمينها في التعليم التمريضي الأساسي. على الرغم من أن الممرضين يدركون أهمية العناية بالفم، إلا أن الدراسة تحدد أيضًا اختلافات في الأدوات والمحاليل المستخدمة للتنظيف الفموي ، بالإضافة إلى عدم انتظام تكرار العناية الشاملة بالفم. تؤكد هذه النتائج ضرورة تعزيز التعليم وتوحيد الممارسات لتحقيق رعاية فموية متسقة وفعالة للأطفال الحرجين في وحدة العناية المركزة.

وِزَارَةُ التَّعْلِيمِ الْعَالِي وَالْبَحْثُ الْعِلْمِيُّ
جـَامـِعَةُ بابـــِلِ
كـُلِّيَّةِ التَّمْريـــضِ

معارف، تصورات وممارسات ممرضي وحدة العناية المركزة المتعلقة بالعناية الشاملة بالفم للأطفال ذوي الحالات الحرجة

رســـالـــة

مقدمة من قبل
سـرى عـبيس راضـي

الى جامعة بابل / كلية التمريض / تمريض صحة الطفل
وهي جزء من متطلبات نيل درجة الماجستير في علوم التمريض

بِإِشْـــرافِ

أ. د. نـهاد محمد الـدوري

حزيران/2023 مِيلاَدَي ذُو الْقَعْدَةِ/ 1445 هَجْري