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Original Article

Evaluating Maternal Understanding, Perspectives, and Behaviors Concerning Oral Health of Preschoolers in Zawia (Juddaem)

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ABSTRACT

Purpose: The influence of parents, particularly mothers, on their children's well-being, including dental health, is widely recognized. Mothers, as primary caregivers during the early years and preschool period, play a crucial role in overseeing their children's oral health.The research aimed to assess the understanding, perspectives, and behaviors of mothers with preschoolers concerning dental health in Zawia (Juddaem), an area where this information hasn't been recorded before.

Methods: In this study, Kindergarten principals distributed 85 surveys to mothers, covering various aspects of oral health awareness and routines for young children. The survey was originally crafted in English and later translated into Arabic, the dominant language in Libya.

Results: Findings revealed that a majority of parents acknowledged the significance of baby teeth, the need to brush both primary and permanent teeth, and the impact of diet on tooth decay. Regarding oral health knowledge, 53% of respondents believed tooth brushing guards against tooth decay, while 68% recognized that regular brushing and professional cleanings aid in preventing gum disease. Overall, mothers demonstrated a strong grasp of oral health concepts, particularly regarding the benefits of fluoride toothpaste and the detrimental effects of sugary foods.When queried about the importance of regular dental check-ups for children and the need to clean a child's teeth after meals, 93% of mothers responded positively, indicating a high level of awareness and dedication to their children's dental care. The study also identified a substantial number of mothers possessing commendable oral health knowledge.

Conclusions: Despite the considerable oral health knowledge among mothers, there was a gap in the actual dental care provided to children. This gap could stem from a focus on seeking dental care or challenges in accessing child-friendly dental services.

Keywords: Childhood, Oral Health, Knowledge,Tooth Decay, Mothers.

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INTRODUCTION

Children's oral health has emerged as a significant global concern, with dental caries standing out as one of the most prevalent chronic illnesses during childhood. Early Childhood Caries (ECC), the untreated decay in primary teeth, impacts around 621 million children globally.[1] ECC, a transmissible condition affecting at least one primary tooth in children under 6 years old (AAPD 2014), necessitates early management to avert adverse outcomes like pain, infections, and tooth loss. These consequences can detrimentally affect the quality of life and elevate the risk of dental caries in future generations.Oral hygiene plays a vital role in preventing dental caries and gum diseases, emphasizing the significance of appropriate oral hygiene practices from a young age.[2] Oral care routines formed during developmental phases are shaped by parental actions, predominantly by mothers who typically serve as the primary caretakers for their children.[3] Moreover, positive health experiences during early childhood often lead to the continuity of good behavioral habits into adulthood.[4]

The behavior of parents is widely recognized, particularly that of mothers, influences the health of their children.[5] This is also true for oral health, where parents play a significant role, Since mothers are the primary caretakers responsible for their children's oral health in the initial three years and through the preschool period; fathers still remain significant contributors to their children's oral health.[6] Variables like maternal education, profession, age, existing knowledge, attitude, and conduct can offer understanding and aid in enhancing their personal health practices, consequently benefiting their children's health indirectly.[7] The correlation between maternal dental well-being and dental caries in their children can be elucidated by the influence of dietary patterns, inadequate hygiene practices in infants, and the transfer of oral bacteria from the mother.[3] Therefore, mothers' tooth cleaning habits, dietary habits and food selections are closely associated with those of their children.[8] Oral healthcare providers recognize that enhancing parental oral health practices can potentially lower the chances of dental caries in their children. Nevertheless, there is insufficient data to definitively establish this connection.Typically, children under the age of 5 spend the majority of their time with parents and caregivers, especially mothers, even when attending daycare centers. These initial stages encompass the "first socialization" where the earliest routines and childhood habits are formed, heavily influenced by parental knowledge and behavior. Mothers, considered the primary role models, Their beliefs about health and their attitudes toward oral care are crucial indicators of children's well-being. Therefore, this research aimed to evaluate mothers' knowledge, attitudes, and behaviors related to their children's oral health and to examine these factors in relation to age, educational background, and economic status. Early childhood is the time when most healthy teeth develop and are established. Most children experience toothaches during this period due to the consumption of sweets. Observations note an increase in dental caries cases and oral health problems among preschool children.

MATERIALS AND METHODS

Study Population

The study population for this research comprised students enrolled in the first, second, and third grades of primary education, ranging in age from 6 to 9 years, from schools situated in the Juddaem region of Zawia, Libya. Participants were selected from schools located in the Juddaem region of Zawia, Libya. The sampling specifically targeted students in the first, second, and third grades of primary education, aged between 6 and 9 years. The data collection involved mothers of the children within this age range, who responded to a questionnaire regarding their knowledge about their children's oral health. The study was carried out in 2023, during which data were collected from mothers of students enrolled in the first, second, and third grades of primary education in the Juddaem region of Zawia, Libya. The research was conducted in schools situated in the Juddaem region of Zawia, Libya.

Ethical Approval

The study received ethical approval for data collection and analysis from the relevant authorities, ensuring adherence to ethical guidelines and principles throughout the research process.

Data Analysis

Following data collection through questionnaires returned by students to their mothers, the gathered information was organized into tables and subjected to statistical analysis using SPSS version 26. The analysis focused on various aspects, including oral hygiene practices, tooth cleaning techniques, common oral health issues, instances of tooth decay, dental abnormalities, gum bleeding, as well as demographics such as the age of the student and mother, and the mother's educational background.

RESULTS

The data was presented in Table 1 highlights that the highest percentage was observed among 8-year-old children, constituting 29% of the sample, followed closely by 6-year-olds at 27%.

Table 1. Cross tabulation for child age in the sample.

Child age	Frequency	%
6 year	23	27%
7 year	20	23%
8 year	24	29%
9 year	18	21%
Total	85	100%

The study was examined the correlation between mothers' educational attainment and their knowledge, practices, and attitudes. Mothers with at least a primary education level constituted 9% of the study sample, while those with a secondary education background accounted for 16%. In contrast, mothers with a university qualification represented the majority at 62% of the sample. A statistically significant relationship was observed between mothers' educational levels and their attitudes.

In Figure 1 of this study, participants were queried about the role of fluoride in toothpaste. A substantial 74% of respondents acknowledged that fluoride protects against tooth decay, indicating a widespread understanding of fluoride's preventive properties against dental caries.

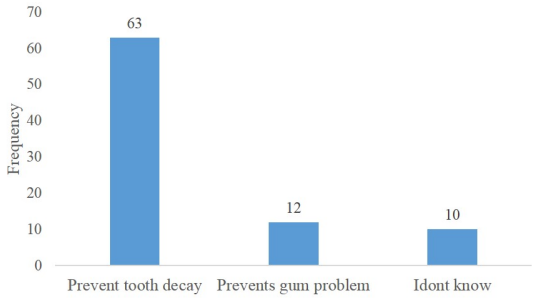

Fig 1. Bar graph for the percent of the role of fluoride in toothpaste.

Table 2. Cross tabulation for mother's education level in the sample.

Mothers education level	Frequency	%
primary	8	9%
Secondary	14	16%
University	53	62%
Other	10	12%
Total	85	%100

The data on common dental diseases in children reveals that dental caries is the most prevalent condition, accounting for 62% of the cases reported. Gum bleeding, while less common, was noted in 7% of the children surveyed. Deformed teeth were observed in 26% of the cases, indicating a significant proportion of children with this issue. Surprisingly, 4% of respondents expressed uncertainty about the prevailing dental condition. These findings underscore the varying prevalence of dental issues among children, with dental caries being the most frequently cited concern, followed by deformed teeth and gum bleeding, highlighting the importance of dental health awareness and preventive measures for children.

In this study (Figure 2), 62% of the sample indicated that chocolate is the most common food causing tooth decay in children. Research indicates that sugars are undeniably the most critical dietary element in the formation of dental caries.

The cross tabulation presents data on methods believed to help prevent tooth decay among the surveyed individuals. Among the responses, 33% indicated a belief in abstaining from sweets,

Table 3. Cross tabulation for the common dental disease in children.

What is the most prevalent dental condition in your child?	Frequency	%
Dental caries	53	62%
Gum Bleeding	6	%7
Deformed teeth	22	%26
Idont know	4	4%
Total	85	%100

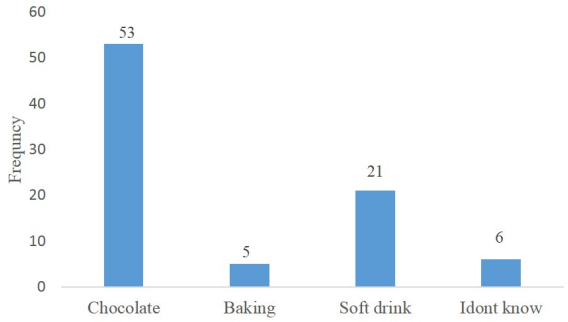

Fig 2. Bar graph for the percent of the foods can lead to tooth decay in children.

while a majority of 53% pointed towards brushing teeth as a preventive measure. Interestingly, 14% expressed uncertainty by stating "I don't know." These findings highlight a significant reliance on tooth brushing as a preferred method for preventing tooth decay, with a notable portion unsure of the efficacy of specific preventive measures.

In this study, we inquired about the importance of regular dental check-ups for children and whether cleaning the child's teeth after every meal is necessary. An overwhelming 93% of the mothers responded affirmatively. This high percentage underscores the significant level of awareness and commitment among mothers towards maintaining their children's oral hygiene.

The mothers in the study demonstrated predominantly positive attitudes towards oral health, with a significant 73% regarding tooth brushing as the most effective method to clean their children's teeth (as presented in Table 5). Additionally, 37% reported brushing their children's teeth after each meal to prevent dental decay.

Table 4. Cross tabulation for the common dental disease in children.

Which of the following do you believe helps prevent tooth decay	Frequency	%
Abstaining from sweet	28	33%
Brushing teeth	45	%53
Idont know	12	14%
total	85	%100

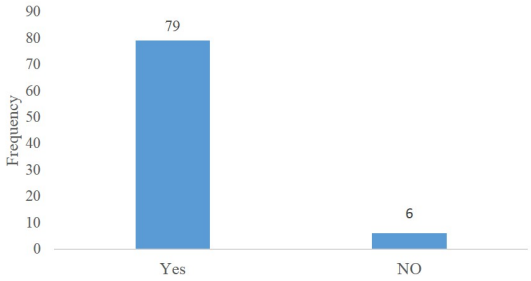

Fig 3. Bar graph for it is necessary to take children to regular visits to the dentist.

Table 5. Cross tabulation for methods are used to clean your child teeth.

'What methods do you use to clean your child's teeth?	Frequency	%
Finger	7	% 8
Brush	62	%73
Anything else	16	%19
Total	85	% 100

DESCUSSION

During the formative preschool years, spanning the initial three years, parental influence plays a pivotal role in preserving a child's dental health.[5] The present study delves into the previously unexplored realm of mothers' knowledge, attitudes, and practices concerning the oral health of preschoolers in the Juddaem region. These findings align with outcomes from analogous studies conducted among maternal cohorts in the United States[9] and Saudi Arabia.[10]

The prevalence of children aged 8 years constituting the largest percentage could be attributed to the fact that this age group might have a higher likelihood of experiencing oral health

issues, thereby necessitating increased attention from both parents, particularly mothers who are often primary caregivers. This age group might also coincide with the eruption of permanent teeth, prompting heightened parental concern and involvement in oral hygiene practices.The resemblance of the study's outcomes to those observed in studies conducted in the USA and Saudi Arabia suggests a degree of universality in maternal attitudes and practices towards preschoolers' oral health. This consistency across diverse cultural contexts underscores the global significance of maternal influence in shaping children's oral health outcomes and underscores the need for targeted interventions and education initiatives aimed at enhancing maternal awareness and practices worldwide.

Parents, serving as primary educators in a child's life, wield considerable influence over the adoption or rejection of detrimental habits and, notably, their child's oral health. The understanding and viewpoints of parents regarding oral health behaviors play a crucial role in whether these habits are perpetuated over time.[11]

The substantial percentage of mothers with a university qualification displaying higher scores in knowledge, practices, and attitudes towards oral health can be attributed to the potentially deeper understanding and exposure to health-related information afforded by higher education levels. University-educated mothers may have access to a wider array of resources, including updated research and health guidelines, which could positively influence their attitudes and practices regarding oral health. The statistically significant association between mothers' educational levels and their attitudes underscores the importance of education in shaping perspectives and behaviors related to oral health. Higher educational attainment often correlates with increased health literacy and a better understanding of preventive measures, leading to more favorable attitudes towards oral health practices. The correlation between the frequency of sugar consumption and dental health is a subject of interest in oral health research. The beneficial effects of fluoride are contingent on various factors, including the frequency of sugar consumption.[13] Optimal levels of fluoride in water have been demonstrated to fortify teeth and reduce the incidence of tooth decay by as much as 60%.

The efficacy of fluoride in safeguarding teeth from decay is a widely recognized fact in dental health.[12] The high percentage of respondents recognizing fluoride's ability to shield teeth against decay reflects a commendable awareness of this key aspect of dental health. Fluoride's capacity to strengthen tooth enamel and inhibit the growth of cavity-causing bacteria is crucial in preventing dental caries.

The widespread occurrence of dental caries in developing countries underscores the urgent need for effective oral health interventions and preventive measures. Factors such as limited access to dental care, poor oral hygiene practices, and dietary habits contribute to the widespread occurrence of caries in these regions.

The agreement of the study participants with earlier research findings at a rate of 62% emphasizes the reliability and consistency of the data. This alignment strengthens the validity of the study's results and underscores the frequency and significance of dental caries as a pervasive oral health issue across diverse populations.

Dental caries represents a significant oral health challenge in developing nations, impacting between 60% to 90% of school-aged children and a considerable portion of the adult population.[15] The participants in this study align with prior research findings, concurring at a rate of 62% (as shown in Table 3). Dental caries is probably the ailment most closely associated with sugar intake.Both the regularity and overall quantity of sugary foods ingested have displayed significant connections with dental caries and with one another, suggesting that interventions targeting one variable will help manage the other.[16] Additional studies[17,18] have emphasized the risks associated with consuming highly adhesive sugary substances, as they are slowly cleared from the mouth by saliva. sugars is the primary factor in dental caries development enhances the understanding of the nutrition-oral health relationship. This point underscores the critical importance of reducing sugar intake to maintain oral health.

The strong association between the quantity and frequency of sugar consumption and the development of dental caries highlights the importance of regulating dietary patterns and raising awareness of the impact of sugar on oral health.

Brushing teeth daily with fluoride toothpaste stands out as the most crucial oral hygiene practice due to its effectiveness in removing or reducing dental plaque through consistent and systematic use of toothbrushes and dental floss.[19-21] Proper tooth brushing, especially when combined with fluoride toothpaste has been demonstrated to reduce the risk of dental caries.[22] According to the results presented in Table 4, 53% of the sample affirmed that regular teeth brushing helps in preventing tooth decay, while 68% of the study participants highlighted that routine brushing and professional cleanings can prevent gum disease.

The oral health knowledge levels among mothers were generally high, with a majority of them being knowledgeable about the preventive advantages of fluoride toothpaste and the detrimental effects of sugary foods on dental health.

The high oral health knowledge scores among mothers, particularly regarding advantages of fluoride toothpaste and the harms of sugary foods on teeth, demonstrate a commendable level of awareness and understanding of preventive oral health measures.

In their responses, mothers acknowledged the importance of tooth brushing and the use of fluoridated toothpaste in preventing tooth decay. Nevertheless, it is crucial to mention that this study did not include oral examination of the participants' oral cavities.; rather, it relied solely on self-reported information. This reliance on self-reports could introduce inaccuracies that might impact the study results.

Overall, the gathered information contributed to yielding acceptable results for the study. The findings underscore the necessity for healthcare providers, pediatric nurses, and pediatric nurse practitioners to evaluate parental understanding of oral health risks and offer educational interventions.

CONCLUSION

Based on our study, it was evident that mothers in the Juddaem region hold a moderate perception of their children's oral health condition. To enhance the general awareness and knowledge of mothers, effective oral health programs and interventions should be implemented.

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