

Knowledge, Perception, And Attitude of Parents Toward Dental Treatment Given to Their Children in Libya

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| <p>Article history Submitted: 29 March, 2021 Revised: 25 April, 20 May, 2021 Accepted: 25 May, 2021</p> | <p>Abstract Dental treatment is an important topic and especially when it comes to children. The knowledge, attitude, perception, and socio-economic status of parents are potentially important factors to improve the dental treatment. However, few of the previous studies deal with this topic in the context of developing countries. The purpose of this study is to examine the effect of attitude, knowledge, perception, and socio-economic status on dental treatment. Based on the theory of planned behavior (TPB), this study proposes that attitude, knowledge, and perception as well as the socio-economic status will have a positive effect on the dental treatment behavior of parents in Libya. The data was collected from parents in ten schools in Tripoli using a questionnaire. As a result, a total of 183 responses were collected. The data analysis was conducted using SPSS. The findings showed that the effect of knowledge and attitude as well as the income and education on dental treatment is positive. Position and perception have insignificant effect. The findings of the study were discussed, and more studies are needed to examine the issue of dental treatment during the time of COVID 19.</p> |
| <p>Keywords: <i>Dental Treatment, Attitude, Perception, Libya.</i></p> | |

1. Introduction

Dental health is one important aspect of the overall health of children and adult. For children, parents play essential role in the well-being of their children especially before the school time and during the school. Dental problem is common among children, and it can be the main reason for having unhealthy teeth for children when they grow up. However, children cannot recognize the problem and they rely on their parents for their teeth health. For this reason, the parental knowledge and perception of parents about the dental issue that faces the children and the knowledge, perception and attitude of parents during the early childhood of their children is important to avoid the dental problems [1]–[3].

Due to the importance of dental health, several researchers have attempted to understand and identify the level of knowledge, attitude, and perception of parents and its role in protecting the teeth of children. For example, in the study of [4] the author also investigated the parents' knowledge regarding the dealing with such problem and the methods that the parents uses to deal with the teeth problem of their children. The study found that small percentage of parents are aware of the emergency management in dealing with teeth problem among their children. However, the majority are not aware and lack of knowledge of dealing with teeth problem. Nevertheless, the majority showed interest in learning and acquiring knowledge regarding the issue.

In this study, [2] attempted to find the knowledge and attitude of parents about the maintenance of dental health of children in India. The main issues is the lack of parents' knowledge and awareness about the teeth problem that faces the children in their early age. This is particularly, the process of replacing the teeth. The findings indicates that the parents' awareness and knowledge regarding the maintenance of teeth is high while it is lower for those who frequently visit doctor unless the child complain of pain in their teeth.

Previous studies also such as the study of [5] indicates that there is a lack of awareness of parents about the primary dentition and the visit of dentist in the first 12 months of age of the children. For this reason, the study sought to find the reasons for the first visit of dentist and the age of the children when the first visit is occurred. The findings indicates that the first visit occurred between 6-9 years of the age of the children and the main reason for the visit is the decayed teeth. Again the study found that the knowledge regarding the teeth problem and the method of dealing with these issue is low.

Despite the increasing awareness about the dental health, the level of awareness and knowledge in the Middle east is still low. For example, in Libya, more than 60% of children are suffering from dental caries [6]. Local studies also showed that there is lack of awareness and careless attitude toward the oral health of children [7]. Parents are responsible for their children and the health of children is dependent on the attitude, perception, and knowledge of parents. In addition, the socio-economic status plays a critical role in shaping the behavior of parents toward their children’s dental health [8]–[12]. Accordingly, this study aims to examine the behavior of parents and assess their knowledge, awareness, and perception toward the dental treatment. The study aims to provides the decision makers in public health with a reference that can be used to enhance the knowledge, awareness, and perception about the dental treatment of children.

2. Literature Review and Hypotheses (Bold, 10, times new roman)

2.1 Dental Treatment

Dental treatment is a construct that include several subtopics such as the dental avulsion, oral health, primary treatment and so on. Previous studies noted that the issue of dental health especially among children in developing countries is more severe than the developed countries. However, the dental health research in developing countries are limited [2], [3], [13]. The dental treatment in Libya is provided by public and private sector. The public sector services are limited to teeth examination, extraction, and scaling. In private sector, the dental treatment is much advanced, and people is using the services of private sector dentist. However, the private sector is costly which makes the majority of citizens depend on the services in public sector. Recent study in the country related the unmet problem of oral among children to the cost of treatment and the perception and attitude of parents as well as the healthcare system [14], [15]. The issue of healthcare and dental treatment in Libya has become severe due to the political instability and the outbreak of COVID19. It is estimated that a large number of children require dental care attention in Libya. Research suggested that the policy makers in Libya have to focus on the issue and address it to have a healthier population and better dental treatment of children [14], [15]. In this study, the dental treatment of children between 6-12 years are examined. The parents are the target respondents of this study because they are the one who are responsible for the dental health of their children.

2.2 Theoretical Framework

There are several theories that can explain the human behavior toward an action. Among these theories, the theory of reasoned action (TRA) [16] and the theory of planned behavior (TPB) [17] are widely used to explain the human and the social interaction behavior. According to TRA, the human behavior toward an action is determined by the attitude and the subjective norms. Attitude is defined as the negative or positive feeling toward performing an action (Ajzen, 1985). In the theory of TPB, Ajzen (1985) pointed out that the behavior of individuals is determined by the attitude, subjective norms, and perceived behavioral control. Perceived behavioral control is the people’s perceptions of their ability to perform a given behavior (Ajzen, 1985). Several studies have deployed the TPB to understand the behavior such as eating organic food or drinking alcohol and smoking [18]–[21]. However, few have deployed the theory in explaining the behavior of the parents in dental treatment of their children [22]. Previous studies also indicates that the theory is essential in explaining the behavior of individual and the behavior of parents [23]. However, the variation that can be explained by the theory is small [24]. Accordingly, this theory is deployed to explain the behavior of parents. Along with the theory, the socio-economic status variables are included in this study to increase the percentage that can be explained by the theory and the other variables such as socio-economic status.

2.3 Framework and Hypothesis Development

This study aims to examines the effect of the variables on the dental treatment of children. Based on the literature, there are socio-cultural factors that are related to the parents’ knowledge, perception, and attitude. In addition, the socio-economic status of the parents is expected to have a significant effect on the children dental treatment. Thus, this study is proposing that the socio-cultural and socio-economic factors are determinants of the dental treatment of the children. Figure 1 shows the framework of this study.

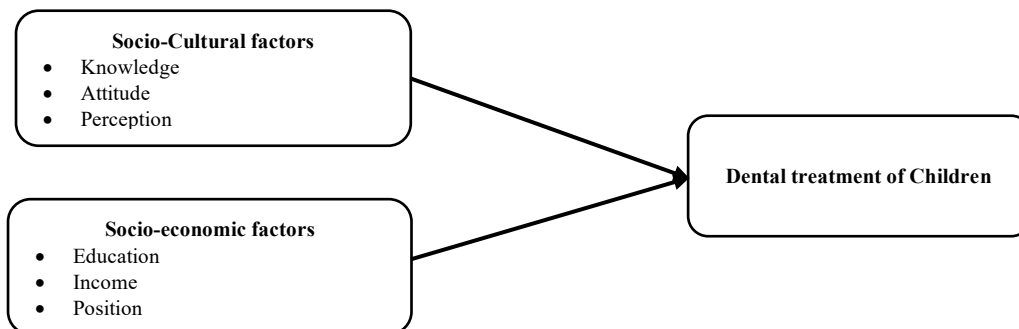


Figure 1. Conceptual Framework

2.3.1 Knowledge and Dental Treatment

Knowledge of parents are important for the dental health of the children [25]–[27]. The children are dependent on their parents and parents are the one who make the decision and take the children to the dentist. Several researchers have attempted to understand and identify the level of knowledge and its role in protecting the teeth of children [28]–[35]. Ningthoujam et al. [4] investigated the problem of dental avulsion which is one of the common problems that faces children between the age of 6 and 12 years. Findings indicated that knowledge of parents are critical for emergency management in dealing with teeth problem among their children. Ramakrishnan et al. [2] attempted to find the knowledge and attitude of parents about the maintenance of dental health of children in India. The findings showed that the parents' awareness and knowledge regarding the maintenance of teeth is high while it is lower for those who frequently visit doctor unless the child complain of pain in their teeth. Sanguida et al [5] also found that the knowledge regarding the teeth problem is critical for good health of children. Accordingly, this study proposes:

H1: Good knowledge of parents will enhance the dental health and treatment of children.

2.3.2 Attitude and Dental Treatment

Attitude toward the dentist and the dental treatment is important for the taking care of the dental health of children. Several studies are with the opinion that attitude is an important predictor of the dental health [27], [36]–[43]. Studies of [4], [5], [44] found that the attitude is important for parents to take their children to dentist and take care of the dental health of their children. Other studies such as [13], [45] found also that attitude of parents is essential and has impact on the dental treatment of children. In line with this, the theory of TPB also proposed that the attitude is significant predictor of the behavior of individual toward performing an action. Therefore, in this study, it is proposed that the attitude of parents has a significant effect on the dental treatment of children. Thus, it is hypothesized:

H2: Positive attitude toward dental treatment will have a positive effect on the dental treatment of children in Libya.

2.3.3 Perception and Dental Treatment

Perception of oral health and the dental treatment is important. Studies that have involved adult showed that the perception toward dental treatment is key factor in maintaining overall good health of teeth [46]. Previous studies indicates that there is a lack of studies regarding the perception of parents toward the dental health of children [6]. A study conducted by [47] showed that the perception of parents can improve the dental health of children. In this study, it is expected that the positive perception of parents will have a positive impact on the dental health of children. Thus, it is hypothesized:

H3: Positive perception of parents have a positive impact on the dental health of children in Libya.

2.5.4 Socio-Economic Factors and Dental Treatment

Socio economic factors is agreed to be the education, income, and the position [25], [26], [48] [49], [50]. Several studies pointed out that the difference in socio economic status can affect the dental treatment [6], [47], [51]–[53]. Family with low socio-economic status has less knowledge, attitude, and perception about the dental health treatment. In Libya, there are difference in the socio economic status due to the fact that urban area enjoying high economic status while the rural area has low socio economic status [52].

In the study of [54] related the teeth problem of children to parents low socio economic status and the cost of treatment. [51] found that there is a difference in the attitude, knowledge, and perception of parents based on their socio-economic status. In the study of [46], the findings indicate that even high socio economic status are not aware and have low knowledge regarding the teeth treatment while the study of Suprabha et al. (2013), the study found that the knowledge, attitude, and perception of parents is dependent on the socio economic status. High socio-economic status parents are more aware of the dental treatment compared with low socio-economic status.

In this study, it can be seen that there are mixed findings regarding the socio-economic status of the parents and its relationship with the dental health. It is proposed in this study that these socio-economic status variables are important for the dental health and the parents with high socio-economic status are more knowledgeable, have positive attitude and perception toward dental health compared with parents with low socio-economic status in Libya. Accordingly, it is hypothesized:

H4: Socio economic status of parents have a significant association with the dental treatment of children in Libya.

H5: There is a statistical difference in the knowledge, attitude, and perception of parents based on socio economic status.

3. Research Methodology

The population of this study is the parents of Libyan schools. More specifically, the parents in Tripoli, the capital of Libya. Due to time and cost consideration, the study focuses on ten schools located in Tripoli. The number of students in each school account to 500 making the total population of this study approximately 5000. Parents of the 5000 children

are the population of this study. To represent the population, the simple random sampling techniques is deployed. [56]. Based on [56] for a population of 5000 and using the random sampling the sample size is 357 at confidence level of 0.95 and margin error of 0.05. These 357 are the sample size of this study.

The instrument of data collection is a questionnaire. The measurement of attitude, knowledge and perception are adopted from previous studies. Measurement of attitude was adopted from [57]. The measurement of perception and knowledge as well as teeth treatment were adopted from previous studies that examined the variables [47], [51], [58], [59]. Before proceeding to data collection, the instrument was translated into Arabic. The Arabic and English versions were validated using the input and feedback of experts. After addressing the comments of the experts, a pilot study was conducted to assess the reliability of the measurement. A value of Cronbach’s Alpha greater than 0.70 is considered acceptable [56]. All the variables have Cronbach’s Alpha higher than 0.70

The data is collected from parents of the children in ten schools in Tripoli using Google.Doc. A link was created and send through software such as Zoom and Google Meet. In total, the number of distributed questionnaires is 357 and the number of responses reached 203 making the response rate 57%. Missing value and outliers were checked, and this has resulted in removing 20 responses making the final responses account to 183. The data was analyzed using SPSS version 25.0.

4. Findings

4.1 Profile of the Respondents

The profile of the respondents included the background information such as their gender, age, education, income, position, and first visit to dentist. Table 4.3 shows the descriptive information of the respondents.

Table 4. 1: Descriptive Information of Respondents

| Variable | Label | Frequency | Percent |
|------------------------|-------------------------------|-----------|---------|
| Gender | Male | 123 | 67.2 |
| | Female | 60 | 32.8 |
| | Total | 183 | 100.0 |
| Age | Less than 30 years | 11 | 6.0 |
| | 31-40 years | 87 | 47.5 |
| | 41-50 years | 56 | 30.6 |
| | 51-60 years | 23 | 12.6 |
| | Above 60 years | 6 | 3.3 |
| Education | High school or less | 16 | 8.7 |
| | Diploma | 8 | 4.4 |
| | Bachelor | 135 | 73.8 |
| | Master | 18 | 9.8 |
| | Ph.D. | 6 | 3.3 |
| Income | Less than 1000 LD | 21 | 11.5 |
| | 1001-5000 LD | 152 | 83.1 |
| | 5001-10,000 LD | 10 | 5.5 |
| Position | Employee in public sector | 152 | 83.1 |
| | Employee in private sector | 11 | 6.0 |
| | Managerial level employee | 9 | 4.9 |
| | Top management level employee | 11 | 6.0 |
| First visit to dentist | During the first six month | 11 | 6.0 |
| | In one year after birth | 19 | 10.4 |
| | Only if there is a problem | 26 | 14.2 |
| | Never unless it is critical | 127 | 69.4 |

4.2 Hypotheses Testing Using Regression

The hypotheses of this study were tested using regression analysis. Before running the analysis, the value of the variables was standardized. This is due to the differences in the measurement scale of the variables. The findings showed that the R value is .616 while the R-square is 0.379 indicating that a percentage of 37.9% can be explained by the variables of this study. The result of regression analysis which examined the hypotheses is given in Table 2.

Table 2: Result of Hypotheses Testing

| Model | | Coefficients | | | | | Label |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|-----------|
| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | |
| | | B | Std. Error | | | | |
| H | (Constant) | .135 | .061 | | 2.574 | .007 | |
| H1 | Knowledge | .192 | .069 | .207 | 2.759 | .006 | Supported |
| H2 | Attitude | .339 | .072 | .364 | 4.697 | .000 | Supported |

| | | | | | | | |
|--|------------|-------|------|-------|-------|------|-----------|
| H3 | Perception | -.039 | .071 | -.040 | -.543 | .588 | Rejected |
| H4 | Income | .161 | .072 | .163 | 2.242 | .026 | Supported |
| | Position | .006 | .067 | .006 | .093 | .926 | Rejected |
| | Education | .134 | .055 | .148 | 2.427 | .016 | Supported |
| a. Dependent Variable: Teeth Treatment | | | | | | | |

The first hypotheses proposed that the effect of knowledge of parents on dental treatment is positive. The findings showed that the effect is significant and positive at $B=0.192$ and p -value less than 0.05. Thus, H1 is supported. The second hypothesis predicted that the effect of attitude on the dental treatment is positive and significant. The hypothesis is supported at $B=0.339$ and sig or p -value less than 0.05. Thus, H2 is supported. The perception of parents toward dental treatment of their children was expected to have a positive effect on dental treatment. This is the third hypothesis of the study. Therefore, H3 is rejected. The effect of socio-economic status on dental treatment was proposed to have a significant effect. Socio economic status includes three variables that are the income, position, and education. The findings showed that the effect of socio-economic status on dental treatment is mixed. The effect of income on dental treatment is positive at $B= 0.161$ and P -value less than 0.05. Thus, income has a critical role in dental treatment. For the position, it has insignificant effect at $B=0.006$ and p -value greater than 0.05. Thus, position of the parents has no effect on the dental treatment of their children. However, the education does. The education of parents has a significant effect on the dental treatment at $B=0.134$ and p -value less than 0.05.

5. Discussion

This study has examined the effect of knowledge, attitude, perception, and socio-economic status on the dental treatment. The findings showed that the effect of knowledge on the dental treatment is positive. This indicates that the increase in the parents’ knowledge regarding dental health will lead to better dental health of their children. Thus, it is concluded in this study the knowledge of the Libyan parents is critical for improving the dental health of children. This could be due to the notion that parents with prior knowledge are more aware about the dental health and will take their children to dentist more regularly. In line with this finding, previous studies indicate that knowledge of parents is critical for improving the dental health of children. Findings of the study of Ningthoujam et al. [4] showed that knowledge of parents are critical for emergency management in dealing with teeth problem among their children. In addition, other studies also found that the knowledge is important to maintain healthy teeth of children [5], [44].

In term of attitude, the study found that attitude is critical for the dental treatment of children. Positive attitude of parents regarding dental treatment is important to keep the teeth of the children healthy. Thus, it is concluded that Libyan parents that have positive attitude toward dental treatment will result in a better tooth of their children. In line with this finding, the study of [4], [5], [44] indicate that the attitude is essential for the dental health of children. The theory of TPB also proposed that attitude is the driving factor for the behavior. Behavior can be the action of taking children to dentist. Thus, attitude is important for the dental treatment of children in Libya.

The perception was expected to have a significant effect on the dental treatment. However, the findings showed that perception has insignificant effect on the dental health of children. Thus, the perception of Libyan parents toward dental health has insignificant effect on the dental treatment. This finding contradicts with the findings of [46] and the findings of other researchers who found that the perception of parents’ is critical for the overall dental health of children [6], [47]. However, the perception in this study could be affected by the current situation of lockdown. The last hypothesis predicted that the effect of socio-economic status affects positively the respondents’ behavior toward dental treatment of their children. The findings showed that the effect of income and education on dental treatment is positive while the effect of position is not significant. This indicates that parents with high level of knowledge and attitude will contribute to better dental health of their children. This findings are in line with the findings of previous studies that found that socio-economic status is critical for the dental health and treatment of children [6], [47], [51]–[53].

6. Implications

This study has contributed to the body of knowledge and the literature of dental health during the COVID 19 in the context of developing countries. Previous studies have mixed findings regarding the parents’ attitude, knowledge, and perceptions. In addition, there are lack of studies that deal with this issue in developing countries. Therefore, this study has contributed to the literature by examining the socio-economic status and socio-cultural factors in term of dental health and treatment.

The study also contributed to the literature by deploying the theory of TPB in explaining the behavior toward dental health among parents of children in Libya. The study managed to explain 37.9% in the variation in dental health treatment. In addition, the study examined the effect of attitude, knowledge, perception, and socio-economic status. The study also contributed to the literature by examining the differences based on socio-economic status.

The practical implications that can be derived from this study for decision makers and parents includes the importance of knowledge, attitude, income, and education. The recommendation centered on the notion that parents’ who are aware about the dental health will have positive attitude, perception, and behavior toward the dental health treatment. This

indicates that decision makers and health authorities in Libya has to educate the parents about the dental health. A public lecture that is broadcasted on TV will enlighten the citizens about the importance of dental health. This will increase the knowledge and create positive attitude toward the dental health.

Decision makers are advised to hold a house-to-house awareness campaign or to invite parents to school to teach them about the importance of dental health. The findings showed that parents' do not consider visiting dentist unless the situation of the teeth of their children is critical. This has to be changed by educating the parents about the importance of visiting dentist in the early stage of the children lives to have a better and health tooth.

7. Conclusion

This study was conducted in Libya to examine the level and the effect of attitude, knowledge, perception, and socio-economic status on the dental health treatment. The study collected data from 183 parents using a questionnaire. The findings showed that the attitude, knowledge, and socio-economic (income and education) have significant effect on the dental health treatment. The findings also showed that the level of attitude, knowledge and perception is moderate and there is a statistical difference among the parents regarding knowledge, attitude, and perception based on socio-economic status.

The findings were discussed and compared with the findings of previous studies. Theoretical implication regarding the validity of TPB and filling the gaps in the literature were discussed. In addition, the practical implications for decision makers were highlighted. The limitation and the future work of this study were discussed, and more studies are need for improving the dental health of children.

This study was conducted in Libya and in particular in Tripoli. Ten schools have participated in this study. A total of 183 parents have participated in this study. Thus, the findings are limited to the perceptions of parents in the ten schools. It is also limited to the Libyan context. As a direction for future work, researchers are recommended to examine the dental health in more area. This study was conducted in Libya. Thus, future studies are recommended to be conducted in different countries in the middle east. Future studies are also recommended to be conducted in rural area. This is because there are big differences between rural and urban area in term of attitude, knowledge, and perception as well as socio-economic status.

Future studies are recommended to increase the sample size. The sample size of this study is 183 and it is sufficient. However, larger sample size will help in generalizing the results. Other variables should also be considered for future research. For instance, the effect of COVID 19 on the perception, attitude, and readiness of parents to visit dentist. Focus group studies can be also conducted on a group of parents to understand their attitude, perception, and knowledge about dental health treatment.

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