World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

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The influence of parents' behavior of children with type-1 diabetes mellitus in maintaining children's periodontal health based on the theory of planned behavior

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World Journal of Advanced Research and Reviews, 2024, 21(01), 2787–2794

Publication history: Received on 14 December 2023; revised on 25 January 2024; accepted on 27 January 2024

Article DOI: https://doi.org/10.30574/wjarr.2024.21.1.0351

Abstract

Type-1 diabetes mellitus (T1-DM) is the most common chronic disease in children and adolescents. Parental behavior toward children with T1-DM also affects the periodontal health of the child. Based on the Theory of Planned Behavior (TPB), behavior is divided into attitude (ATT), subjective norm (SN), perceived behavioral control (PBC), intention and behavior. Therefore, this study aims to determine the effect of parental behavior on children with T1-DM in maintaining children's periodontal health based on TPB. This study used a cross-sectional observational analytical method involving 35 parent respondents who had children with T1-DM who were treated at Dr. Saiful Anwar Hospital, Malang City, and joined the Association of Families with Child and Adolescent Diabetics (IKADAR). The instrument used in this study was a questionnaire modified from Macrus H (2010) in accordance with the measurement of behavior based on TPB. In this study, the Pearson correlation test was applied using Statistical Package for the Social Sciences (SPSS) software with a significance level of 0.05. The results of this study showed no significant relationship between ATT, SN and PBC with behavioral intention. However, there was a significant relationship between the intention of parents who have children with T1-DM in preventive measures related to children's periodontal and parents' behavior in dealing with children's periodontal problems with a medium strength value.

Keywords: Type-1 diabetes mellitus; Attitudes; Subjective norms; Perception; Intention; Behavior

1 Introduction

T1-DM is a chronic systemic metabolic disease characterized by an absolute deficiency of insulin production by pancreatic beta cells and mainly attacks children and adolescents [1]. Globally, approximately 1.2 million children and adolescents (0-19 years old) are expected to suffer from T1-DM in 2021 with an estimated 108,200 children and adolescents under 15 years old diagnosed each year [2]. In Indonesia, there were 1,220 children with T1-DM in 2018 [3]. This chronic condition can cause various complications both micro and macrovascular, including periodontal disease. Periodontal disease is related to diabetes mellitus, where diabetes mellitus with uncontrolled glucose levels is a risk factor for worsening periodontal diseases such as gingivitis and periodontitis. Research by López del Valle LM, Ocasio-López (2011) [4] also concluded that children with DM are more susceptible to caries and periodontal disease than non-DM children, in terms of higher plaque index and bleeding on probing. High levels of glycosylated hemoglobin in diabetic children were significantly associated with more bleeding sites on probing. Diabetics require supervision from a multidisciplinary team including a dentist [4].

In the parent-child context, parents, as primary caregivers, play an important role in shaping children's health and subsequent behaviors. Several studies have demonstrated the relationship between parents' oral health knowledge and behaviors and children's oral health status [5 - 7]. Intended parental behaviors include implementing a good diet for children's oral health, involvement in children's dental care (e.g., brushing teeth), and visits to dental health services as

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an effort to prevent and treat children's oral health problems, including caries and other oral and dental diseases that occur in children with T1-DM [8]. Therefore, parental behavior in dealing with children with T1-DM is an indicator of parental support for treatment success, which includes adherence to treatment and improving the quality of life of patients with T1-DM [9]. Parental support can be influenced by several factors such as level of knowledge, family practices and socio-demographic factors [10].

In addition, the success of health education initiatives and programs lies in the ability to understand differences in psychosocial factors (behaviors, attitudes, beliefs, knowledge, skills, etc.) at the individual and community levels. This can be achieved through the application of social cognitive theory, which helps to understand these psychosocial barriers. There is also considerable evidence that health education interventions based on cognitive theory are more effective than those not based on this theory because they change and promote healthy behaviors by specifically targeting beliefs, attitudes, intentions, and contextual behavior change. Theory of Planned Behavior (TPB) is one of the conceptual frameworks that aims to explain the determinants of certain behaviors. TPB consists of three determinant components that influence a person's intention or behavior, which are attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC) [10].

ATT is defined as a form of representation of one's judgments, both positive and negative, in performing a behavior. Meanwhile, SN is an individual's perception of the social pressure that exists to perform or not perform a behavior. In other terms, SN indicates the extent to which individuals have the motivation to follow other people's perspectives on the behavior they will perform. Additionally, PCB is the belief that individuals will or will not engage in certain behaviors [11]. These three components can be influenced by personal factors (general attitude, personality, life values, emotions, and intelligence level) and social factors (age, gender, ethnicity, education level, income level, and religion) [12]. Therefore, this study aims to observe the effect of parental behavior on children with T1-DM in maintaining children's periodontal health based on TPB.

2 Material and methods

2.1 Research Design

This research is a quantitative study that uses observational analysis with a cross-sectional design. This study used a questionnaire instrument modified from Macrus H (2010) in accordance with the measurement of behavior based on Ajzen's Theory of Planned Behavior. There are a total of 6 questionnaires, each of which examines ATT (Evaluation of Beliefs and Belief in Behavior/Action), SN (Normative Belief and Motivation to Comply), and PBC (Control Belief and Power Belief). In using this method, data is collected directly and empirically from a portion of the population to understand their views on the object of research in the field related to the effect of behavior of parents of children with T1-DM in maintaining children's periodontal health based on the Theory of Planned Behavior in Malang City. This research has been reviewed and approved by the Health Research Ethics Review Commission, Faculty of Dentistry, Universitas Airlangga No. 1242/HRECC.FODM/XI/2023 on November 9, 2023.

2.2 Population and Sample

The population in this study were all parents who had children with T1-DM (age range 6-16 years) at Dr. Saiful Anwar Hospital in collaboration with IKADAR (Association of Families with Child and Adolescent Diabetics) Malang City. All data were collected in November 2023. A total of 35 parent respondents were involved in this study and have given their informed consent to participate in this study.

2.3 Research Tools

The data obtained will be collected, categorized and processed with statistical tests. The data will be tested for normality using the Kolmogorov-Smirnov test. The data will be grouped into assessment categories and processed using the Statistical Package for the Social Sciences (SPSS) software version 21 (Chicago, IL, USA) to determine the correlation coefficient using the Pearson Correlation Product Moment method if the data are normally distributed and the Spearman method if the data are not normally distributed. Multiple linear regression tests were performed to determine whether multiple independent variables were involved in a dependent variable. The significance level used in this study is 0.05 and the value of Pearson correlation (r) is 0.334.

3 Results

3.1 Respondent Characteristics

Table 1 shows that the age of the majority of respondents is in the late adult phase, aged 36-45 years, as many as 17 people (47%). Most of the respondents worked as housewives, as many as 24 people (68.6%). The majority of respondents' household income is below the minimum wage of Malang City in 2023, as many as 18 people (51.4%). The characteristics of the respondents' children with the dominance of age in adolescence were 22 people (62.9%). Most of the respondents' children had suffered from type 1 diabetes mellitus for more than 4 years, as many as 23 people (65.7%). The BMI of children with T1-DM is normal, namely 16 people (45.7%).

Table 1 Frequency distribution of respondent characteristics

Characteristics		**N**	**Percentage (%)**
Age	Young adults (25-35 years old)	5	14.3
	Late adulthood (36-45 years old)	17	48.6
	Early elderly (46-55 years old)	11	31.4
	Late elderly (56-65 years old)	2	5.7
	Total	35	100.0
Occupation	Civil servant	1	2.9
	Self-employed/self-employed	7	20.0
	Employees	3	8.6
	Housewife	24	68.6
	Total	35	100.0
Revenue based on regional minimum wage	<Rp. 3.194.143	18	51.4
	Rp. 3.194.143	5	14.3
	> Rp. 3.194.143	12	34.4
	Total	35	100.0
Child's age	Children (5-11 years old)	13	37.1
	Teenagers (12-16 years old)	2	62.9
	Total	35	100.0
Duration of Type-1 DM in Children	< 4 th	12	34.3
	≥ 4 th	23	65.7
	Total	35	100.0
Child's Body Mass Index (BMI)	Underweight	12	34.3
	Normal	16	45.7
	Overweight	7	20
	Obesity	0	0
	Total	35	100.0

Table 2 Health status of Type-1 DM children

Health Status of Type-1 DM in Children based on Random Blood Sugar (RBS)	N	Percentage (%)
< 200	12	34.3
120 – 200	16	45.7
>200	7	20
Total.	35	100.0

In the health status of T1-DM children with low RBS, there were 12 children (34.3%), normal RBS were 16 children (45.7%), high RBS were 20 children (20%).

3.2 Correlation Test

The data obtained are normally distributed and continue to use the parametric correlation test with the Pearson Product Moment correlation test. The data were processed using SPSS software.

Table 3 Correlation Tests of TPB (Theory of Planned Behavior) Variables on the Intentions of Parents of T1- DM Children in Preventive Actions Related to Children's Periodontal**.**

Variable of TPB (Theory Of Planned Behavior)	Pearson correlation (r)	p-value
ATT 1 (Evaluation of Belief)	0.134	0.443
ATT 2 (Belief in behavior/actions)	0.210	0.226
SN 1 (Normative belief)	-0.296	0.084
SN 2 (Motivation to comply)	0.131	0.452
PBC 1 (Control belief)	0.082	0.639
PBC 2 (Power belief)	0.210	0.226

ATT: Attitude, SN: Subjective norm, PBC: Perceived behavior control.

The correlation test of ATT, SN, PBC with the intention of parents of T1-DM children obtained a significance value > 0.05 and a Pearson correlation value (r) < 0.334, which means that there is a weak correlation or the correlation is not significant.

Table 4 Correlation Test of parents' intentions of T1- DM children in preventive actions related to children's periodontics.

Variable	Pearson Correlation (r)	p-value
Parents' intentions of Type-1 DM children in preventive actions related to children's periodontics	0.551	0.001*

*Significant (p < 0,05).

The p-value of parents' intention in preventive actions related to children's periodontal disease is 0.001 (p < 0.05) and the correlation coefficient is 0.551 (r > 0.334), which means that there is a correlation between intention and action.

Table 5 Correlation test of the perception control belief and perception power belief on Actions taken by Parents in Handling Periodontal Problems of T1- DM Children.

Variable	Pearson Correlation (r)	p-value
PBC 1 (Control belief)	1	-
PBC 2 (Power belief)	0.904	<0.001*
Actions taken by Parents in Handling Periodontal Problems of Type-1 DM Children	0.203	0.242

*Significant (p < 0,05).

Table 5 shows a nonsignificant value and a weak correlation between control belief (PBC 1) and actions, characterized by a Pearson correlation coefficient of 1 (r > 0.334). In addition, the results show a correlation between power belief and actions characterized by a p-value < 0.001 and r = 0.904 (r < 0.334). However, there was no correlation between parents' actions in the management of periodontal problems of type 1 DM children with PBC 1 and PBC 2 (p < 0.05).

3.3 Regression Test

Table 6 Multiple Linear Regression Test Influence of Parents' Perception of T1- DM Children on Preventive Actions Related to Periodontal on Parental Actions Through Intentions to Handle Periodontal Problems of T1- DM Children.

Variabel	B	Std. Error	Beta	T	p-value
(Constant)	22.392	5.936	-	3.772	0.001
PBC 1 (Control belief)	-0.453	0.310	-0.496	1.461	0.154
PBC 2 (Power belief)	0.370	0.243	0.523	1.521	0.139
Actions Taken by Parents of T1- DM Children	0.387	0.113	0.515	3.428	0.002

In Table 6, the regression model equation Y = a + bX is used for positive outcomes (+), while the regression model equation Y = a + b1X1 + b2X2 + e is used for negative outcomes (-). The regression model equation, denoted by the symbol Y in this context, represents the relationship between the measured variables. The value of Y in this model refers to the outcome or dependent variable that is influenced by the independent variables such as PBC 1 and PBC 2. The results of the regression analysis showed significant findings regarding parents' perceptions of periodontal preventive measures for children with T1-DM. Specifically, an increase in PBC 1 (control belief) was significantly associated with a decrease in parents' intention to take preventive measures, with each unit increase in PBC 1 resulting in a 49.6% decrease in intention. Meanwhile, higher PBC 2 (Power Belief) was significantly associated with an increase in intention, with each one-unit increase in PBC 2 resulting in a 37% increase in intention. Meanwhile, parents' preventive actions were positively correlated with their intentions; each one-unit increase in preventive actions resulted in a 38.7% increase in intentions. These findings provide an in-depth understanding of the factors that influence parents' intentions and preventive actions toward periodontal health in children with T1-DM.

4 Discussion

This study was conducted in November 2023 by Dr. Saiful Anwar in collaboration with IKADAR (Association of Families with Child and Adolescent Diabetics) Society in Malang City, involving 35 parents of children aged 6-16 years with type 1 diabetes mellitus (T1-DM). The questionnaire included respondents' characteristics, parents' attitudes (ATT) toward children with T1-DM, subjective norms (SN), perceived behavioral control (PBC), parents' intentions regarding preventive measures on children's periodontal health, and parents' actions in addressing periodontal problems of T1-DM children. In this study, the independent variable is the condition of T1-DM in children, while the dependent variable is the actions of parents in dealing with periodontal problems of children with T1-DM. The parametric statistical method, the Pearson Product Moment Correlation Test, was used to test the effect of the T1-DM condition on parents' actions in dealing with periodontal problems in children, since the data obtained had a normal distribution.

Analysis of the results presented in Table 3 showed that there was no significant correlation between parents' attitudes (ATT 1) regarding their beliefs and intentions in taking preventive periodontal measures for their children with T1-DM

($p = 0.443$; $p > 0.05$). Furthermore, based on the calculated value of the correlation coefficient (r) between ATT 1 and parents' intention ($r = 0.134$; $r < 0.334$), it can be concluded that there is no significant correlation between ATT 1 (evaluation of belief) and parents' intention to take preventive measures. It is known that parents' attitudes can also be influenced by actions taken in the past [12]. This result confirms that parents' evaluation of beliefs does not have a significant influence on their intention to take preventive measures related to periodontal disease in children with T1-DM. Meanwhile, ATT 2 (belief in behavior/action) did not show a significant correlation with the intention of parents of children with T1-DM to take preventive measures related to periodontal health of children ($p = 0.226$; $p > 0.05$). Furthermore, based on the calculated r value of the correlation between ATT 2 and parents' intention ($r = 0.210$; $r < 0.334$), it can be concluded that there is a weak correlation between ATT 2 and intention, indicating that belief in behavior has a weak relationship with intention.

According to Fishbein & Ajzen (2005) [13], an attitude is a way of responding positively or negatively to objects, people, or events. Attitudes toward behavior are influenced by accessible beliefs that associate behavior with outcomes and other attributes. Attitudes play an important role in explaining a person's behavior in the environment. In this study, the weak correlation between attitude and intention may be due to the characteristics of the sample, where 68.6% of the respondents were housewives and 51.4% had incomes below the regional minimum wage in Malang City. These less supportive attitudes are likely related to the respondents' mental, emotional, and experiential states that influence the resulting specific behaviors. Thus, this study shows that the correlation between ATT 1 and 2 to intention is not significant or weak, which may be influenced by the characteristics of the respondents. This understanding may help to detail the relationship between attitudinal factors and parental intention to take preventive measures regarding the periodontal health of children with T1-DM.

Based on the results of the correlation test in Table 3, SN 1 (normative belief) did not show a significant correlation with the intention of parents of children with T1-DM in preventive measures related to children's periodontal health ($p = 0.084$; $p > 0.05$), and a weak inverse relationship was found ($r = 0.296$; $r < 0.334$). In other words, the higher the value of SN 1, the lower the parental intention and vice versa. This understanding is supported by the concept of subjective norms described by Ajzen (2005) [13]. subjective norm (SN) is the social pressure a person feels to engage in a behavior. In this context, the results show that the higher the SN score, the lower the parents' intention to take preventive measures related to the periodontal health of children with T1-DM. Therefore, this study contributes to detailing the dynamics between SN factors and parents' intention to take preventive measures, although no significant relationship was found. Meanwhile, SN 2 (motivation to comply) also showed no significant correlation with the intention of parents of children with T1-DM to take preventive measures related to children's periodontal health ($p = 0.452$; $p > 0.05$) with a weak positive correlation ($r = 0.131$; $r < 0.334$).

Subjective norms reflect the extent to which a person is motivated to conform to other people's views about the behavior they will perform [13]. If individuals feel that they have the personal right to determine their behavior without being influenced by the views of others, they may ignore subjective norms. Subjective norm is explained as the social pressure a person feels to engage in a behavior. It is determined by normative beliefs and motivation to comply, which reflect the expectations of people or groups that influence individuals, as well as the belief that many people or groups can motivate individuals to engage in certain behaviors. In the context of this study, although respondents had positive normative beliefs (65.7% of children had T1-DM for more than or equal to 4 years), this was not related to parental intention to take preventive action. This factor was not associated with the health status of the child, as shown by the percentage of children with normal, low and high random blood sugar levels (RBS) (Table 2).

The correlation test results in Table 3 show that there is no significant correlation between PBC 1 (control beliefs) and the intention of parents who have children with T1-DM to take preventive actions related to children's periodontal health ($p = 0.639$; $p > 0.05$; $r = 0.082$; $r < 0.334$). In the context of this study, PBC 1 reflects behavioral control beliefs related to an individual's ability or power to perform an action. Although the results showed that there was no significant relationship between control beliefs and parents' intentions to engage in preventive behaviors, further interpretation may be needed to understand the factors that influence this dynamic. Factors such as past experiences or other external factors may play a role in conceptualizing parental intentions. In addition, PBC 2 (power belief) also did not show a significant correlation with parents' intention to take preventive measures related to children's periodontal health, with a weak positive relationship ($p = 0.226$; $p > 0.05$; $r = 0.210$; $p < 0.334$). PBC has motivational implications for intentions, suggesting that people who believe they do not have the resources or opportunity to perform a particular behavior are less likely to form a strong intention to do so. In the context of this study, PBC consisted of control beliefs and power beliefs, which were essentially positive as the majority of respondents had children with T1-DM for more than or equal to 4 years. However, its weak correlation with intention may be influenced by other factors such as the respondents' household income, 51.4% of which is below the regional minimum wage in Malang City [13].

Table 4 shows that there is a significant relationship between the intention to take preventive action and the action taken by parents who have children with T1 DM ($p < 0.001$). In addition, based on the calculated r-value of the correlation between parental intentions and actions taken towards T1-DM children ($r = 0.551$, $r > 0.334$), it can be concluded that there is a correlation between intentions and actions with moderate strength. This means that the higher the intention of the parents, the higher the tendency to perform the desired behavior or action. These results indicate that the intention factor can be a strong enough predictor to explain the behavior or action taken by parents towards the periodontal health of children with T1-DM.

Based on the results of Table 5, the analysis shows that there is a weak correlation between PBC 1 (control belief) and PBC 2 (power belief) on parents' preventive actions related to children's periodontal disease. The value of PBC 1 did not show significant results, but the calculation of the r coefficient ($r = 1$; $r > 0.334$) indicated a weak correlation. In contrast, PBC 2 ($p = 0.000$; $p < 0.05$) showed a significant correlation with the r table ($r = 0.904$; $r > 0.334$), indicating a strong relationship. Although there was no significant correlation between the actions influenced by PBC 1 and 2 ($p = 0.242$; $p > 0.05$), the table r value ($r = 0.203$; $r < 0.334$) indicated a weak correlation.

Based on the coefficients derived from the multiple linear regression test in Table 6, it is observed that PBC 1 (control belief) in relation to actions by intention is associated with a decrease in preventive actions related to children's periodontal health, ranging from 10% to 49.6%. This is evident in the aspect of parental income factors (father & mother), which may be an obstacle to dental visits, indicating the potential reluctance of parents to engage in preventive actions related to pediatric periodontal issues. In addition, the coefficient for PBC 2 (power belief) regarding actions through intention means a 37% impact on encouraging preventive actions related to children's periodontal health. Consequently, the combined effect of PBC 1 (control belief) and PBC 2 (power belief) on parental preventive actions related to children's periodontal health through Intention yields a substantial influence that accounts for 38.7%.

The influence of PBC on intentions and behaviors sheds light on the effort expended and perceived barriers, explaining why behavioral outcomes are not always predicted by intentions alone. In this study, 35 respondents who are parents of children with T1-DM demonstrated a significant and moderately correlated relationship between parents' intentions and actions regarding preventive measures for their children's periodontal health. This is consistent with the findings of [11], which indicated that none of the variables within the Theory of Planned Behavior (TPB) significantly determined oral hygiene behavior (OHB). Specifically, individual characteristics, such as employment status, influence income, which subsequently influences access to health services.

5 Conclusion

The study shows that the majority of parents of children with T1-DM are in the late adult phase, aged 36-45 years, predominantly female, mostly housewives, and with a household income below the minimum wage for the city of Malang in 2023. The children studied are mainly adolescents who have had type 1 diabetes mellitus for more than 4 years with normal BMI. However, the TPB (Theory of Planned Behavior) variables of ATT, SN, and PBC show no significant or weak correlation with behavioral intention. This is attributed to the fact that 68.6% of the respondents are housewives and 51.4% have a household income below the minimum wage in Malang City, which influences their attitudes, subjective norms, and perceived behavioral control.

Interestingly, a significant correlation is found between the intention of parents of children with T1-DM in preventive actions related to the child's periodontal health and the actual behavior/actions of these parents in addressing periodontal problems of children with T1-DM. This correlation is moderate in strength, indicating that a higher intention leads to increased behavioral actions. The study concludes by emphasizing the importance of considering these socioeconomic factors when analyzing TPB variables. For future research, exploring the impact of socioeconomic status on parental attitudes and intentions and expanding the study to a broader demographic may provide valuable insights.

Compliance with ethical standards

Disclosure of Conflict of interest

No conflict of interest to be disclosed.

References

[1] Alves C, Brandão M, Andion J, Menezes R. Oral health knowledge and habits in children with type 1 diabetes mellitus. Braz Dent J. 2009;20(1):70-3. doi: 10.1590/s0103-64402009000100012. PMID: 19466235.

[2] Magliano DJ, Boyko EJ; IDF Diabetes Atlas 10th edition scientific committee. IDF DIABETES ATLAS [Internet]. 10th ed. Brussels: International Diabetes Federation; 2021. PMID: 35914061.

[3] Pulungan, AB, Annisa D, Imada S. Diabetes Melitus Tipe-1 pada Anak: Situasi di Indonesia dan Tata Laksana. Sari Pediatri. 2019;20(6):392-400. doi: 10.14238/sp20.6.2019.392-400.

[4] López del Valle LM, Ocasio-López C. Comparing the oral health status of diabetic and non-diabetic children from Puerto Rico: a case-control pilot study. P R Health Sci J. 2011 Sep;30(3):123-7. PMID: 21932712; PMCID: PMC4345164.

[5] Andrew L, Wallace R, Wickens N, Patel J. Early childhood caries, primary caregiver oral health knowledge and behaviours and associated sociological factors in Australia: a systematic scoping review. BMC Oral Health. 2021 Oct 13;21(1):521. doi: 10.1186/s12903-021-01887-4. PMID: 34645446; PMCID: PMC8513214.

[6] Manbait MR, Fankari F, Manu AA, Krisyudhanti E. Peran Orang Tua dalam Pemeliharaan Kesehatan Gigi dan Mulut. DTJ. 2019;1(2): 74-9. doi: 10.31965/dtj.v1i2.452.

[7] Montes GR, Bonotto DV, Ferreira FM, Menezes JVNB, Fraiz FC. Caregiver's oral health literacy is associated with prevalence of untreated dental caries in preschool children. Cien Saude Colet. 2019 Jul 22;24(7):2737-2744. doi: 10.1590/1413-81232018247.18752017. PMID: 31340290.

[8] Phantumvanit P, Makino Y, Ogawa H, Rugg-Gunn A, Moynihan P, Petersen PE, Evans W, Feldens CA, Lo E, Khoshnevisan MH, Baez R, Varenne B, Vichayanrat T, Songpaisan Y, Woodward M, Nakornchai S, Ungchusak C. WHO Global Consultation on Public Health Intervention against Early Childhood Caries. Community Dent Oral Epidemiol. 2018 Jun;46(3):280-287. doi: 10.1111/cdoe.12362. Epub 2018 Jan 30. PMID: 29380407.

[9] Mlynarczyk SM. Adolescents' perspectives of parental practices influence diabetic adherence and quality of life. Pediatr Nurs. 2013 Jul-Aug;39(4):181-9. PMID: 24027952.

[10] Amelia M, Nurchayati S, Elita V. Analisis Faktor-faktor yang Mempengaruhi Keluarga untuk Memberikan Dukungan Kepada Klien Diabetes Mellitus dalam Menjalani Diet. JOMPSIK Unri. 2014 Oct;1(2);1-10.

[11] Patel J, Kulkarni S, Doshi D, Reddy BS, Reddy MP, Buunk-Werkhoven YAB. Determinants of oral hygiene behaviour among patients with moderate and severe chronic periodontitis based on the theory of planned behaviour. Int Dent J. 2019 Feb;69(1):50-57. doi: 10.1111/idj.12413. Epub 2018 Jul 20. PMID: 30028020; PMCID: PMC9379055.

[12] Wening GRS. Perencanaan Program Promosi Kesehatan Berbasis Ilmu Perilaku. 2022

[13] Fishbein M, Ajzen I. Theory-based behavior change interventions: comments on Hobbis and Sutton. J Health Psychol. 2005 Jan;10(1):27-31; discussion 37-43. doi: 10.1177/1359105305048552. PMID: 15576497.