

# The Relationship Between Parenting Stress and Parents' Level of Education, Knowledge, and Attitude Regarding Dental and Oral Health Maintenance in Children with Intellectual Disabilities

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**Background:** Parenting stress is an unpleasant psychological reaction to the demands of being a parent. It affects parents who raise children with developmental disabilities and presents unique challenges, the impact of which is exacerbated by socio-economic status, age, income, and parental education level. Individuals with intellectual disabilities have poorer general health and oral hygiene compared to the general population. Parenting stress can influence parents' knowledge and attitudes about maintaining oral health. This research aimed to determine whether there was a relationship between parenting stress and the level of education, knowledge, and attitudes of parents toward maintaining oral health in children with intellectual disabilities.

**Methods:** This research used a cross-sectional analytical method. The total sample was 104 parents of children with intellectual disabilities in two special schools in Bandung Regency, Indonesia. Data was collected and then tested for correlation with Spearman's Rank and Kendall Coefficient of Concordance.

**Results:** The majority of parents described their level of parenting stress as moderate (51%), with the highest level of education being high school (36.5%), a sufficient level of knowledge (48.1%), and an adequate attitude towards maintaining dental and oral health (46.2%). Multivariate analysis showed a relationship between parenting stress and parents' level of education, knowledge, and attitudes, with a p-value of 0.0008 and W=0.205.

**Conclusion:** There is a relationship between parenting stress and the level of education, knowledge, and attitudes of parents regarding the maintenance of the oral health of children with intellectual disabilities (whether it is related between parenting stress and each variable or when parenting stress is related to all three).

**Keywords:** parenting stress, educational level, knowledge, attitudes, intellectual disability

## Introduction

The American Association on Intellectual & Developmental Disabilities (AAIDD) defines intellectual disability as a disability characterized by significant limitations in both intellectual function and adaptive behaviour. Limitations in individuals with intellectual disabilities regarding intellectual function (general mental capacities, such as learning, reasoning, and problem-solving) and adaptive behaviour which includes various social skills and daily practical activities occur before the age of 18 years.<sup>1</sup> The prevalence of individuals with intellectual disabilities in the general population worldwide is approximately 1%, with prevalence rates varying by age. It is estimated that 6 in 1000 people have intellectual disabilities.<sup>2</sup>

Based on the 2018 Basic Health Research (Riskesdas) included in the 2019 Information of the Ministry of Health of the Republic of Indonesia on Persons with Disabilities, it was found that 3.3% of children aged 5 to 17 years in Indonesia had disabilities. Additionally, cases of one type of intellectual disability, namely Down syndrome, in children aged 24 to 59

months in Indonesia tend to increase.<sup>3</sup> According to the Information of the Ministry of Health of the Republic of Indonesia, 2019, there was an increase in the percentage of Down syndrome cases. Based on the results of Riskesdas, in 2010, the prevalence was 0.12%; in 2013, it was 0.13%; and in 2018, it increased to 0.21%.<sup>4</sup> This increase in data coincides with the increase in the number of families who have children with disabilities.<sup>4</sup> Poor oral health can have a negative impact on a person's quality of life. Children with intellectual disabilities in fact, can cause difficulty eating, speech impediments, pain, sleep disturbances, absence from work or school and decreased self-esteem.<sup>5</sup> Individuals with intellectual disabilities, have poorer general health and oral hygiene compared to the general population, the oral health and hygiene of individuals with intellectual disabilities with the severity, etiology, living arrangements and age of the individual.<sup>5</sup>

Parenting stress is an unpleasant psychological reaction to the demands of being a parent.<sup>6</sup> Parental mental health refers to parents' thinking, emotional regulation, and behavior, which reflect the psychological or biological processes underlying their cognitive functioning.<sup>2</sup> Research related to parental knowledge regarding intellectual disabilities can improve the quality of life for those affected. When parents have sufficient knowledge, children with intellectual disabilities can avoid worsening conditions and receive support and education for themselves and their families. This knowledge is hoped to reduce problems that may occur in the future.<sup>7</sup> Attitude is a reaction or response from an individual toward an object, which then influences the individual's behavior toward that object in specific ways.<sup>8</sup> Knowledge and attitudes result from sensory experiences and play an essential role in actions, considering that they can enhance health awareness.<sup>9</sup> In the Law of the Republic of Indonesia, it is also mentioned about the National Education System, Chapter IV Article 17 Paragraphs 1, 2, 3 of 2003. The level of parental education is divided into 3 categories, namely basic education (Primary School), secondary education (Junior High School and Senior High School) and higher education including universities.<sup>10</sup>

According to Riskesdas data in 2018, the prevalence of dental caries in Indonesia was 88.8% with a prevalence of root caries of 56.6%.<sup>4</sup> This is the basis for us to conduct research on children with intellectual disabilities related to their dental and oral health. Parents must teach their children various basic concepts about maintaining a healthy body. Childhood is the beginning of behaviour formation; therefore, it is hoped that parents can educate their children to adopt correct behaviours in maintaining their dental and oral health.<sup>11</sup> The level of education influences changes in attitudes and healthy living behaviours. Higher education makes it easier for an individual or community to absorb and implement information in their daily behaviour and lifestyle, especially regarding health.<sup>12</sup>

Based on this description, the researchers aimed to determine the relationship between parenting stress and parents' level of education, knowledge, and attitudes regarding maintaining oral health in children with intellectual disabilities in Special Schools in Bandung Regency, Indonesia. The result of this research is aimed specifically towards providing further knowledge on several variables related to parenting stress in children with intellectual disabilities. In Bandung Regency, which is located far from the city center, there are two state special schools where the majority of the students' parents have the same socio-economic level. Based on this description, the researchers were interested in determining the relationship between parenting stress and parents' level of education, knowledge, and attitudes regarding maintaining oral health in children with intellectual disabilities in Special Schools in Bandung Regency, Indonesia. The results of this research are expected to specifically provide knowledge regarding several variables related to parenting stress in children with intellectual disabilities and can be used as a reference for further related research.

## Methods

### Study Design and Participants

The population of this study consisted of all parents or caregivers of children with intellectual disabilities who were students at the Cinta Asih Special School and Angkasa Special School in Bandung Regency, Indonesia. The research subjects were determined based on the inclusion criteria, namely parents or caregivers of children with intellectual disabilities and signed an informed consent as an agreement to participate in the research registered at the school. The exclusion criteria in this study were parents or caregivers who had special limitations to fill out the questionnaire such as physical or intellectual limitations and those who refused to sign the informed consent.

## Data Collection and Measurements

The subjects in this research were 120 parents or caregivers. At the implementation stage, research information sheets and informed consent forms were given to parents or caregivers (only one of them was sufficient to answer). Sampling in this study utilized total sampling based (The subjects in this study were all parents or caregivers of students with intellectual disabilities who met the inclusion requirements in both special schools), obtained 104 subjects who met the inclusion criteria. The type of research conducted was cross-sectional analytical and the Kendall Coefficient of Concordance research using a survey method, which involved data collection through a structured questionnaire.

## Statistical Analysis

Parenting stress characteristics of parents can be measured using the Parenting Stress Index-Short Form (PSI-SF) instrument and the acceptance questionnaire of mothers who have children with special needs. The PSI-SF has been widely used in research and has proven validity and reliability in research on populations in Chile and the United States.<sup>13</sup> This study used a structured questionnaire with closed-ended items, allowing respondents to fill out and answer the questions quickly. The PSI-SF was measured using a questionnaire adapted from Abidin into Indonesian by Pertiwi, which contained 36 items.

The questionnaire of stress developmental scale was related to the acceptance of mothers with special needs children had 10 questions that were assessed using a Likert scale. (5 points), namely: 1) Strongly agree, 2) agree, 3) undecided, 4) disagree, and 5) strongly disagree. The questionnaire has been tested for validity and reliability using the Spearman's rank correlation test on two different subjects.<sup>14</sup> The correlation test on mothers with intellectual disabled children has a Cronbach alpha value of 0.917 and  $r > 0.3$ .<sup>14</sup> The classification for parenting stress is assessed using a percentile scale, namely:<sup>14</sup>

1. Low stress due to high maternal acceptance: score 42–97
2. Medium stress due to moderate maternal acceptance: score 98–153
3. High stress due to low maternal acceptance: score 154–210

The parental education level was categorized according to the highest level of education attained (elementary school, Junior high school, senior high school, and college). Parental knowledge referred to parents' insights regarding the maintenance of oral health in children with intellectual disabilities, which was assessed through professional and self-care measures. Knowledge was measured using a questionnaire adapted from the WHO into Indonesian by Wawan and Dewi in Primanda.<sup>15</sup> The collected data will be assessed using the formula  $P = X/N \times 100\%$ . The Guttman scale can be made in multiple choice form, namely:

1. Score 0 = for wrong answer
2. Score 1 = for the correct answer

The collected data will be assessed using the formula  $P = X/N \times 100\%$

Note: P = Percentage (%)

X = Total score of respondents' answers

N = Maximum score

Classification for parental knowledge about maintaining dental and oral health, namely:

1. Good = 76–100% correct answers
2. Sufficient = 56–75% correct answers
3. Lacking = <56% correct answers

Attitudes towards maintaining dental and oral health reflected how parents conducted dental and oral health care. Attitudes were measured using a questionnaire adapted from the World Health Organization in Indonesian by Wawan and Dewi in Primanda.<sup>15</sup> Details of the Likert Scale are as follows:

1. Score 5 = strongly agree
2. Score 4 = agree
3. Score 3 = undecided
4. Score 2 = disagree
5. Score 1 = strongly disagree

The collected data will be assessed using the formula  $P = X/N \times 100\%$

Note: P = Percentage (%)

X = Total score of respondents' answers

N = Maximum score

Classification for parental attitudes regarding dental and oral health maintenance, namely:

1. Good = 76–100% correct answers
2. Sufficient = 56–75% correct answers
3. Lacking = <56% correct answers

## Ethics Statement

The studies involving human participants were reviewed and approved by Universitas Padjadjaran (No. 386/UN6.KEP/EC/2024). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

## Result

From this study as many as 16 individuals were excluded due to limitations in filling out the questionnaire (difficulty in reading and writing) and a lack of willingness to complete it. [Table 1](#) shows the distribution and frequency of respondents based on parents' gender, parents' age, children's age, and parent's education level.

An overview of parenting stress in parents or caregivers can be seen in [Table 2](#). Among the 104 respondents surveyed, the highest level of parenting stress was found in the medium category (51.0%). Most parents' knowledge was sufficient (48.1%), while most parents' attitudes were adequate (46.2%). Research at the two Bandung Regency Special Schools shows

**Table 1** Distribution and Frequency of Parents or Caregivers of Children with Intellectual Disabilities Based on Personal and Student Data

Respondent Data	F (Person)	Percentage (%)
<b>Parent/Caregiver Education</b>		
Elementary School (and equivalent)	18	17.3
Junior high school (and equivalent)	29	27.9
Senior High School (and equivalent)	38	36.5
Higher education (Diploma and Bachelor)	19	18.3
<b>Total</b>	<b>104</b>	<b>100</b>

(Continued)

**Table 1** (Continued).

Respondent Data	F (Person)	Percentage (%)
<b>Parent/Caregiver Occupation</b>		
Housewife	65	62.5
Student	1	1.0
Employee	9	8.7
Self-employed	13	12.5
Civil servants/ National Armed Forces	1	1.0
Laborer	15	14.4
<b>Total</b>	<b>104</b>	<b>100</b>
<b>Child's Age (years)</b>		
7–10	31	29.8
11–14	52	50.0
15–18	21	20.2
Average	12.3	
<b>Total</b>	<b>104</b>	<b>100</b>

**Table 2** Description of Parenting Stress, Knowledge and Attitudes of Parents Concerning Dental and Oral Health Care for Children with Intellectual Disabilities

Category	Distribution	
	Frequency (Person)	Percentage (%)
<b>Parenting stress</b>		
Low	13	12.5
Moderate	53	51.0
High	38	36.5
<b>Total</b>	<b>104</b>	<b>100.00</b>
<b>Knowledge</b>		
Poor	41	39.4
Adequate	50	48.1
Good	13	12.5
<b>Total</b>	<b>104</b>	<b>100.00</b>
<b>Attitude</b>		
Poor	16	15.4
Adequate	48	46.2
Good	40	38.4
<b>Total</b>	<b>104</b>	<b>100.00</b>

that the highest education level of parents or caregivers is high school or equivalent (36.50%), and most of them are housewives (62.50%). Based on the overall data provided by the school, the majority of parents have lower-middle incomes.

Table 3 shows the results of the non-parametric Spearman rank correlation test analysis, specifically the relationship between parenting stress and parental education level, which is 21.96% (This means that these two variables are related, and if we look at the p-value in the table which is  $<0.05$ , it can be said that there is a statistically significant relationship). The relationship between parenting stress and parents' knowledge about maintaining oral health is 26.94%. The relationship between parenting stress and parents' attitudes about maintaining oral health is 15.04%.

**Table 3** Bivariate Relationship Between Parenting Stress and Education Level, Knowledge and Attitudes of Parents or Caregivers of Children with Intellectual Disabilities

Variables	r	t count	p-value	Characteristic	Relatedness (%)	Discription
Parenting stress and education level	0.47	54,11	0.0003	Sign	21.96	Relate
Parenting stress and Knowledge	0.52	61,94	0.0005	Sign	26.94	Relate
Parenting stress and attitudes	0.39	42,92	0.0002	Sign	15.04	Relate

**Table 4** Multivariate Relationship Between Parenting Stress and Education Level, Knowledge and Attitudes of Parents or Caregivers About Maintaining Dental and Oral Health for Children with Intellectual Disabilities

Variables	W	Chi- squared ( $\chi^2$ )	p-value	Characteristic	Relatedness (%)
Parenting stress, Education, Knowledge, and Attitudes	0.205	63,984	0.0008	Sign	20.5%

In [Table 4](#), the results of the analysis of the four variables using the Kendall Coefficient of Concordance test show that there is a relationship between parenting stress and the education, knowledge, and attitudes of parents regarding maintaining the oral health of children with intellectual disabilities, which is 20.5%, with a p-value of 0.0008 and  $W = 0.205$ .<sup>16</sup>

## Discussion

Parenting stress has three aspects, one of which is related to challenging child behaviour, where the child's age plays a vital role in influencing the child's behaviour.<sup>17</sup> [Table 1](#) shows that the majority are aged 11–14, comprising 50% of the total subjects. The average age of the children is 12.3. Parents with younger children who have disabilities experience higher levels of stress compared to parents with older children who have disabilities.<sup>18</sup>

In this research, parenting stress has a significant relationship with the education of parents or caregivers. This is in line with previous research, which reported that parenting stress is much higher for parents with lower education than those with higher education. The level of education influences changes in attitudes and healthy living behaviours. Higher education makes it easier for individuals or societies to absorb and apply information to daily behaviour and lifestyle. This is a factor that enables those with higher education to better adapt to various challenges, which can reduce parenting stress.<sup>12</sup>

There is a relationship between parenting stress and the economic status of parents with children who have intellectual disabilities. This is consistent with previous the literature study, which found that parents facing financial difficulties and lower socioeconomic status experience higher levels of parental stress compared to parents of typically developing children, particularly those with special educational needs, including intellectual disabilities.<sup>19</sup> In contrast to previous research, parenting stress does not have a significant relationship with the educational and socio-economic levels of parents who have children with autism and Down syndrome.<sup>20</sup>

From the research results showing that 50 parents or caregivers (48.10%) fall into the sufficient knowledge category. This can be related to the results regarding the education of most caregivers, which shows that 38 individuals (36.50%) have a high school education or equivalent, and 29 individuals (27.90%) have a junior high school education. Education is necessary for acquiring information, so the higher a person's level of education, the easier it is to receive information and develop a tendency to act.<sup>21</sup>

We also found that parenting stress has a significant relationship with parents' or caregivers' knowledge regarding maintaining dental and oral health, with a coefficient of 0.519, indicating a strong relationship. Additionally, education has a relationship with parents' knowledge, with a coefficient of 0.651. This finding is not in line with similar research related to parenting stress and the knowledge of parents or caregivers regarding maintaining oral health in children with special needs (such as children with cleft lip and palate), in previous research in Indonesia, which stated that there was no significant relationship between parenting stress and the knowledge of parents of children with special needs regarding maintaining oral health.<sup>15</sup>

Parenting stress has a significant relationship with parents' or caregivers' attitudes regarding maintaining dental and oral health as we found in this study. Factors that influence a person's attitude include personal experience, culture, significant others, mass media, educational or institutional settings, religious institutions, and emotional factors within the individual.<sup>21</sup> In this research, knowledge is indicating a strong and statistically significant relationship. Knowing is defined as recalling previously learned material, representing the lowest level in the hierarchy of learning. Attitude continues the process from knowledge to emotional willingness, eventually leading to behaviour. Therefore, it is easier for respondents to know than to act, and knowledge has a stronger relationship with parenting stress.<sup>22</sup>

The other research obtained different results. Parents' knowledge of their children's oral health in the city of Faridabad was relatively good. However, knowledge needs to be implemented in some aspects, and parents' attitudes towards oral health must be further improved.<sup>23</sup> Similar research conducted in Indonesia shows an overview of mothers' knowledge and attitudes regarding maintaining the oral health of children with Down syndrome in Depok City. The results indicated a poor knowledge category and a good attitude category in maintaining children's oral health. This is caused by several factors that influence mothers in receiving information and acting on maintaining the oral health of children with Down syndrome.<sup>24</sup>

Knowledge itself is influenced by several factors that can be obtained from formal and non-formal education. Knowledge is closely related to a person's education; therefore, the higher their education, the more comprehensive their knowledge.<sup>22</sup> The level of education influences changes in attitudes and healthy living behaviour. This can be related to the Indonesian Health Survey in 2023, which indicated that there are still parents of children with intellectual disabilities who have not fully brought their children to access health facilities, especially dental and oral health facilities, in West Java Province.<sup>3</sup> The survey also mentioned that some parents have not sought treatment from health workers when their children are sick, particularly concerning dental and oral health, as seen in West Java Province.<sup>3</sup>

The attitudes of parents or caregivers regarding maintaining the oral health of children with intellectual disabilities in this research indicate that 46.20% fall into the sufficient category, while 15.40% fall into the poor category. This relates to the Indonesian Health Survey in 2023, which found that children are still not free from caries nationally and in West Java Province. The survey also stated that children still do not brush their teeth at the correct times and misuse toothpaste.<sup>3</sup>

The results of this study can be used as initial findings that need to be further explored in further research conducted on parents or caregivers of children with intellectual disabilities, as well as being used as evaluation material and input to dentists or pediatric dentists, the West Java Indonesian Pediatric Dentist Association, and local health agencies in providing education related to parenting stress and dental and oral health as well as improving dental and oral health services for children with intellectual disabilities, especially in Bandung Regency.

## Limitations

The sample population in this study is somewhat homogeneous regarding socio-economic level, as most parents fall into the lower middle class. At the same time, there are also parents with upper-middle incomes. The socio-economic level is a confounding variable in this study.

## Conclusion

In this study, parenting stress had a statistically significant bivariate relationship when associated with each variable, namely the level of education, knowledge and attitudes of parents regarding dental and oral health maintenance, especially those who have children with special needs. The analysis also shows that there is a multivariate relationship between parenting stress and the level of education, knowledge, and attitudes of parents of children with intellectual disabilities. Parental knowledge is the factor that is most strongly related to parenting stress.

## Data Sharing Statement

The datasets used or analyzed during the current study are available from the corresponding author on reasonable request.

## Consent to Participate

Informed consent was obtained from all individual participants included in the study.

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We are really grateful to the participating children, parents, and teachers.

## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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## Disclosure

The authors declare no conflicts of interest in this work.

## References

1. Anlianna AA. Permasalahan Anak Disabilitas Intelektual dan Disabilitas Mental di Sekolah. *Arus J Pendidik*. 2022;2(3):233–243. doi:10.57250/ajup.v2i3.134
2. American Psychiatric Association (APA). *Diagnostic and Statistical Manual of Mental Disorder Edition-DSM-5*. Washinton DC: American Psychiatric Publishing; 2013:33–74.
3. Survey Kesehatan Indonesia. Kementerian Kesehatan Republik Indonesia. 2023:284–339.
4. Kementerian Kesehatan Republik Indonesia. *Infodatin Disabilitas (Indonesia Inklusi Dan Ramah Disabilitas)*. Jakarta: Pusat Data dan Informasi Kementerian Kesehatan RI; 2019:1–10.
5. Kumar S, Sharma J, Duraiswamy P. Determinants for oral hygiene and periodontal status among mentally disabled children and adolescents. *J Indian Soc Pedod Prev Dent*. 2009;27(3):151. doi:10.4103/0970-4388.57095
6. Deater Deckard K. Parenting stress and child adjustment: some old hypotheses and new questions. *Clin Psychol Sci Pract*. 1998;55–73. doi:10.1111/j.1468-2850.1998.tb00152.x
7. Vani GC, Raharjo ST, Hidayat EN. Pengasuhan (Good Parenting) Bagi Anak Dengan Disabilitas. *Soc Work J*. 2014;122–124. doi:10.24198/share.v4i2.13067
8. Saifuddin A. *Sikap Manusia Teori Dan Pengukurannya*. Yogyakarta: Pustaka Pelajar.; 2010:3–22.
9. Saptiwi B, Hanafi M, Purwitasari D. Perilaku Pemeliharaan Kesehatan Gigi dan Mulut Terhadap Status Kebersihan Gigi dan Mulut Warga Samin Kabupaten Bora. *Jurnal Kesehatan Gigi*. 2019;6:68–71. doi:10.31983/jkg.v6i1.4436
10. Saputro MC, Nurhayati F. Hubungan Antara Tingkat Pendidikan Orang Tua Dengan Status Gizi Siswa. *J Pendidik Olahraga Dan Kesehat*. 2014;02(03):627–630.
11. Rizaldy A, Susilawati S, Suwargiani AA. *Laporan penelitian Perilaku orang tua terhadap pemeliharaan kesehatan gigi anak pada Sekolah Dasar Negeri Mekarjaya*. 2017:131–137. doi:10.24198/jkg.v29i2.18577
12. Suhardjo D. *Definisi Tingkat Pendidikan*. Bandung: PT Refika Aditama; 2007:35.
13. Ren J, Li X, Chen S, et al. The influence of factors such as parenting stress and social support on the state anxiety in parents of special needs children during the COVID-19 epidemic. *Front Psychol*. 2020;10:11.
14. Pertiwi ASP. Cetak Biru Pengembangan Skala Stres Berkaitan Dengan Penerimaan Ibu Yang Memiliki Anak Berkebutuhan Khusus. *Univ Padjadjaran*. 2015;5–13.
15. Primanda NR. Hubungan Antara Parenting Stress Dengan Pengetahuan Dan Sikap Orang Tua Tentang Pemeliharaan Kesehatan Gigi Dan Mulut Anak Celah Bibir Dan Langit-Langit. 2022:113–127.
16. Sastroasmoro S. *Dasar-Dasar Metodologi Penelitian Klinis*. 5th Ed. Jakarta: Agung Seto; 2014:328–351.
17. Ahern L. Psychometric properties of the parenting stress index. *J Clin Child Psychol*. 2004;8–26.
18. Mbatha NL, Mokwena KE. Parental stress in raising a child with developmental disabilities in a rural community in South Africa. *Int J Environ Res Public Health*. 2023;20(5):1–15. doi:10.3390/ijerph20053969
19. Cheng AWY, Lai CYY. Parental stress in families of children with special educational needs: a systematic review. *Front Psychiatry*. 2023;14(3). doi:10.3389/fpsy.2023.1198302
20. Pastor-Cerezuela G, Fernández-Andrés MI, Pérez-Molina D, Tijeras-Iborra A. Parental stress and resilience in autism spectrum disorder and Down syndrome. *J Fam Issues*. 2021;42(1):3–26. doi:10.1177/0192513X20910192
21. Notoatmodjo S. *Promosi Kesehatan Dan Ilmu Perilaku*. Jakarta: Rineka Cipta; 2007:43–57.
22. Notoatmodjo S. *Ilmu Dan Seni Kesehatan Masyarakat*. Jakarta: Rineka Cipta; 2007:32–45.
23. Singh R, Mendiratta P, Saraf BG, Sheoran N, Saji SE, Kapil D. Knowledge, attitude and practices of parents toward the oral health of their school-going children in Faridabad City. *Int J Clin Pediatr Dent*. 2022;15(5):549–553. doi:10.5005/jp-journals-10005-2438
24. Ghufroni AS, Primarti RS, Chemiawan E, Febriani M. Gambaran Pengetahuan Dan Sikap Ibu Mengenai Pemeliharaan Kesehatan Rongga Mulut Anak Sindroma Down Di Depok. *Jurnal Ilmu Dan Teknologi Kedokteran Gigi*. 2022;17(2):63–71. doi:10.32509/jitekgi.v17i2.1392

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