

# A SYSTEMATIC REVIEW OF PARENTS' PATTERNS AND BARRIERS TO BRINGING CHILDREN TO THE DENTIST

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## Keywords

*Dental care, Dental attendance, dental utilization. Oral health promotion*

## ABSTRACT

Caries at an early age is a global problem that affects almost half of preschool children, the prevalence of early childhood caries (ECC) globally varies widely. One of the causes of caries in children less than 5 years old is the delay in the first visit to the dentist. The purpose of this study is to identify patterns of service utilization and obstacles that cause low visits to dentists so that programs can be planned that are able to increase the number of dental visits. A literature review was conducted using PubMed, ProQuest, SpringerLink, and ScienceDirect databases with keywords such as Dental care, Dental attendance, dental utilization, and Oral health promotion. The data were then thematically analyzed to uncover trends, common challenges, and effective interventions across the literature. The results of this systematic review show a pattern in visiting the dentist, including visiting for routine dental checkups, preventive treatments, acute pain conditions that have been experienced and trauma. The patterns of use of dental and oral health services in children are influenced by the level of parental education, the type of dental health care that is covered by limited health insurance, low socio-economic factors, socio-demographic factors, and lack of adequate insurance. This study aims to offer valuable insights into the patterns of dental care utilization and the obstacles preventing higher visitation rates to dental services. The findings are synthesized to highlight consistencies and gaps, ultimately providing insights to inform the development of programs aimed at improving dental visit rates.

## INTRODUCTION

Caries at an early age is a global problem that affects almost half of preschool children, the prevalence of ECC globally varies widely. Africa prevalence 30, America prevalence 48, Asia prevalence 52, Europe prevalence 43, Oceania prevalence 82 (Uribe et al., 2021).

Kemendes RI (2018) reported the prevalence of dental caries in children at 92.6%, this figure is very high, caries prevention activities and dental health promotion need to be carried out at health centers or posyandu so that people understand the dangers and impacts of cavities. Dental health problems include a wide range of chronic clinical conditions, from tooth decay or periodontal disease to oral cancer. Despite the fact that this condition is largely preventable, it still affects more than 3.5 billion people worldwide (Kassebaum et al., 2017). Dental caries in childhood is the best indicator of the future, dental caries occurs in a complex interaction between behavior, individual factors and social environment (Trinh et al., 2022).

Regular visits to the dentist help prevent, identify and treat dental health problems, thereby improving the quality of life of individuals and society as a whole (Currie et al., 2021). Kemendes RI (2018) stated the data in Indonesia has 57.6% of the population experiencing dental problems, but unfortunately only 10.2% of the population has access to dental services or visits to the dentist. One of the causes of caries in children less than 5 years old is the delay in the first visit to the dentist. The

American Academy of Pediatric Dentistry (AAPD) and the American Dental Association (ADA) recommend that the first visit to the dentist should be made within 6 months after the eruption of the first first first tooth and at the latest at 12 months of age (Currie et al., 2021). The frequency of the use of visits to dentists is not evenly distributed in developing and developed countries. This is due to the level of education, the level of dental health knowledge, the socio-economic status of parents, the perception of dental health status, inadequate health insurance. The fact that dental diseases involve large economic costs for the community, both directly (medical costs) and indirectly (for example, worse academic performance) (Onyejaka et al., 2016).

The purpose of this study is to identify patterns of service utilization and obstacles that cause low visits to dentists so that programs can be planned that are able to increase visits to dentists. This study aims to offer valuable insights into the patterns of dental service utilization and the obstacles preventing higher visitation rates to dentists. By identifying these patterns and challenges, the research will contribute to the development of targeted programs or interventions that can effectively increase the number of dental visits. The contribution lies in its practical application, helping healthcare providers and policymakers design evidence-based strategies to enhance dental care access and utilization, ultimately improving public oral health outcomes.

## **METHODS**

The data analysis in this study involves conducting a literature review using PubMed, ProQuest, SpringerLink, and ScienceDirect databases with keywords such as Dental care, Dental attendance, dental utilization, and Oral health promotion. The process includes identifying relevant studies, extracting key data on dental care patterns, attendance rates, utilization barriers, and oral health promotion strategies. This data is then thematically analyzed to uncover trends, common challenges, and effective interventions across the literature. The findings are synthesized to highlight consistencies and gaps, ultimately providing insights to inform the development of programs aimed at improving dental visit rates.

## **RESULTS**

The article search strategy used the Boolean Formula (((((preschool) OR (child, preschool[MeSH Terms])) AND ((dental care) OR (care dental[MeSH Terms])) AND ((utilization) OR (facilities utilization[MeSH Terms])) AND ((pattern) OR (Pattern, Clinical Practice[MeSH Terms])) AND ((Caries Resistance, Dental) OR (early childhood caries[MeSH Terms]))). The articles obtained are then filtered from the time range of 2014 to 2024. All of these journals were identified and then imported into Mendeley and selected for duplicate journals. The journals obtained were then selected and reviewed thoroughly, critically and objectively, after being thoroughly reviewed, eight journals were selected that were discussed in this journal.

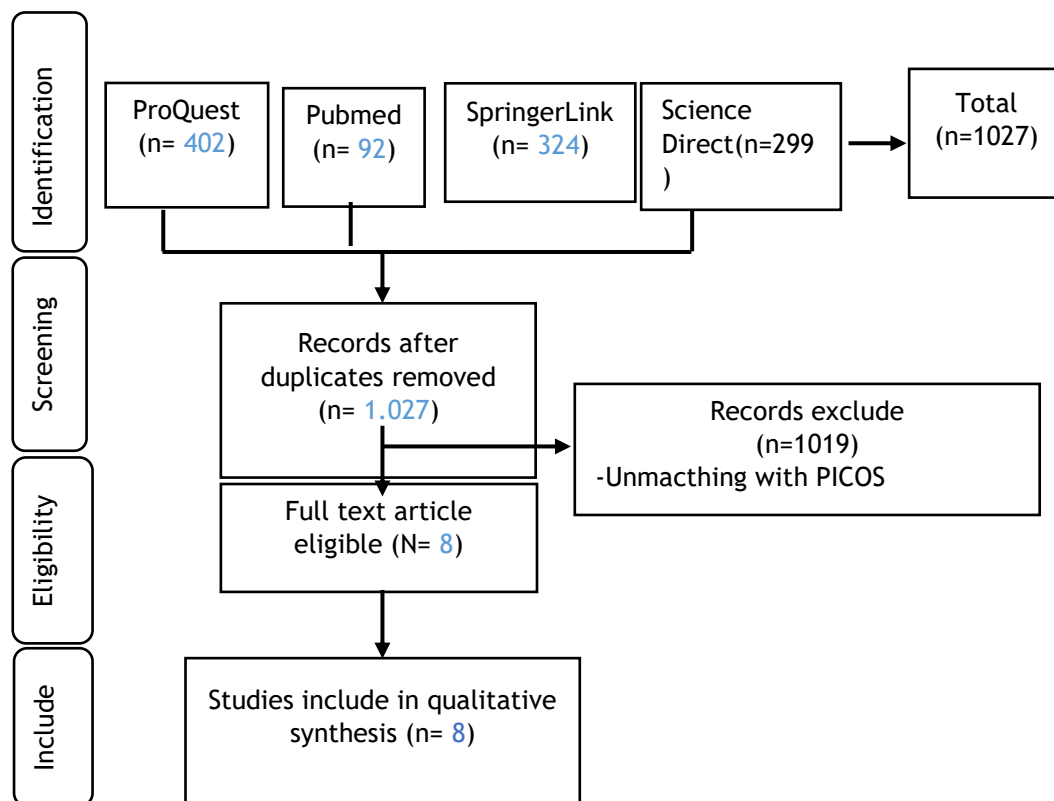


Figure 1. Prism flowchart

Table 1. Bias risk assessment

Study Validity Domains	Assesment*
1. <b>Sequence generation:</b> Was the allocation sequence adequately generated?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
2. <b>Allocation Concealment:</b> Was the sequence generation adequately <u>concaled</u> before group assignments?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
3. <b>Blinding of participants and personnel:</b> Was knowledge of the allocated interventions adequately <u>hiddenfrom</u> the participants and personnel after participants were assigned to respective groups?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
4. <b>Blinding of outcome assessors:</b> Was knowledge of the allocated interventions adequately hidden from <u>theoutcome</u> assessors after participants were assigned to respective groups?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
5. <b>Incomplete outcome data:</b> Were incomplete outcome data adequately addressed?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
6. <b>Selective outcome reporting:</b> Are reports of the study free of suggestion of selective outcome reporting?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
7. <b>Other sources of bias:</b> Was the study apparently free of other problems that could put it at a risk of bias?	<ul style="list-style-type: none"> <li>⬆ Yes</li> <li>⬆ No</li> <li>⬆ Unclear</li> </ul>
<b>Study Quality:</b>	

\*For assesments, please refer to Judging criteria described on the next two pages.

†“Yes” in all Domains would place a study at “Low Risk of Bias”;

“No” in any of the Domains would place a study at “High Risk of Bias”;

“Unclear” in any of the domains would place the study at “Unclear Risk of Bias”

**Table 2.** Presentation Data Analysis

No	Penulis, tahun penerbitan dan lokasi	Tujuan	Kelompok populasi	Desain Penelitian	Hasil Penelitian
1.	My-Van Trinh, 2022 Australia <sup>4</sup>	Menentukan pola pemanfaatan layanan gigi pada anak di Australia dan menyelidiki hambatan untuk perawatan ke dokter gigi	2.048 Orang tua yang memiliki anak berusia 1 hingga 17 tahun	Cross-sectional	Kunjungan ke dokter gigi jarang terjadi pada anak-anak yang lebih muda, dengan hanya 26,7% (118 dari 442) anak berusia satu hingga dua tahun yang pernah mengunjungi dokter gigi. Anak dengan usia tiga sampai 5 tahun mengunjungi dokter gigi berjumlah 20,0% (99 dari 494). Hambatan kurangnya mengunjungi dokter gigi sebagian besar karena kurangnya pengetahuan tentang kesehatan gigi dan mulut, karies pada gigi memiliki gejala klinis yang ringan maka orang tua sulit mendeteksi dan meremehkan penyakit gigi.
2.	Mengru Xu, 2018 China <sup>9</sup>	Menentukan pola pemanfaatan pelayanan kesehatan gigi dan mulut dan faktor faktor yang berhubungan dengan pelayanan kesehatan gigi.	1425 orang tua yang memiliki anak pra sekolah usia 2-6 tahun	Cross-sectional	Kunjungan ke dokter gigi pada rentan waktu 12 bulan terakhir didapatkan sebanyak 347 anak mendapatkan perawatan preventive, 10,5% orang tua melaporkan gigi anak sering terasa sakit dalam 12 bulan terakhir. Alasan mengunjungi dokter gigi selama 12 bulan terakhir adalah pemeriksaan rutin (38,3%), pemeriksaan masalah dalam rongga mulut (24,9%), melakukan tahapan pencegahan (21,6%), sakit gigi kronis (6,7%), sakit gigi akut (5,0%), tauma (1,9%), kebutuhan estetika (1,6).
3.	Roos Leroy, 2022 Belgia <sup>10</sup>	Menyelidiki anak mengunjungi dokter gigi, mendeskripsikan pengalaman orang tua tentang kunjungan ke dokter gigi, Mengeksplorasi faktor sosial, demografis, orang tua dan kesehatan mulut terkait kunjungan ke dokter gigi	1057 anak usia 3-5 tahun	Cross-sectional	62 % anak usia 3 tahun belum pernah mengunjungi dokter gigi, pada usia 5 tahun 21 % anak belum pernah mengunjungi dokter gigi. Ibu yang berpendidikan rendah jarang membawa anak ke dokter gigi dengan probabilitas 12 %, kelompok sosio ekonomi rendah harus lebih banyak di motivasi untuk mengunjungi dokter gigi
4.	Mantonanaki, 2016 Yunani <sup>11</sup>	Melihat prevalensi dan tingkat keparahan karies serta penggunaan layanan kesehatan gigi dan mulut pada usia 5 tahun.	Sampel terdiri dari 524 kuesioner orang tua dan pemeriksaan gigi	Cross-sectional	86 anak belum pernah mengunjungi dokter gigi pada usia 5 tahun, alasan utama anak mengunjungi dokter gigi sebelum usia 3 tahun adalah untuk pencegahan gigi berlubang. Prevalensi karies gigi adalah 16,5%, dari data yang didapatkan anak-anak memiliki 75% karies yang tidak dirawat. Tingkat sosio ekonomi rendah.
5.	Gao LI, 2020, china <sup>12</sup>	Mengevaluasi pemanfaatan pelayanan gigi pada usia 3,4, dan 5 tahun di china dengan model andreson	Kelompok usia 3-5 tahun dengan 40.895 peserta	Cross-sectional	Dari 40.305 anak diantaranya 17,6% sudah melakukan pemeriksaan gigi, sisanya belum pernah melakukan pemeriksaan ke dokter gigi. Tingkat pengetahuan tinggi sebesar 63,8%, sebanyak 68,7% orang tua berpendidikan SMA, 31,3 % berpendidikan sarjana, pendapatan perkapita kurang dari 12.500 CNY adalah 30,4%, pendapatan antara 12,500 sampai dengan 25.000 CNY sebesar 36,9%, pendapatan 25.000 CNY atau lebih 32,7%.. sebagian besar anak blm pernah menguluh sakit gigi, prevalensi karies 63,1%. Alasan dan hambatan kunjungan ke dokter gigi, , 32,11% anak usia 3 tahun, 49,47% anak usia 4 tahun, dan 57,30% anak usia 5 tahun mengunjungi dokter gigi untuk berobat, 14,57% anak usia 3 tahun, 11,22% anak usia 4 tahun, dan 9,17% anak perawatan preventif.

These results provide an overview of dental health service utilization patterns and identify barriers to early dental care. Obstacles in visiting the dentist at an early age are mostly known due to a lack of knowledge or literacy of dental and oral health. Caries lesions appear with subtle clinical signs and have no symptoms, so it is difficult for parents to detect them and consider the disease not serious (Afshin et al., 2019).

By the time the symptoms appear and the cavities are clearly visible, the parents are only aware of the problem of the capillary teeth, while this preventive measure is too late, so invasive measures are needed, such as root canal treatment, making a crown on the tooth or until the extraction of 3 teeth. Previous studies based on population data in the United States showed that 94% of parents who bring their children to the dentist for the first time will tend to be more concerned about dental health and have regular visits (Gao et al., 2020). Regular visits to the dentist during the time of the child can provide information and prevention as well as dental and oral health education to children and parents. There was a pattern of visits to the use of dental and oral health services that reported the reasons for the last visit to the dentist, including 38.3% visiting the dentist for routine check-ups, 21.6% visiting the dentist for preventive measures, 15.2% having sick reasons (Gao et al., 2020).

Andreson's model has a significant relationship regarding predisposing factors to the pattern of use of dental and oral health services in children, the level of parental education. Age predisposing factors, parental education level, enabling factors such as economic resources (Cheng et al., 2019; Mantonanaki et al., 2013; Xu et al., 2018). Factors such as the need to visit the dentist, toothache experience, high dmft value (Bastani et al., 2021; Bhaskar et al., 2014; Cheng et al., 2019; Gao et al., 2020; Hu et al., 2023; Sahab et al., 2022; Toh et al., 2022; Xu et al., 2018; Yun et al., 2022).

Oral health problems can increase with the growth and development of children (Mantonanaki et al., 2013). Children over preschool age have serious caries levels if they do not get the right treatment in time, therefore it is necessary to visit the dentist regularly, in addition to that preschool children do not know and cannot describe dental problems and are more afraid to visit the dentist, So it is necessary to be introduced to visit the dentist (Munasinghe et al., 2020).

Parent or caregiver education is related to the level of awareness in receiving dental and oral health care plans that have been determined by dentists (Peres et al., 2019). Access to visit the dentist

is an important factor that can increase visits, if access to dental and oral health facilities is obtained, parents are able to visit health services easily (Andrew et al., 2021). The type of dental health care that is covered by limited health insurance, from this result it can be planned that kindergarten schools are the main public facilities in the implementation of regular dental and oral care with the support of the education or other government institutions.

## CONCLUSION

The results of this systematic review show a pattern in visiting the dentist, including visiting the dentist for routine dental checkups, preventive treatments, acute pain conditions that have been experienced and trauma. Obstacles for parents in bringing their children to the dentist are for various reasons, such as lack of knowledge and concern for dental and oral health, access to services that are difficult to reach, low socio-economic factors, socio-demographic factors, and lack of adequate insurance. To increase visits to the dentist, it is necessary to intervene with parents about dental and oral health, supported by the education office or foundation institutions so that they can visit and get preventive care at the dentist.

A suggestion for future research based on this conclusion would be to explore the effectiveness of specific intervention programs aimed at educating parents on dental and oral health, particularly in low socio-economic and hard-to-reach communities. Future studies could investigate which types of educational interventions—such as community workshops, school-based programs, or digital campaigns—are most successful in increasing knowledge and encouraging preventive dental visits. Additionally, research could examine how improved access to dental services, including the role of enhanced insurance coverage or mobile dental clinics, impacts the frequency of dental visits and overall oral health outcomes in these communities.

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