



# *Akademik Eğitim ve Sosyal Bilimler Dergisi* (AJESS Journal)

## ***The Status of School Health in Algeria: A Study of Oral Health in School Settings Based on Data from the Multiple Indicator Cluster Survey (MICS6)***

Dr. Ilham Hanini, Lecturer, Department of Sociology and Demography, University of Algiers 2, Algeria  
ilham.hanini@univ-alger2.dz

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### **Abstract**

This study analyzes the status of school health in Algeria, with particular attention to oral health among children and schoolchildren. It describes the health programs and services provided in school settings and examines how oral-care practices and the use of dental services relate to selected family socioeconomic characteristics. The study used a descriptive-analytical approach based on data from the 2019 Multiple Indicator Cluster Survey (MICS6). The analysis covers indicators related to dental visits, regular toothbrushing, dental problems, and their effects on school life. These indicators are examined by sex, age, place of residence, mother's educational level, and household economic status. The results show disparities in preventive practices and in the use of dental services according to socioeconomic characteristics. Visits prompted by pain remain more common than regular preventive follow-up. The data also indicate that dental problems may affect school attendance and the child's daily well-being. These findings underline the importance of strengthening prevention, early detection, health follow-up, and coordination among families, schools, and the health sector.

**Keywords:** school health; oral health; schoolchildren; dental services; MICS6.

### **Introduction**

School health is one of the fundamental approaches to promoting children's health and protecting them from health problems that may affect their growth and learning. The school is a social and educational institution that brings together a broad segment of children and adolescents. It therefore provides an appropriate setting for establishing health knowledge, practices, and behaviors from the early stages of life. From this perspective, the role of the school is not limited to transmitting knowledge and developing educational abilities. It also contributes to building healthy behavior, preventing disease, and detecting some health problems early. This can help reduce their effects on the child's life and schooling. Primary education is particularly important in this regard because it is a fundamental stage in child development and in the formation of health habits, including habits related to oral and dental hygiene.

Child health, in its comprehensive sense, includes physical, psychological, mental, and social dimensions. It is therefore an area in which the roles of the family, school, health institutions, and other social institutions intersect. Promoting child health cannot be achieved through therapeutic intervention alone. It requires preventive and awareness-raising measures aimed at providing a health-supportive school environment, developing children's awareness of sound health practices, and detecting early the problems that may affect their growth and ability to learn. In this context, health and education are closely interconnected. Health problems can affect a child's attendance, regular schooling, and ability to participate in school activities. Conversely, the school is an important setting for establishing preventive behaviors and strengthening health awareness.

Given this importance, Algeria has devoted attention to school health through programs and mechanisms for providing health care to students. These include Screening and Follow-up Units (UDS), which conduct examinations, support early detection, provide health follow-up, and care for identified cases. They also contribute to prevention, health awareness, and the improvement of school-environment conditions. Algeria's school health system has undergone organizational developments aimed at moving from a focus on limited medical intervention toward a more comprehensive view of health in school settings. This approach combines prevention, screening, follow-up, health education, and care for health problems that schoolchildren may face.

School health is not confined to a single domain. It covers several areas related to children's health and well-being, with oral health among the most important. Oral and dental health is an essential part of general health. Oral problems, especially dental caries, can affect comfort, nutrition, daily activity, and regular school attendance. Preventive practices such as regular toothbrushing and the use of dental services are also associated with social, economic, and family factors. The study of oral health therefore extends beyond a purely medical perspective and includes social and educational dimensions related to children's living conditions, family characteristics, and environment.

Within this framework, Algeria adopted a national school oral health program aimed at preventing and detecting oral and dental diseases and providing care for identified cases. The program also seeks to establish preventive practices and health education among schoolchildren. The existence of programs and health services, however, does not necessarily mean that all children benefit from them equally. Health practices and patterns of dental service use may differ according to socioeconomic characteristics such as the mother's educational level, place of residence, and household economic status. They may also vary by sex and age.

National statistical data are therefore particularly important for describing children's oral health and identifying disparities in health practices and dental service use. Data from the 2019 Multiple Indicator Cluster Survey (MICS6) provide a quantitative basis for examining several oral health indicators among children aged 5-17 years. These include dental visits, toothbrushing practices, selected oral and dental problems, and their effects on school life. The survey also provides information on relevant socioeconomic characteristics of children and their families.

The importance of studying oral health in schools is not limited to measuring the prevalence of certain practices or health problems. It also involves understanding disparities in these practices and in the use of health services in relation to children's and families' socioeconomic characteristics. It further involves identifying possible effects of oral problems on regular school attendance. Accordingly, this study combines an overview of school health and oral health programs and services in Algeria with an analysis of selected child oral health indicators based on MICS6 data.

The study is therefore guided by the following main research question:

What is the status of oral health among schoolchildren in Algeria, and how do oral health practices and the use of dental services vary according to selected socioeconomic characteristics, based on data from the Multiple Indicator Cluster Survey (MICS6)?

This main question includes several subquestions concerning toothbrushing practices, patterns of dental service use, selected oral health problems, and their effects on school life.

Based on this framework, the study proposes the following hypotheses:

- Toothbrushing practices among schoolchildren differ according to selected socioeconomic characteristics, particularly the mother's educational level, place of residence, and household wealth index.
- Patterns of dental service use among schoolchildren vary according to selected socioeconomic characteristics.
- Dental problems among children are associated with effects on school life, particularly absence from school because of dental problems.

### **1. Significance and Objectives of the Study**

This study is important because school health lies at the intersection of health, education, and social life. A student's health is an important condition for normal participation in school life and for benefiting from the educational process. Schools do more than provide instruction. They are institutional settings in which many health problems can be detected early, health literacy can be promoted, preventive behaviors can be strengthened, and students and their families can be guided toward appropriate responses to illness and health disorders. From this perspective, school health has become an important part of policies designed to protect children and improve quality of life. The school years are a period in which health habits and practices are formed, and their effects may continue later in life. The topic is particularly important in Algeria because the state has developed health programs for schoolchildren, established screening and follow-up structures, and provided services for examination, prevention, early diagnosis, referral, and care for cases that require monitoring. These services are important because children may not always recognize their own health problems or describe them accurately. Schools and school health services can therefore play a key role in identifying problems and ensuring timely intervention.

The significance of the study is further reinforced by its focus on Screening and Follow-up Units in school settings. These units provide an institutional link between education and health. Their role is not limited to medical examinations. It includes early detection of diseases and disorders, follow-up of health conditions, referral of students who require additional examinations or care, and contributions to health awareness and risk prevention. Studying these units also helps clarify how students receive health care within the school system and why regular follow-up matters, especially for conditions that can be prevented or detected and treated at an early stage. The study also focuses on oral health, an essential component of children's general health. Oral health should not be treated as separate from general health or as a concern limited to teeth. Untreated oral problems can affect comfort, daily activity, concentration, and regular participation in school life. Including oral health in school health programs therefore has both preventive and educational value. Childhood and the school years are appropriate periods for establishing oral-care practices, strengthening awareness of oral hygiene, and reducing habits that may increase the risk of oral disease.

The study also derives its importance from the use of data from the Multiple Indicator Cluster Survey in Algeria. These data provide statistical information on children and on several indicators related to their health, allowing a more evidence-based assessment of oral health in Algerian society. This approach moves beyond viewing school health only as a set of programs and services. It also considers indicators that reflect aspects of children's actual health status and helps identify areas that require stronger prevention, awareness, and care. The study therefore combines an institutional perspective, represented by school health programs, services, and Screening and Follow-up Units, with an empirical perspective based on statistical indicators of children's oral health. This combination offers a more comprehensive view of the field. It may be useful to researchers in the sociology of health, sociology of education, public health, and educational sciences by highlighting the school as a social setting in which families, educational institutions, and health institutions interact to protect and promote children's health.

In light of this significance, the general objective of the study is to describe the status of school health in Algeria by identifying the main health programs and services provided to students and clarifying their preventive, therapeutic, and follow-up functions. Particular attention is given to the role of Screening and Follow-up Units in protecting schoolchildren's health. This general objective is supported by several specific aims. The study seeks to describe the school health programs and services used in Algeria and to show their importance for prevention, early detection, and health education. It also examines the tasks of Screening and Follow-up Units, especially health examination, detection of diseases and disorders, follow-up of identified cases, and referral when needed. Another aim is to emphasize the importance of continuous care for students with health problems rather than stopping at initial detection. Continuous care supports follow-up and coordination with families and specialized health services. The study also examines children's oral health in Algeria through available MICS indicators and identifies the main patterns associated with this area of health. It highlights the importance of preventing oral and dental diseases in schools and the role of health education in establishing sound practices among children. It also stresses cooperation among families, schools, and health services in protecting students and monitoring cases that require care. In addition, the study uses available statistical data to provide an objective reading of children's oral health and to connect these findings with the broader school health framework. This makes it possible to identify some of the health challenges facing children and the areas that may require greater attention in prevention, detection, follow-up, and awareness. In this way, the study seeks to contribute to scientific discussion of school health in Algeria and to emphasize the school as a setting for health prevention and education, not only as an institution for academic instruction. This integrated perspective underscores the need to combine health, educational, and social functions in serving students.

## **2. Definition of Key Concepts**

Before addressing the main topic, the study defines a set of concepts that are central to the research. Conceptual clarification is a necessary step in scientific studies because it explains how key terms are used and distinguishes their general meanings from their scientific and operational meanings in the present study. The main concepts are childhood problems, school, health, school health, and oral health.

### **1.2 Childhood Problems**

Childhood is a fundamental stage of human development characterized by physical, cognitive, psychological, and social changes. It may also involve problems and difficulties that vary from one child to another according to age, individual characteristics, and family, school, and social circumstances. Not every problem that appears during childhood should be viewed as a pathological disorder or a fixed personality defect. Some problems may be temporary and developmentally related, and they may be overcome when addressed through appropriate educational and psychological approaches. Ouda notes that childhood problems may be part of normal childhood experience and can disappear without lasting effects when they are handled wisely. By contrast, their severity and persistence may increase when they are managed inappropriately (Ouda, 2010, p. 25).

Childhood problems take many forms. They may be physical, health-related, psychological, behavioral, or social, and these dimensions can overlap. A health problem, for example, may affect a child's psychological state, relationships with peers, or ability to participate in school activities. Addressing childhood problems should therefore not be limited to treatment. It should also include prevention, early detection, referral, and follow-up.

In the present study, childhood problems refer to the health, physical, psychological, and social difficulties that children may face during the school years. Particular attention is given to health problems that can be detected, prevented, or monitored through school health services.

### **2.2 School**

A school is a social and educational institution created by society to achieve educational, developmental, and social goals. Its role is not limited to transmitting knowledge and skills. It also contributes to shaping the child's personality, developing physical, cognitive, psychological, and social capacities, and promoting values, attitudes, and behaviors that support adaptation to the social environment. Sadrati describes the school as a formal educational institution responsible for providing an environment that supports development in physical, cognitive, social, emotional, and spiritual domains, while also offering opportunities for creativity and innovation (Sadrati, 2014, p. 37).

From a social perspective, the school is a setting for interaction among children, teachers, peers, administrators, families, and the wider social environment. Its influence therefore extends beyond instruction to socialization, education, and guidance. Durkheim emphasized the school's essential social function in transmitting values and rules that enable individuals to integrate

into society. Schools consequently contribute to shaping behavioral patterns acquired during the school years (Durkheim, 1922, p. 41).

Schools are especially important for health because they provide regular access to large numbers of children. This makes them suitable settings for awareness, prevention, early detection, and the promotion of healthy behaviors. The World Health Organization identifies schools as key environments for promoting the health of children and adolescents and notes that good health is linked to learning, school attendance, and educational achievement (WHO, 2021, pp. 1-2).

In the present study, a school refers to the educational institution attended by school-age children. It is also treated as a social, educational, and health setting in which programs for prevention, awareness, screening, and health follow-up can be implemented.

### 3.2 The Concept of Health and Its Levels

Health is a fundamental concept in both medical and social sciences. Its meaning has developed from a narrow view centered on the absence of disease to a broader view that includes physical, psychological, and social well-being. The World Health Organization defined health as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity (World Health Organization, 1948, p. 1).

This definition reflects the multidimensional nature of health. Health is not limited to the physical domain but also includes psychological and social dimensions. This is consistent with the social approach to health, which recognizes the influence of social, economic, cultural, and environmental conditions on individual health. Lalonde argued that health is not determined by biological factors alone. It is shaped by the interaction of lifestyle, environment, health-care organization, and human biology (Lalonde, 1974, pp. 31-33).

From this perspective, health can be viewed as a dynamic state that is continuously influenced by individual circumstances and the surrounding environment. It ranges from well-being and balance to different degrees of disorder and disease. Maintaining health therefore depends not only on treating disease after it occurs but also on prevention, early detection, healthy behavior, and supportive environments.

For schoolchildren, health includes physical, psychological, and social well-being and the ability to carry out daily and school activities normally. In the present study, health refers to the child's general physical, psychological, and social condition, with particular attention to aspects that school health programs can address through prevention, screening, education, and follow-up.

### 4.2 The Concept of School Health

School health brings together health and education. It is not limited to providing medical examinations for students. Rather, it refers to an integrated system of services, programs, and activities designed to protect and promote children's health, prevent diseases and health problems, support early detection, and ensure follow-up.

The World Health Organization defines school health services as services provided by health workers to students enrolled in primary or secondary education. These services may be delivered within the educational institution or through external health services that are formally linked to the school for the purpose of providing health care to students (WHO, 2021, pp. 2-3).

A health-promoting school also includes several integrated dimensions, such as a healthy school environment, health education, health services, nutrition, psychosocial support, and community participation. This confirms that school health cannot be reduced to medical activity alone (WHO, 1998, pp. 2-3).

In Algeria, the organization of school health has been closely associated with the establishment of Screening and Follow-up Units as structures responsible for detecting health conditions, monitoring them, and providing care in school settings. The term Screening and Follow-up Units was introduced as part of the 1994 plan to reorganize school health in Algeria. The plan emphasized the need to combine regular medical examinations with a system for following up identified cases (Ministry of Health and Population, 1994; Adjeb, 1999, p. 112).

Algerian literature also indicates that the responsibilities of Screening and Follow-up Units extend beyond examination. They include follow-up of detected cases, health education, monitoring hygiene and health conditions in educational institutions, and vaccination according to approved programs (Daas & Ait-Mohand, 2007, pp. 3-4).

In the present study, school health refers to the set of health, preventive, and educational programs, services, and activities directed toward students in school settings. These include health awareness, early detection, follow-up, referral, care for illness, and improvement of the school environment, with particular attention to oral health.

### 5.2 The Concept of Oral Health

Oral health is an essential part of general health. It is not limited to the condition of the teeth but includes the mouth and the oral and facial structures that allow people to perform daily functions normally. The World Health Organization explains that oral health enables individuals to speak, eat, and interact socially without active disease, pain, discomfort, or embarrassment. It extends beyond the teeth to include the gums, soft tissues, tongue, lips, salivary glands, and other oral structures (WHO, 2003, p. 6).

Oral health is particularly important in childhood because oral and dental diseases can affect comfort, daily activity, nutrition, and quality of life. They may also affect school attendance and participation. The World Health Organization notes that poor oral

health can adversely affect children's school performance, growth, and development. Schools are therefore appropriate settings for prevention, awareness, and early detection (WHO, 2003, pp. 6-7).

Attention to oral health in schools is also consistent with a modern preventive approach that treats the school as an appropriate environment for establishing healthy behavior. Children spend a substantial part of their daily lives at school and are influenced by the knowledge and practices they acquire from teachers, peers, families, and health programs (WHO, 2014, pp. 2-4).

In the present study, oral health refers to the condition of the mouth, teeth, and oral and facial structures among schoolchildren, as well as their exposure to oral problems and diseases. Available indicators and data are used to describe this aspect of children's health in Algeria.

### **3. Objectives of School Health**

School health seeks to achieve a set of interrelated objectives. These include protecting and promoting students' health, preventing disease and health risks, detecting health conditions early and monitoring them, and developing health awareness and healthy behavior among children. These objectives cannot be achieved by the health sector alone. They require cooperation among educational institutions, families, health services, local authorities, and civil society.

The primary objective of school health is to preserve students' health and enable them to grow and learn in a healthy and safe environment. It also seeks to identify health problems early, intervene when appropriate, or refer cases to specialized services. The World Health Organization states that school health services can perform several functions, including prevention, health promotion, detection of health problems, monitoring and follow-up, provision of care, and referral to appropriate services when needed (WHO, 2021, pp. 3-5).

School health also aims to monitor students' physical, psychological, and social development; prevent infectious diseases; promote personal hygiene and a clean school environment; reduce accidents and injuries; provide health education; encourage healthy nutrition and physical activity; and support psychological and social well-being. The World Health Organization further states that a health-promoting school should develop a healthy environment, health education, health services, nutrition, and psychosocial support, while strengthening family and community participation (WHO, 1998, pp. 2-3).

In Algeria, these objectives are also linked to the work of Screening and Follow-up Units, which are a central organizational mechanism within school health. Their responsibilities include identifying diseases and health disorders, monitoring detected cases, contributing to health awareness and prevention, and monitoring selected health conditions in educational institutions (Daas & Ait-Mohand, 2007, pp. 3-4).

The objectives of school health therefore extend beyond treating illness. They support a preventive and proactive approach based on health education, early detection, and follow-up, while strengthening children's ability to maintain their own health and participate positively in school life.

### **4. Importance of School Health**

School health is especially important because schools regularly bring together large numbers of children during a critical stage of development. This regular contact makes schools suitable settings for reaching children with prevention, awareness, and health-screening services. It also creates opportunities to monitor health problems that might not be detected early outside the educational setting.

The importance of school health also arises from the close relationship between health and education. Children with recurrent health problems may experience difficulties with attendance, participation, concentration, and learning. The World Health Organization has emphasized that good health is associated with improved educational outcomes and that access to safe and supportive school environments is associated with better health and educational outcomes (WHO, 2021, pp. 1-2).

From a social perspective, the school is an important setting for health socialization. Children can learn personal hygiene, healthy nutrition, disease prevention, oral and dental care, and how to avoid behaviors that may harm their health. Involving families and communities in health programs also increases the likelihood that healthy behaviors will continue outside school. This principle is central to the health-promoting school approach, which treats cooperation among schools, families, the health sector, and the community as an essential component (WHO, 1998, pp. 2-3).

School health is particularly important in the Algerian context because of the network of Screening and Follow-up Units serving students. These units are an institutional mechanism for delivering health care in school settings. Algerian sources have documented their roles in screening, follow-up, and health education. More recent data also show continued official interest in developing school health services and expanding screening and follow-up capacity.

The importance of school health becomes even clearer when oral health is considered. Schools provide opportunities to reach children early, strengthen oral hygiene habits, identify problems, and refer children who need care. The World Health Organization emphasizes that oral health is linked to general health and quality of life and that oral diseases can affect children's school activity, growth, and development (WHO, 2003, pp. 6-7).

### **5. Components of School Health**

School health should not be viewed as a single medical service. It is an integrated system in which health, educational, environmental, psychological, and social components interact. Achieving its objectives therefore requires a supportive school

environment, health education, health services, family and community involvement, attention to nutrition and mental health, and physical activity.

Health education is one of the leading components because it provides students with the knowledge, skills, and attitudes needed to make sound health decisions. School health services are another component and include examination, early detection, follow-up, guidance, and referral when needed. A healthy and safe school environment is also essential and includes cleanliness, safe drinking water, sanitation, ventilation, lighting, safety, and accident prevention.

School health also includes mental health, counseling, and social support because psychological and social stability are important for adjustment to school. Other components include school nutrition, given the role of nutrition in growth, health, and learning; physical activity; the health of school staff; and family and community participation. Within the health-promoting school approach, the World Health Organization identifies several integrated areas, including school policies, the physical and social environment, the health curriculum, community participation, and health services (WHO, 2021, pp. 10-14).

Oral health is another important component of school health because it is directly related to children's health, quality of life, and ability to eat, speak, and interact socially without pain or embarrassment. Incorporating oral health education, prevention, and early detection into school programs is therefore a natural extension of the concept of comprehensive school health (WHO, 2003, pp. 6-8).

In Algeria, these components are complemented by the organizational and preventive role of Screening and Follow-up Units. These units are among the main structures used to implement school health activities. Their work includes health screening, follow-up of identified cases, health education, monitoring selected health and hygiene conditions, and vaccination according to approved programs. Algerian literature also indicates that their effectiveness depends on adequate human resources, equipment, working conditions, and coordination among the different actors involved in school health (Ben Mokhtar & Amara, 2022, pp. 467-484).

In its comprehensive sense, school health is therefore based on the integration of health education, health services, the school environment, mental health, nutrition, physical activity, oral health, and family and community participation. Together, these elements form an integrated preventive, educational, and health system that aims to protect children and support healthy growth and learning.

The conceptual and theoretical discussion above addressed childhood problems, school health, and oral health, and explained the importance of school health for prevention, early detection, and follow-up. The study now moves to the applied and analytical level by examining the status of school health in Algeria. Understanding oral health among schoolchildren requires attention to the programs, services, and structures responsible for prevention and health care in schools. The first section therefore analyzes school health programs and services in Algeria. It reviews their development and organization, identifies the main programs and services directed toward students, examines the role of Screening and Follow-up Units in implementation, and considers different areas of health care in school settings. This provides the context needed to understand the place of oral health within the school health system and prepares for the analysis of oral health data and indicators among schoolchildren.

### **Section One: School Health Programs and Services in Algeria**

School health is a fundamental component of health and social policy directed toward children and adolescents. The school is not only a setting for education and the transmission of knowledge. It is also an institutional space in which health, educational, social, and psychological dimensions intersect. Regular attendance by children and adolescents gives schools access to a large population during a period marked by physical, cognitive, and social development. This makes the school an appropriate setting for prevention, early detection, health education, and continuous follow-up. In Algeria, the development of school health since independence has been linked to changes in national health policy. It has also involved a gradual shift from a narrow concept of school hygiene to a broader approach based on prevention, screening, follow-up, care, and health education, with greater cooperation among the health, education, and local government sectors. The system passed through several organizational stages, particularly during the 1980s and 1990s. A major turning point was Joint Ministerial Circular No. 01 of April 6, 1994, concerning the plan for reorganizing school health. The circular emphasized better service quality, improved conditions for medical examinations, stronger follow-up of detected cases, and involvement of the sectors concerned with school health. The reform was also associated with the establishment of Screening and Follow-up Units as field mechanisms for screening and health care in schools. School health thus moved from isolated periodic examinations toward a system based on continuity and coordination among screening, follow-up, and care. Algerian literature describes this period as an important organizational transition. Screening and Follow-up Units became a central part of the national program, while intervention expanded to include physical, oral, and mental health, hygiene, health education, and vaccination (Ministry of Health and Population, 1994; Snani, 2020, pp. 199-201). The program continued to be strengthened in later years through joint ministerial instructions, especially the instruction of October 27, 2002, on strengthening the school health program. This reflected a policy direction toward wider coverage and better coordination among the actors involved.

#### **1. Development and Organization of School Health in Algeria**

School health in Algeria developed through successive stages linked to changes in the health system and growing concern for protecting children's health in educational institutions. Before the emergence of modern school health organization, attention focused mainly on hygiene and prevention of infectious disease. The function gradually expanded toward medical examination,

disease detection, and follow-up. During the 1980s, several regulatory texts were issued concerning intersectoral coordination and health prevention in school settings. These measures helped establish an organizational basis for health activities in educational institutions. Documents on national health programs indicate that Joint Ministerial Circular No. 495 of November 21, 1983, addressed preventive and hygiene measures to be applied in educational institutions. Later texts organized care and coordination for detected medical conditions before school health policy moved toward more comprehensive reorganization in the early 1990s (Ministry of Health and Ministry of Education, 2016, p. 96). The year 1994 was a decisive stage. Joint Ministerial Circular No. 01 of April 6, 1994, introduced the plan for reorganizing school health. It responded to limitations in earlier practices, particularly medical visits that often ended with screening and were not always followed by an effective follow-up system. The program was redirected toward improving service quality and health coverage, strengthening the conditions and content of organized medical examinations, and providing more regular follow-up of detected diseases. It also promoted the involvement of other sectors concerned with student health. One of the main outcomes was the establishment of Screening and Follow-up Units (UDS) as organizational and field mechanisms for implementing the school health program. Screening was no longer treated as an end in itself. It became the first stage of a process that begins with assessment of health status and continues through follow-up, care, and referral to specialized services when needed. Algerian studies indicate that these units were created as part of the school health reorganization plan to improve examination and follow-up conditions. They were equipped with medical and paramedical resources for medical, visual, and oral examinations and for selected measurements used in monitoring student health (Adjeb, 1999, p. 46; Snani, 2020, pp. 199-201). This direction was reinforced by the Joint Ministerial Instruction of October 27, 2002, on strengthening the school health program. It called for mobilizing health and education professionals and strengthening organized interventions in schools on the basis of program evaluation and analysis of students' health status (Ministry of Health and Population & Ministry of National Education, 2002, p. 1). School health in Algeria therefore moved gradually from a model centered on hygiene and occasional prevention toward a broader institutional model combining prevention, early detection, follow-up, care, health education, and intersectoral coordination.

## **2. School Health Services and Programs in Algeria**

School health services in Algeria are based on interconnected preventive, therapeutic, and educational interventions. They aim to preserve students' health, improve schooling conditions, and detect disorders and diseases that may affect growth or learning at an early stage. These services therefore extend beyond periodic medical examination to vaccination, health education, monitoring of hygiene and environmental health in educational institutions, screening for visual and dental problems, and follow-up of cases referred to specialized services. National school health regulations emphasize that screening should be linked to a follow-up system that ensures continuity of care for detected cases. This explains the combination of preventive and therapeutic dimensions in school health interventions. Prevention includes monitoring students' general health, vaccination, early detection, and checking hygiene and safety conditions in institutions. The therapeutic dimension involves referring students with identified disorders or diseases to appropriate services and ensuring follow-up according to the nature of the condition. Health education has a particularly important role because it aims to build healthy behavior among children and adolescents. This includes personal and oral hygiene, healthy nutrition, and disease prevention. The school therefore becomes a setting for preventive intervention rather than merely a place where medical services are delivered. Algerian regulatory documents identify several core activities for Screening and Follow-up Units, including detection of diseases, follow-up and care of identified cases, monitoring health and hygiene in educational institutions, health education, and vaccination. These activities demonstrate the broad scope of school health and its concern with the different conditions that influence student health (Ministry of Health and Population, 1994; Ministry of Health and Ministry of National Education, 2002, pp. 1-2). The national program also recognizes that some areas require specialized intervention, particularly oral and dental health. Algeria introduced a national school oral health program that includes primary and secondary prevention, caries screening, care for cases requiring treatment, and the provision of dental equipment and resources within Screening and Follow-up Units (Ministry of Health and Population, 2001, pp. 1-3). School health services should therefore be understood as an integrated system. It begins with prevention and health education, continues through early detection, and leads to follow-up, care, and referral. In this way, the school becomes an important site for public health intervention.

## **3. Screening and Follow-up Units and Their Role in School Health Care**

Screening and Follow-up Units are among the main organizational mechanisms adopted in Algeria to implement the school health program in the field. Their establishment was closely linked to the reorganization of school health under Joint Ministerial Circular No. 01 of April 6, 1994, which made improved examination, follow-up, and care for detected cases central elements of reform. The main function of these units is to provide a health service close to students, where examinations can be conducted and health disorders can be detected early. They then ensure follow-up and referral when needed, so that screening does not remain an isolated administrative or medical procedure. Under the adopted regulations, each unit includes medical and paramedical equipment and resources. Physicians, dental practitioners, and paramedical staff participate in its activities, allowing the unit to address a range of health needs related to childhood and adolescence. Organizational documents specify the need for a medical office and suitable examination equipment, a space for visual and nursing examinations, and the human resources needed for screening and follow-up (Adjeb, 1999, pp. 46-52). These units conduct medical examinations, identify different health disorders, follow detected conditions, contribute to vaccination and health education, and monitor hygiene and health conditions

in educational institutions. This may include water, sanitation facilities, school spaces, and canteens where applicable. The unit's role therefore rests on three connected stages: screening, follow-up, and care or referral. This is consistent with the philosophy of the school health reorganization, which was designed in part to address weak follow-up after examination. The units can also identify problems that may not be immediately visible in school life, such as visual disorders, dental disease, some chronic illnesses, and other health problems that may indirectly affect attendance, participation, or learning. Early detection therefore has both preventive and educational value because it allows intervention before a condition worsens or affects the student's educational pathway. Some Algerian field studies report that examinations conducted by Screening and Follow-up Units may include history taking, clinical examination, visual and oral examination, and selected physical measurements, with cases requiring further monitoring being recorded (Bou6956, 2016, p. 30). From this perspective, the units serve as a link between educational institutions and the health system. They help identify students' health needs, refer cases requiring specialized care, and monitor the development of detected conditions, thereby strengthening the preventive and proactive character of school health.

#### 4. Areas of Health Care in School Settings

Health care in Algerian school settings covers several interconnected areas, particularly physical health, oral health, mental health, environmental health, and health education. This approach views student health as the result of interacting physical, psychological, social, and environmental factors rather than simply the absence of disease. In the medical and preventive domain, school health interventions include examinations, early detection, vaccination, follow-up of medical conditions, referral to specialized health services, and monitoring of health conditions within educational institutions. In oral health, Algeria has given particular attention to prevention, screening, and care for dental disease. This is directly relevant because dental caries is common among children and oral and dental problems can affect comfort and general health. The national school oral health program includes primary and secondary prevention, screening, care for identified conditions, and the provision of dental resources in Screening and Follow-up Units (Ministry of Health and Population, 2001, pp. 1-3). Psychological well-being is another area of care. The school years are closely linked to personality development, social relationships, and adjustment to the educational environment. Integrating counseling and psychological support into school health can therefore help address difficulties that may affect school adjustment and achievement. This also includes attention to students with special needs and chronic conditions by providing more appropriate school conditions and monitoring health needs through coordination among families, schools, and health services. The environmental dimension includes monitoring hygiene, health, and safety in classrooms, sanitation facilities, school canteens, water sources, and ventilation. An unsuitable school environment can itself become a health risk. School health program documents identify healthy schooling conditions as a core objective, alongside optimal health coverage through organized medical visits, vaccination, and care for detected cases, with attention to hygiene, food safety, and institutional health conditions (Ministry of Health and Ministry of National Education, 2002, pp. 1-2). School health care in Algeria therefore combines prevention, screening, health education, treatment, follow-up, and improvement of the school environment. Its social and educational dimensions extend beyond direct medical service. This integration is especially important in oral health because detecting dental problems in school cannot be separated from education about oral care or from the ability of families and health institutions to ensure treatment and follow-up. This provides the basis for examining the oral health of schoolchildren using the available statistical data.

The comprehensive nature of the school health program is reflected in the diversity of its components and in the overlap among its preventive, therapeutic, educational, and social functions. It is not limited to medical examinations. It begins with assessment of student health and early detection of disorders and health problems, then extends to follow-up and appropriate care. The program also includes prevention of infectious and communicable diseases, management of emergencies, mental and social health, and adaptation of the school environment to students' needs. Figure 1 presents these components through a set of complementary interventions and mechanisms.

**Figure 1. Components of the School Health Program**

| <b>Program component</b>            | <b>Main activities and mechanisms</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assessment of student health</b> | <ul style="list-style-type: none"> <li>• Daily observations by the school principal and teaching staff               <ul style="list-style-type: none"> <li>• Group examinations of students</li> <li>• Students' health histories</li> </ul> </li> <li>• Comprehensive periodic medical examinations               <ul style="list-style-type: none"> <li>• Psychological tests</li> </ul> </li> <li>• Observation of students' general posture and physical condition</li> </ul> |
| <b>Follow-up of student health</b>  | <ul style="list-style-type: none"> <li>• Student health records and cards</li> <li>• Discussion of health status with parents</li> <li>• Medical care and therapeutic services</li> <li>• Psychological guidance and treatment</li> </ul>                                                                                                                                                                                                                                          |

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                               | <ul style="list-style-type: none"> <li>• Adaptation of the school environment to students' needs</li> </ul>                                                                                                                                                                                                                                                    |
| <b>Prevention of infectious and communicable diseases</b>                     | <ul style="list-style-type: none"> <li>• Immunization against infectious diseases</li> <li>• Application of disease-control procedures</li> <li>• Referral of medical cases to health centers               <ul style="list-style-type: none"> <li>• Rapid care and necessary first aid</li> <li>• Training teachers in first aid</li> </ul> </li> </ul>       |
| <b>Emergency care and first aid</b>                                           | <ul style="list-style-type: none"> <li>• Informing parents when an injury occurs</li> <li>• Transporting the injured student home or to hospital               <ul style="list-style-type: none"> <li>• Providing a dedicated first-aid room</li> </ul> </li> </ul>                                                                                            |
| <b>Health, social, and recreational support for school staff and students</b> | <ul style="list-style-type: none"> <li>• Health care for teachers and other staff, including first aid               <ul style="list-style-type: none"> <li>• Social care to address social problems</li> <li>• Recreational services and school trips</li> </ul> </li> <li>• Youth-care services that support psychological and social development</li> </ul> |

Source: Fadila Sadrati, *The Status of School Health in Algeria from the Perspective of Sector Stakeholders*, 2014, p. 280.

The figure shows that assessment of student health is a central component of the school health program. This assessment is carried out through daily observations by school administrators and teaching staff, group examinations, review of each student's health history, comprehensive and periodic medical examinations, psychological tests, and observation of general posture and physical condition. These procedures are important because they allow early detection of health problems that may not be immediately visible. They also enable school health providers to form an initial picture of the student's health status and monitor its development.

The figure also identifies follow-up of student health as a core component. Health intervention does not end when a condition is detected. It continues through health records and cards, coordination with parents and discussion of the student's condition, provision of medical care and treatment, psychological guidance and therapy when needed, and adaptation of the school environment to students' health, psychological, and social needs. This demonstrates the importance of continuity in school health care. Screening should develop from a one-time procedure into an ongoing process of follow-up and care.

Prevention of infectious and communicable diseases also occupies an important place in the program. It includes immunization, infection-control procedures, referral of cases requiring specialized intervention to health centers, rapid care and first aid in emergencies, and training teachers in basic first aid. This component reflects the preventive function of school health. Schools are collective environments in which some diseases can spread quickly, so prevention, early detection, and rapid intervention are closely connected in protecting students and school staff.

The program is not limited to students. It also includes health care and first aid for teachers and other school staff, which confirms the institution-wide nature of school health and supports rapid response in emergencies. The program further includes social and recreational elements, such as social care for selected social problems, leisure and recreational activities, school trips, a dedicated first-aid room, and youth-care services that may contribute to children's psychological and social development.

From the perspective of the present study, this comprehensive view is important because it places oral health within a broader system of care, prevention, and follow-up rather than treating it as a separate service. Periodic examinations, early detection, health records, referral to specialized services, and health education can all help identify oral and dental problems and address them in a timely manner. The oral health of schoolchildren should therefore be studied as part of a school health system in which families, schools, and health services interact. This is consistent with the present study's analysis of oral health indicators and dental service use in relation to children's and families' socioeconomic characteristics.

The preceding discussion shows that school health in Algeria is an integrated system of preventive, therapeutic, and educational programs, services, and interventions. It brings together the roles of the health and education sectors and aims to protect schoolchildren's health, detect health problems early, and ensure follow-up and care. The discussion of program components also shows that student care extends beyond prevention of general diseases to include several areas, among them oral and dental health. Oral health is therefore an essential part of school health care. However, describing programs, structures, and services alone is not sufficient to understand children's oral health. Quantitative indicators are also needed to identify patterns of practice and dental service use and to determine how these vary according to children's and families' socioeconomic characteristics. The second section therefore examines the oral health of schoolchildren in Algeria using 2019 MICS6 data. It first considers the national oral and dental health program and then analyzes indicators related to dental service use, preventive and oral hygiene practices, and the effects of dental problems on school life.

## **Section Two: Oral Health among Schoolchildren in Algeria Based on 2019 MICS6 Data**

After reviewing school health programs and services in Algeria, this section focuses on oral health, one of the main areas of care in school settings. It analyzes a set of indicators from the 2019 Multiple Indicator Cluster Survey (MICS6). The aim is to move from the institutional and organizational framework of school health to empirical indicators of oral health among children and schoolchildren. Differences across selected socioeconomic characteristics are considered in order to identify disparities in

preventive practices and dental service use. The analysis also examines selected effects of dental problems on children's school life.

### 1. The National Oral and Dental Health Program in School Settings

The national oral and dental health program in school settings is one of Algeria's preventive school health programs. It was developed through cooperation between the health and education sectors under the Joint Ministerial Circular of May 7, 2001, and implementation began nationwide during the 2001/2002 school year. The program reflects a policy of integrating oral and dental health into health care for children in school settings through measures for prevention, early detection, and referral of identified cases for appropriate care.

Control of oral and dental disease is especially important in school settings because of the prevalence of dental caries among children and the pain and complications that may affect daily activity and regular attendance. In this context, the Ministry of Health, Population and Hospital Reform adopted a preventive strategy under the slogan 'No to Caries.' The strategy aimed to limit the progression of dental caries among schoolchildren and strengthen care for cases identified during school examinations.

The main objectives of this strategy were to limit the progression of dental caries among schoolchildren, preserve children's natural teeth and prevent loss due to caries by the age of 18, and provide comprehensive and effective care for affected cases detected in schools. This marked a shift from simply identifying disease toward an approach based on prevention, screening, follow-up, and treatment. School screening thus became the first step in an integrated pathway of oral and dental care.

Within this framework, the school health dentist has a central role in identifying oral health conditions among students targeted for examination, especially children enrolled in preparatory classes and the first year of primary education under the program. The process does not end with examination. Cases requiring treatment are referred and followed up. At the end of the examination, the student receives a card containing information about the treating practitioner, the care facility, and the date and time of the appointment. These procedures connect screening in educational institutions with treatment in specialized health facilities and support continuity of care beyond diagnosis.

The national oral and dental health program therefore provides an important institutional framework for understanding efforts to prevent oral and dental diseases among Algerian schoolchildren. Assessing the actual state of oral health, however, cannot be based only on planned programs and formally established services. It also requires evidence on real health practices, the use of dental services, and the effects associated with dental problems. The 2019 MICS6 data are important in this regard because they permit analysis of oral health indicators among children aged 5-17 years and their distribution according to selected socioeconomic characteristics.

### 2. Oral Health Indicators among Children Aged 5-17 Years by Selected Socioeconomic Characteristics

Socioeconomic characteristics are important variables in the study of children's health behavior and practices. Oral-care patterns and the use of dental services may vary according to sex, age, place of residence, mother's educational level, and household economic status. The 2019 MICS6 data make it possible to identify some of these disparities in oral health indicators among children aged 5-17 years by comparing selected health indicators across these characteristics.

The analysis is not limited to measuring the prevalence of selected health practices. It also seeks to identify differences among social groups, particularly in the regularity of dental visits, toothbrushing practices, and selected effects of dental problems on school life. These indicators therefore provide a quantitative basis for examining the relationship between socioeconomic conditions and patterns of oral health and dental service use. They offer a more precise picture of oral health among schoolchildren in Algeria.

**Table 1. Distribution of Children Aged 5-17 Years by Selected Socioeconomic Characteristics (MICS6)**

| Socioeconomic characteristic | Category         | Number of students |
|------------------------------|------------------|--------------------|
| Sex                          | Male             | 8858               |
| Sex                          | Female           | 8161               |
| Place of residence           | Rural            | 6102               |
| Place of residence           | Urban            | 10917              |
| Mother's educational level   | No education     | 3908               |
| Mother's educational level   | Primary          | 3112               |
| Mother's educational level   | Middle school    | 4658               |
| Mother's educational level   | Secondary        | 3714               |
| Mother's educational level   | University       | 1645               |
| Household wealth index       | Lowest quintile  | 3523               |
| Household wealth index       | Second quintile  | 3376               |
| Household wealth index       | Third quintile   | 3386               |
| Household wealth index       | Fourth quintile  | 3365               |
| Household wealth index       | Highest quintile | 3396               |
| Total                        | Total            | 17019              |

Source: Prepared by the researcher based on data from the 2019 Multiple Indicator Cluster Survey.

### 1. Use of Dental Services by Selected Socioeconomic Characteristics

**Table 2. Distribution of Schoolchildren Aged 5-17 Years by Timing of Dental Consultation**

| Socioeconomic characteristic | Category         | Every 6 months | Once a year | Only when in pain | Never visited a dentist |
|------------------------------|------------------|----------------|-------------|-------------------|-------------------------|
| Sex                          | Male             | 4.8            | 5.8         | 37.6              | 51.6                    |
| Sex                          | Female           | 6.2            | 7.1         | 39.3              | 47.2                    |
| Place of residence           | Rural            | 6.5            | 7.3         | 40.5              | 45.5                    |
| Place of residence           | Urban            | 3.6            | 4.9         | 34.6              | 56.7                    |
| Age                          | 5-7              | 3.6            | 5.2         | 27.4              | 63.7                    |
| Age                          | 8-9              | 5.5            | 6.9         | 38.5              | 48.8                    |
| Age                          | 10-12            | 6.2            | 7.8         | 44.8              | 41.0                    |
| Age                          | 13-14            | 5.6            | 7.2         | 46.1              | 40.8                    |
| Age                          | 15-17            | 7.3            | 5.9         | 42.4              | 44.2                    |
| Mother's educational level   | No education     | 3.3            | 4.7         | 33.8              | 57.9                    |
| Mother's educational level   | Primary          | 3.9            | 5.7         | 39.9              | 50.3                    |
| Mother's educational level   | Middle school    | 5.4            | 6.4         | 40.5              | 47.4                    |
| Mother's educational level   | Secondary        | 7.2            | 7.5         | 39.9              | 45.2                    |
| Mother's educational level   | University       | 9.8            | 9.5         | 37.2              | 43.4                    |
| Household wealth index       | Lowest quintile  | 2.1            | 4.7         | 29.7              | 63.3                    |
| Household wealth index       | Second quintile  | 4.2            | 5.5         | 37.6              | 52.5                    |
| Household wealth index       | Third quintile   | 5.3            | 6.9         | 38.7              | 48.7                    |
| Household wealth index       | Fourth quintile  | 6.3            | 6.2         | 43.2              | 44.1                    |
| Household wealth index       | Highest quintile | 9.6            | 9.0         | 43.1              | 38.1                    |

Source: Ministry of Health, Population and Hospital Reform (MSPRH), UNICEF, & UNFPA. (2020). Multiple Indicator Cluster Survey (MICS6), 2019: Final Results Report, pp. 595-597.

### 2. Preventive Practices and Oral Hygiene

**Table 2. Distribution of Children Aged 5-17 Years by Toothbrushing Practices**

| Socioeconomic characteristic | Category     | Twice or more daily | Once daily | Sometimes | Never |
|------------------------------|--------------|---------------------|------------|-----------|-------|
| Sex                          | Male         | 17.8                | 21.1       | 40.8      | 20.2  |
| Sex                          | Female       | 24.7                | 24.1       | 36.0      | 15.0  |
| Place of residence           | Urban        | 25.7                | 24.2       | 38.2      | 11.8  |
| Place of residence           | Rural        | 12.8                | 19.6       | 39.1      | 28.3  |
| Age                          | 5-7          | 23.8                | 26.7       | 49.4      | 0.0   |
| Age                          | 8-9          | 23.1                | 26.3       | 50.4      | 0.0   |
| Age                          | 10-12        | 23.8                | 26.1       | 50.1      | 0.0   |
| Age                          | 13-14        | 25.1                | 30.4       | 44.3      | 0.0   |
| Age                          | 15-17        | 31.9                | 28.5       | 39.3      | 0.0   |
| Mother's educational level   | No education | 13.6                | 17.7       | 35.8      | 32.6  |

|                            |                  |      |      |      |      |
|----------------------------|------------------|------|------|------|------|
| Mother's educational level | Primary          | 17.6 | 20.0 | 41.4 | 21.1 |
| Mother's educational level | Middle school    | 20.4 | 22.8 | 41.8 | 15.0 |
| Mother's educational level | Secondary        | 26.7 | 26.9 | 38.1 | 8.3  |
| Mother's educational level | University       | 35.1 | 28.8 | 31.3 | 4.8  |
| Household wealth index     | Lowest quintile  | 9.2  | 13.6 | 37.3 | 39.7 |
| Household wealth index     | Second quintile  | 14.4 | 19.7 | 43.9 | 21.9 |
| Household wealth index     | Third quintile   | 19.5 | 23.7 | 42.2 | 14.4 |
| Household wealth index     | Fourth quintile  | 25.6 | 27.5 | 38.8 | 8.1  |
| Household wealth index     | Highest quintile | 37.1 | 28.7 | 30.6 | 3.6  |

Source: Ministry of Health, Population and Hospital Reform (MSPRH), UNICEF, & UNFPA. (2020). Multiple Indicator Cluster Survey (MICS6), 2019: Final Results Report, pp. 498-501.

### 3. Effects of Dental Problems on Schooling

**Table 4. Percentage of Children Absent from School Because of Dental Problems**

| Socioeconomic characteristic | Category        | Children wearing orthodontic appliances (ODF) | Absent from school in past 12 months because of a dental problem | Children taking medication for dental pain | Parents' view of dental caries and its effect on health |
|------------------------------|-----------------|-----------------------------------------------|------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------|
| Sex                          | Male            | 2.1                                           | 16.8                                                             | 29.5                                       | 87.2                                                    |
| Sex                          | Female          | 2.5                                           | 17.6                                                             | 31.9                                       | 87.9                                                    |
| Place of residence           | Urban           | 2.7                                           | 18.2                                                             | 32.7                                       | 88.8                                                    |
| Place of residence           | Rural           | 1.6                                           | 15.3                                                             | 29.6                                       | 85.2                                                    |
| Age                          | 5-7             | 1.2                                           | 12.6                                                             | 19.3                                       | 86.6                                                    |
| Age                          | 8-9             | 2.2                                           | 19.4                                                             | 29.7                                       | 88.7                                                    |
| Age                          | 10-12           | 2.7                                           | 18.6                                                             | 33.6                                       | 87.6                                                    |
| Age                          | 13-14           | 2.3                                           | 19.1                                                             | 37.2                                       | 87.1                                                    |
| Age                          | 15-17           | 3.5                                           | 19.4                                                             | 40.3                                       | 88.1                                                    |
| Mother's educational level   | No education    | 1.8                                           | 17.4                                                             | 25.4                                       | 80.1                                                    |
| Mother's educational level   | Primary         | 1.5                                           | 17.3                                                             | 30.7                                       | 87.1                                                    |
| Mother's educational level   | Middle school   | 2.2                                           | 17.0                                                             | 31.8                                       | 88.5                                                    |
| Mother's educational level   | Secondary       | 3.2                                           | 17.5                                                             | 33.8                                       | 91.8                                                    |
| Mother's educational level   | University      | 3.2                                           | 16.4                                                             | 32.4                                       | 93.5                                                    |
| Household wealth index       | Lowest quintile | 1.5                                           | 15.0                                                             | 23.3                                       | 81.3                                                    |
| Household wealth index       | Second quintile | 1.5                                           | 16.9                                                             | 27.4                                       | 84.7                                                    |
| Household wealth index       | Third quintile  | 1.6                                           | 18.3                                                             | 30.1                                       | 87.6                                                    |

|                        |                  |     |      |      |      |
|------------------------|------------------|-----|------|------|------|
| Household wealth index | Fourth quintile  | 2.9 | 18.8 | 33.9 | 90.0 |
| Household wealth index | Highest quintile | 4.1 | 17.0 | 38.7 | 94.2 |

**Source:** Ministry of Health, Population and Hospital Reform (MSPRH), UNICEF, & UNFPA. (2020). Multiple Indicator Cluster Survey (MICS6), 2019: Final Results Report, pp. 502-504.

### Results and Recommendations

School health is one of the most important preventive strategies for protecting children and schoolchildren from health, physical, psychological, and social problems. The school is not only a setting for education and training. It is also an important institutional setting for health promotion, early detection of diseases and disorders, follow-up, and reduction of their effects on children's educational and social pathways. School health is especially important during childhood and adolescence because these are key periods for personality development, the formation of health habits, and the establishment of preventive behaviors that may continue later in life. From this perspective, the programs and services provided by Screening and Follow-up Units, school health teams, and related health institutions are central mechanisms for early intervention. Their work includes periodic medical examinations, vaccination, detection of visual and hearing disorders, follow-up of medical conditions, health education, and prevention of oral diseases and dental problems. Attention to children's health in school settings also helps create a more supportive learning environment. Unmanaged health problems can directly or indirectly affect attendance, concentration, participation in educational activities, psychological and social stability, and the broader educational pathway.

The descriptive-analytical study of oral health among children and schoolchildren in Algeria, based on 2019 MICS6 data, produced several findings that help explain oral health, preventive practices, and dental service use among children aged 5-17 years. The data also reveal differences associated with selected socioeconomic characteristics, especially sex, place of residence, age, mother's educational level, and household economic status. These indicators show that oral health cannot be understood as a purely medical issue. It must be considered within a network of family, social, economic, cultural, and educational factors that influence health behavior and opportunities to use health services.

The findings on dental service use show that a substantial proportion of children do not visit a dentist regularly. In many cases, dental consultation is linked to the onset of pain or another health problem. By contrast, smaller proportions attend regularly, whether every six months or once a year. This pattern indicates that a treatment-oriented response after a problem appears remains more common than prevention and early detection. Strengthening a preventive culture in oral and dental health is therefore essential. The data also show differences in dental service use by place of residence, mother's educational level, and household economic status. This confirms that health behavior is linked to the material, cultural, and social resources available to families.

Toothbrushing indicators likewise show clear disparities in this preventive behavior. Regular brushing is more common among girls than boys. Differences also appear by place of residence, with better indicators among children living in urban areas than among those in rural areas. A clear relationship is also evident between the mother's educational level and regular toothbrushing. As maternal education increases, the proportion of children who brush regularly rises, while the proportion who do not brush declines. One possible explanation is that mothers are major agents of health socialization within the family. Higher educational attainment may support access to better health information and its translation into everyday family practices. This finding does not mean that education alone explains health behavior. Rather, it points to interaction between cultural factors and other influences, including household economic status, availability of health services, health awareness, and family habits.

The data on household economic status also show a social and economic gradient in some oral health practices. Families in higher economic groups have larger proportions of children who brush their teeth regularly, and their children have greater use of dental services. Lower levels of regular preventive practice are observed among children from households with lower economic status. Health behavior is therefore related not only to knowledge of the importance of oral health but also to the practical ability to obtain oral-care supplies, reach health services, and meet the costs of treatment, travel, and follow-up. Achieving equity in school health consequently requires attention to socioeconomic disparities that may limit some children's access to preventive and health services.

The findings also show that dental problems can affect children's daily and school lives. A proportion of children had been absent from school during the previous 12 months because of dental problems, and some had taken medication because of dental pain. Some of these indicators increase with age. This finding is important because oral and dental health is not separate from the educational process. Pain and oral problems can affect comfort, concentration, attendance, and participation in school life. Prevention and early detection of dental problems should therefore not be viewed as isolated health goals. They are also part of the conditions required for a school environment that supports learning.

Findings on parental attitudes suggest a relatively high level of awareness of dental caries and its effects on children's health. However, reported awareness does not necessarily translate fully into regular preventive practices or periodic dental visits. This gap between knowledge and practice is an important issue for school health programs. Programs should move beyond providing information and work toward sustainable health behavior involving families, schools, the health sector, and the local community.

Health awareness becomes more effective when it is translated into daily practice and regular follow-up, especially during the life stages in which basic health habits are formed.

Taken together, these findings show that oral health among schoolchildren in Algeria is shaped by interacting health, social, economic, and educational factors. Sustainable prevention of dental problems cannot be achieved through medical intervention alone. The results also provide descriptive support for the study hypotheses, particularly the existence of differences in toothbrushing practices and dental service use according to socioeconomic characteristics, as well as effects of some dental problems on school life. Improving children's oral health therefore requires a multidimensional approach that combines prevention, awareness, early detection, treatment, and continuous follow-up. Particular attention should be given to children in socioeconomic groups that face greater limitations in access to services.

Based on these findings, the following recommendations are proposed to support school health programs and strengthen oral and dental care for schoolchildren:

- School health should be treated as a fundamental right for every student, comparable to the right to education. Children should have access to regular medical and health examinations, vaccination coverage, early detection, prevention, and follow-up services. The role of Screening and Follow-up Units and mobile health teams should be strengthened, especially in areas where access to health services is limited.
- The school oral health program should be strengthened and continuously developed, with priority given to preventing dental caries and diseases of the mouth and gums. Intervention should not begin only after pain or disease appears. Periodic screening, education, and early treatment should be combined.
- A culture of toothbrushing and oral care should be established in schools through regular, practical educational activities appropriate to children's ages. Programs should go beyond theoretical information and involve teachers, physicians, dentists, and school health specialists in awareness activities.
- Families should be more actively involved in oral health programs because the family is the first setting in which children's health habits are formed. Awareness programs should target parents, particularly families facing social or economic difficulties that may limit their ability to provide children with regular care.
- Special attention should be given to socioeconomic disparities in the use of dental services. Efforts should reduce the influence of economic status, place of residence, and family cultural resources on opportunities to obtain preventive and therapeutic care, in line with the principle of health equity.
- Periodic screening for dental problems should be strengthened within educational institutions. Screening results should be linked to clear referral and follow-up mechanisms so that the process does not end when a condition is identified but continues until the child receives appropriate care.
- Coordination among the health sector, education sector, and families should be strengthened. Improving schoolchildren's oral health requires complementary roles rather than placing responsibility on the health sector alone. Local authorities and relevant associations may also participate in awareness and prevention campaigns.
- Children with recurrent oral problems or pain that affects school attendance should receive particular attention. They should be given priority for screening, follow-up, and referral to specialized services because prevention and early treatment can reduce the negative effects of health problems on school life.
- Databases on school health and oral health should be developed, and health data should be linked with social and educational data. This would help researchers and decision-makers identify groups with the greatest need for intervention and evaluate the effectiveness of existing programs.
- Investment in school health should be treated as a strategic choice. Its value extends beyond managing current health problems and contributes to building a generation that is more aware of health and preventive practices. Children who acquire sound hygiene and oral-health habits early in life are better positioned to maintain them at later stages.

The development of school health in Algeria should therefore move from a model that focuses mainly on intervention after a problem appears toward a preventive and proactive model in which the school becomes a setting that produces health, not merely a place where disease is detected. Future policies and programs should be based on regular analysis of health, social, and economic indicators so that groups with the greatest needs can be identified and resources can be directed toward them. Follow-up and health care for children with health problems remain a shared responsibility of families, schools, the health sector, and other social institutions. This shared responsibility can help children continue their education under appropriate health conditions. From this perspective, investment in the health of schoolchildren is an investment in society's human and social capital. Better health in childhood improves children's well-being and school attendance and may also contribute over the long term to a society that is more health-aware, more capable of disease prevention, and more responsible for individual and community health.

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