

EVALUATION OF THE IMPLEMENTATION OF THE SCHOOL DENTAL HEALTH PROGRAM AT BAKI SUKOHARJO COMMUNITY HEALTH CENTER ELEMENTARY SCHOOL

Adilah Nur Mufidah^{1*}, Dwi Kurniawati¹, Morita Sari¹, Ichda Nabiela¹

¹ Faculty of Dentistry, Muhammadiyah University of Surakarta, Surakarta, Indonesia

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ABSTRACT

Background: Oral and dental health remains a public health problem in Indonesia. The 2023 Indonesian Health Survey (SKI) reported that approximately 57% of the population aged three years and above experienced oral and dental complaints. In the working area of the Baki Sukoharjo Primary Health Center, UKGS screening in 2023 showed a high prevalence of dental caries among elementary school students. Untreated caries may affect learning comfort, appetite, and children's quality of life. **Purpose:** This study aimed to evaluate the implementation of the School Dental Health Program (UKGS) in elementary schools within the working area of the Baki Sukoharjo Primary Health Center in 2023 based on input, process, and outcome aspects. **Methods:** This study used a descriptive qualitative design. Data were collected through interviews with six informants to assess the input and process of UKGS implementation. Outcomes were evaluated using odontogram records from dental examinations of students at SDN Gentan 1 and MI Al-Falah. **Results:** The UKGS implementation was not optimal. Limitations were identified in personnel, funding, and supporting facilities. Promotive and preventive activities were not conducted routinely, and dental examinations were limited to screening. The prevalence of dental caries increased from 88.7% to 92% at SDN Gentan 1 and from 82.7% to 84.3% at MI Al-Falah. **Conclusion:** The UKGS implementation in the Baki Sukoharjo area has not been effective in reducing dental caries. Improved coordination between primary health centers and schools, sufficient funding, and strengthened sustainable promotive and preventive activities are required.

Keywords: Dental caries, Elementary school, Evaluation, Puskesmas, UKGS.

*Corresponding author:

Adilah Nur Mufidah,
Muhammadiyah University of Surakarta
Jl. Kebangkitan Nasional No. 101, Penumping
Surakarta, 5714, Jawa Tengah, Indonesia
Email address: j520220053@student.ums.ac.id
Phone number: 08138093181

INTRODUCTION

Oral and dental health is an important component of general health, particularly for children aged 6–12 years who are undergoing growth and tooth replacement¹. During this period, oral health problems such as dental caries can affect various aspects of a child's life, including learning ability, appetite, and psychological well-being, which may influence self-confidence. Although oral health is a basic need, the prevalence of dental caries in Indonesia remains high.² The 2023 Indonesian Health Survey (SKI) reported that 57% of the population aged three years and above experienced oral and dental complaints, with most of these complaints related to dental caries that had not received adequate treatment. High consumption of sugary foods, lack of oral hygiene education, and limited access to dental health services are major factors contributing to the increasing burden of dental caries among school-aged children.³

To address this problem, the government has implemented the School Dental Health Program (UKGS) as a promotive and preventive effort in the school setting.⁴ The program includes health education, supervised toothbrushing activities, dental health screening, simple dental treatments, and referrals to health

facilities when necessary.⁵ In the Baki Sukoharjo Primary Health Center area, the UKGS is implemented as a Stage 2 program, including training for teachers and student cadres, periodic oral health education, basic emergency dental care, dental screening for first-grade students, and indicated primary tooth extraction.⁶ Although the program has been implemented, its execution often varies among schools, influenced by the availability of health personnel, supporting facilities, and the continuity of routine activities.⁷

SDN Gentan 1 and MI Al-Falah were selected due to their high dental caries prevalence, reaching 90% and 83%, respectively, based on the 2023 UKGS report. These findings indicate that the UKGS implementation has not been optimal.⁸ Therefore, evaluation using an input–process–output approach is needed to assess resources, program implementation, and outcomes based on odontogram data. Odontograms provide an objective measure of oral health status and caries severity, supporting the assessment of program effectiveness.⁹

Based on these conditions, this study examines the implementation of the UKGS in elementary schools within the Baki Sukoharjo Primary Health Center area and

its contribution to improving students' oral health. It evaluates the program's input, process, and output in 2023 at SDN Gentan 1 and MI Al-Falah. The results are expected to identify program strengths and weaknesses and provide a basis for sustainable improvements, as well as inform policies supporting the achievement of a Caries-Free Indonesia by 2030.

MATERIALS AND METHODS

This study employed a descriptive qualitative approach to evaluate the implementation of the School Dental Health Program (UKGS) in elementary schools within the working area of the Baki Sukoharjo Primary Health Center in 2023, focusing on input, process, and outcome aspects. Data collection was conducted through in-depth interviews with six informants selected using purposive sampling, consisting of the Head of the Primary Health Center, health personnel responsible for the UKGS program, school principals, and UKGS supervising teachers at SDN Gentan 1 and MI Al-Falah. The interviews aimed to obtain a comprehensive understanding of resource availability, funding, facilities and infrastructure, implementation methods, as well as behavioral and medical interventions in the execution of the UKGS.

Outcome evaluation was carried out by assessing students' oral health conditions using odontograms, with direct recording of dental examination results among third-grade students at SDN Gentan 1 and MI Al-Falah. The odontogram data were analyzed descriptively to illustrate the oral and dental health status of students as an outcome of the UKGS implementation. This study was conducted from September to October 2025 at the Baki Sukoharjo Primary Health Center, SDN Gentan 1, and MI Al-Falah, and has obtained ethical clearance from the Health Research Ethics Committee of Dr. Moewardi General Hospital, Surakarta under approval number 1982/IX/HREC/2025.

RESULTS

The study was conducted from September to October 2025 at the Baki Sukoharjo Primary Health Center, SDN Gentan 1, and MI Al-Falah. The study was conducted to evaluate the implementation of the UKGS based on input, process, and outcome aspects to assess the extent to which the program was implemented and its impact on students' oral health.

Table 1. Informants as Sources of Qualitative Research Data

No	Informant Name	Position	Institution	Remarks
1	H	School Principal	SDN Gentan 1	Informant 1

2	M	School Principal	MI Al-Falah Gedonga 2 n Baki	Informant	education teachers and homeroom teachers”; “Health personnel rarely visit schools”		
3	W	Physical Education Teacher	SDN Gentan 1 3	Informant	“There is no specific budget allocated for UKGS”; “Funding is combined with the School Health Program (UKS); “Activities are conducted through self-funding”	Limited funding	Money (Funding)
4	S	Teacher / Unit Coordinator	MI Al-Falah Gedonga 4 n Baki	Informant	“No dental health teaching aids are available”; “Only flashlights are used during dental examinations”	Inadequate facilities and infrastructure	Material and Machine
5	A	Head of Primary Health Center	Baki Sukoharjo Primary Health Center	Informant	“Toothbrushing activities are conducted only twice a year”; “UKGS activities are conducted simultaneously with UKS screening”	Unstructured implementati	Method
6	A	Dental Nurse	Baki Sukoharjo Primary Health Center	Informant	“Health education activities are not conducted routinely”; “Teachers independently teach toothbrushing techniques without guidance from the primary health center”	Unplanned educational activities	Behavioral Intervention
					“Dental examinations are conducted once a year”; “Students with dental problems are only given referral letters”	Basic dental examination activities	Medical Intervention

Table 1 presented the data in this study were obtained through in-depth interviews with six informants directly involved in the implementation of the School Dental Health Program (UKGS) in the working area of the Baki Sukoharjo Primary Health Center. The informants consisted of school principals, school health (UKS) supervising teachers, a dental health professional, and the head of the primary health center. The following table presents the informants who served as sources of qualitative data in this study.

Table 2. Results of Coding, Categorization, and Theme Analysis of the UKGS Implementation

Code	Category	Theme
“UKGS implementation is assisted by physical	Limited human resources	Man (Human Resources)

The coding results in Table 2 show that interviews with six informants generated six main themes describing the implementation of the UKGS in the working area of the Baki Sukoharjo Primary Health Center. These themes were classified into the input and process components of UKGS implementation in the study area.¹³

Within the input component, the main themes were limitations in human resources, funding, facilities and infrastructure, and implementation methods. In the process component, the dominant themes were inadequately planned educational activities and medical interventions that remained basic in nature.

The quantitative findings support these results. Caries screening data from 2023 compared with clinical examinations in 2025 showed a slight increase in caries prevalence at both schools, from 88.7% to 92% at SDN Gentan 1 and from 82.7% to 84.3% at MI Al-Falah. These findings indicate that the two-year implementation of the program has not led to meaningful improvements in students' oral health. In 2025, the mean number of carious teeth remained high, at four teeth per student at SDN Gentan 1 and five at MI Al-Falah, with a wide range of caries severity.

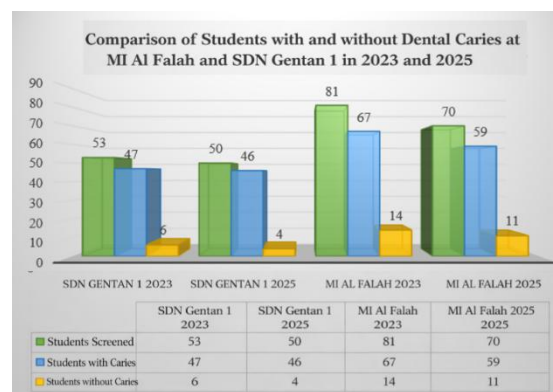


Table 3. Results of Students' Dental Caries Examination Based on Minimum and Maximum Values at SDN Gentan 1 and MI Al-Falah

School Name	Number of Students Examined	Total Number of Carious Teeth	Average Number of Carious Teeth per Student	Minimum Caries Value	Maximum Caries Value
SDN Gentan 1	50	199	4	0	10
MI Al Falah	70	338	5	0	14

Table 3 presents the results of oral health examinations conducted at two elementary schools, SDN Gentan 1 and MI Al-Falah, illustrating the dental health status of students following the implementation of the UKGS in the working area of the Baki Primary Health Center.

At SDN Gentan 1, a total of 50 students were examined, and 199 teeth were affected by dental caries, with an average of four carious teeth per student.

Some students were caries-free, whereas others had up to ten carious teeth, indicating a persistently high burden of caries with wide variation in severity despite the implementation of the UKGS.

At MI Al-Falah, 70 students were examined, and 338 carious teeth were identified, with an average of four carious teeth per student, slightly higher than at SDN Gentan 1. Some students were caries-free, whereas others had up to 14 carious teeth, indicating substantial variation in caries burden among individuals.

DISCUSSION

Evaluation of public health programs is an essential step to assess the extent to which implemented activities have achieved their intended objectives. This evaluation focuses on the implementation of the School Dental Health Program (UKGS), which aims to improve the oral and dental health of elementary school students.¹⁴ The evaluation approach applied in this study refers to the general framework for public health program evaluation, as described by the Centers for Disease Control and Prevention.¹⁵ (CDC, 2011), which emphasizes the systematic assessment of program input, process, and outcome. This framework serves as an analytical guide to examine the

effectiveness of the UKGS implementation based on the resources utilized, the processes through which activities are carried out, and the outcomes achieved in practice.¹⁶

In this study, the discussion focuses on three main components—input, process, and outcome—which reflect the stages of UKGS implementation in the working area of the Baki Sukoharjo Primary Health Center.¹⁷ The input component assesses the readiness of resources, funding, facilities, and implementation methods; the process component describes the implementation of promotive, preventive, and curative activities in schools; while the outcome component is analyzed through students' caries examination results as indicators of program success.¹⁸

The evaluation of the implementation of the School Dental Health Program (UKGS) in the working area of the Baki Sukoharjo Primary Health Center indicates that the program has been implemented but has not yet operated.¹⁹ The evaluation was conducted based on a public health program evaluation framework that examines input, process, and outcome components. These components are interrelated, whereby weaknesses in the input component can affect the implementation process and ultimately influence program outcomes.²⁰

In the input component, the implementation of the UKGS continues to face limitations in human resources, funding, facilities and infrastructure, as well as implementation methods.¹⁹ UKGS activities in schools are largely supported by teachers, while the involvement of dental health personnel from the primary health center remains limited and lacks clear role delineation. In addition, the absence of a specific budget allocation and limited support facilities have resulted in restricted UKGS activities and have not adequately supported the sustainable implementation of promotive and preventive interventions.

In the process component, promotive and educational activities, such as health education sessions and supervised toothbrushing, have not been implemented routinely or according to a structured schedule. Medical interventions have been conducted in the form of annual dental examinations; however, these activities remain limited to detection and referral without being followed by further preventive measures. Weak coordination, insufficient systematic planning, and limited resources have contributed to the implementation process of the UKGS not being carried out in a comprehensive and integrated manner.

These conditions are reflected in the outcome component, where the prevalence of dental caries among students at SDN Gentan 1 and MI Al-Falah did not decrease and instead showed an increase during the evaluation period. These findings indicate that the implementation of the UKGS has not produced a significant impact on improving students' oral health status. Overall, strengthening the input component and improving the implementation process are the key measures required to enable the UKGS to achieve its objectives of promoting optimal and sustainable oral health among elementary school children.

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