

# TOWARDS HIGH PERCENTAGE OF EFFECTIVE TOOTH BRUSHING DRILL (TBD) AMONG STUDENTS AT SEKOLAH KEBANGSAAN JENGA 25 (SKJ25)

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## INTRODUCTION

- Tooth brushing drill (TBD) is carried out to encourage a good tooth brushing habits among students.
- A positive outcome would be a good oral hygiene status with Grade A plaque score.

**Definitions**  
**Effective TBD** : Students achieved Grade A in total plaque score (Good oral hygiene)  
**Ineffective TBD** : Students achieved Grade C or E in total plaque score (Moderate-to-poor oral hygiene)



## 1. SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

### 1.0 PROBLEM PRIORITIZATION

Group members of 11  
 Scale : 1 = Low , 2 = Moderate, 3 = High

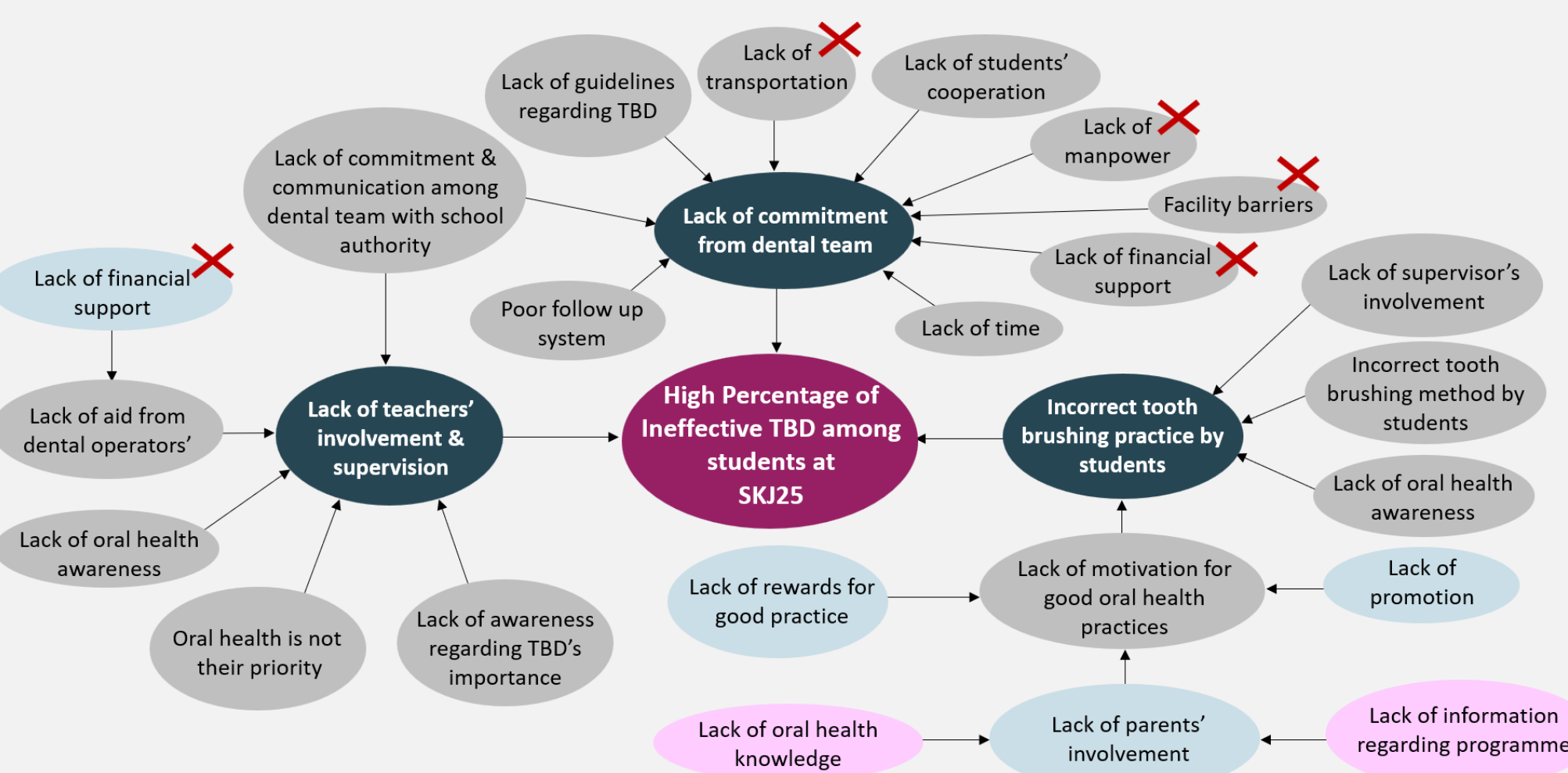
No.	PROBLEM LIST	S	M	A	R	T	TOTAL
1	High number of alveolar osteitis among patients in Klinik Pergigian Hospital Jengka	33	33	18	24	21	129
2	High percentage incomplete dental treatment among antenatal patients at Klinik Pergigian Maran	24	33	18	24	18	117
3	High percentage of early extractions of permanent molars among primary school children in Klinik Pergigian Bandar Jengka	27	26	28	22	18	121
4	High percentage of ineffective Tooth Brushing Drill (TBD) among students at Sekolah Kebangsaan Jengka 25	33	33	26	30	26	148
5	High percentage of active caries among toddlers in Klinik Pergigian Pekan Awah	28	33	30	18	16	125

### 1.1 REASONS FOR SELECTION

- SERIOUSNESS**  
 Ineffective TBD among students could lead to poor oral health causing dental pain, low growth, worsen nutritional status, have a negative effect on speech development, and thus affecting social acceptance in adolescents.
- MEASURABLE**  
 Data of plaque score among students can be obtained based on status of *Kebersihan Mulut* in Reten PG 201 (2022), and PGS 201 from Gi-RET 2.0 (*Gabungan Reten Pergigian, 2023*)
- APPROPRIATENESS**  
 • Problem existed in three consecutive years : 2019 (31%) , 2021 (54%), 2022 (62%)  
 • SKJ25 had the highest percentage of ineffective TBD among 10 primary schools in Maran with 62%
- REMIABLE**  
 Possible causes can be identified and remedied
- TIMELINESS**  
 Study can be done within 1 year

## 2. KEY MEASURES FOR IMPROVEMENT

### 2.0 PROBLEM ANALYSIS CHART



### 2.1 PROBLEM STATEMENT

Tooth brushing drill (TBD) in school is aiming to improve student's oral hygiene status. Verification study in 2022 showed that the percentage of ineffective TBD in SK Jengka 25 was 62%. High percentage of ineffective TBD could lead to poor oral hygiene leading to dental caries and gum diseases. Multiple factors including lack of commitment from dental team , lack of teachers' involvement & supervision, and incorrect toothbrushing practice by students. This study will improve the effectiveness of TBD among students at SK Jengka 25.

### 2.2 OBJECTIVES

**GENERAL OBJECTIVE**  
 To improve the effectiveness of TBD among students at Sekolah Kebangsaan Jengka 25 **from 38% in 2022 to 60% in 2024**

### SPECIFIC OBJECTIVES

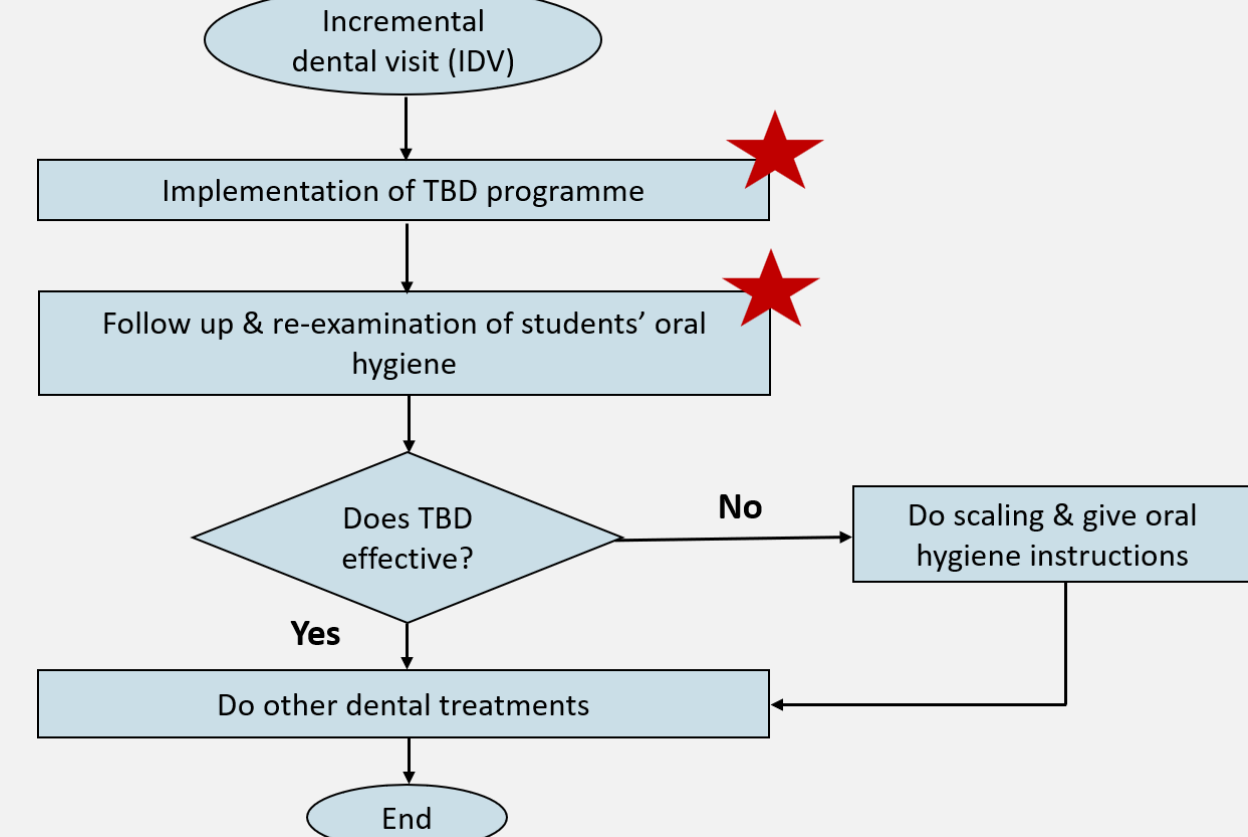
- To determine the percentage of ineffective TBD
- To identify contributing factors which can lead to ineffective TBD
- To propose and conduct remedial actions to improve the effectiveness of TBD
- To evaluate the effectiveness of the remedial actions

### 2.3 INDICATOR & STANDARD

Indicator	Formula	Standard
Percentage of students with effective TBD in SKJ25	$\frac{\text{Total number of students with effective TBD}}{\text{Total number of students involved in TBD}} \times 100\%$	<b>60%</b> *

\* Based on a study done in 2013 by Macpherson et. al., and in consensus with our District Dental Officer

### 2.4 PROCESS OF CARE



## 2.5 MODEL OF GOOD CARE

Process	Criteria	Standard	Pre-remedial	Post-cycle 1	Post-cycle 2	
Implementation of TBD (SINAR)	1) Discussion with school authority regarding programme : • Students brush their teeth in a small group (maximum 20 students) • TBD is conducted according to schedule & during recess time • Duration needed for TBD programme to be around 10-15 minutes	100%	33%	100%	100%	
		100%	40%	100%	100%	
		100%	67%	100%	100%	
	• Each TBD session should be supervised by trained teacher or student representative	100%	50%	100%	100%	
		2) Students follow TBD protocol : • Apply an efficient tooth brushing technique that reaches all tooth surfaces and removes plaque • Wash hand before & after TBD • Rinse once after tooth brushing • Wash toothbrush & air dry before keep them back in a closed container for infection control	100%	50%	88%	100%
			100%	43%	92%	100%
	100%		0%	88%	100%	
	100%	0%	100%	100%		
	3) Close monitoring by dental team once every 2 months	100%	0%	100%	100%	
		100%	0%	100%	100%	
Follow up & re-examination of students' oral hygiene	1) Follow-up with school authority at least once a month via phone call/WhatsApp Business	100%	0%	100%	100%	
	2) Dental check-up after 6 months to examine oral hygiene status and effectiveness of programme	100%	0%	100%	100%	
	3) Reporting of school children's oral health status to school authority and parents	100%	50%	50%	100%	
Re-implement TBD in a focus group	Oral health education and tooth brushing coaching is done in small group according to student's oral health status (Grade C, E)	100%	0%	50%	90%	
Continuation of TBD	Further monitoring and collection of feedback from dental team, school authority, students and parents every 6 months	100%	0%	100%	100%	

Two additional steps after revising our process of care

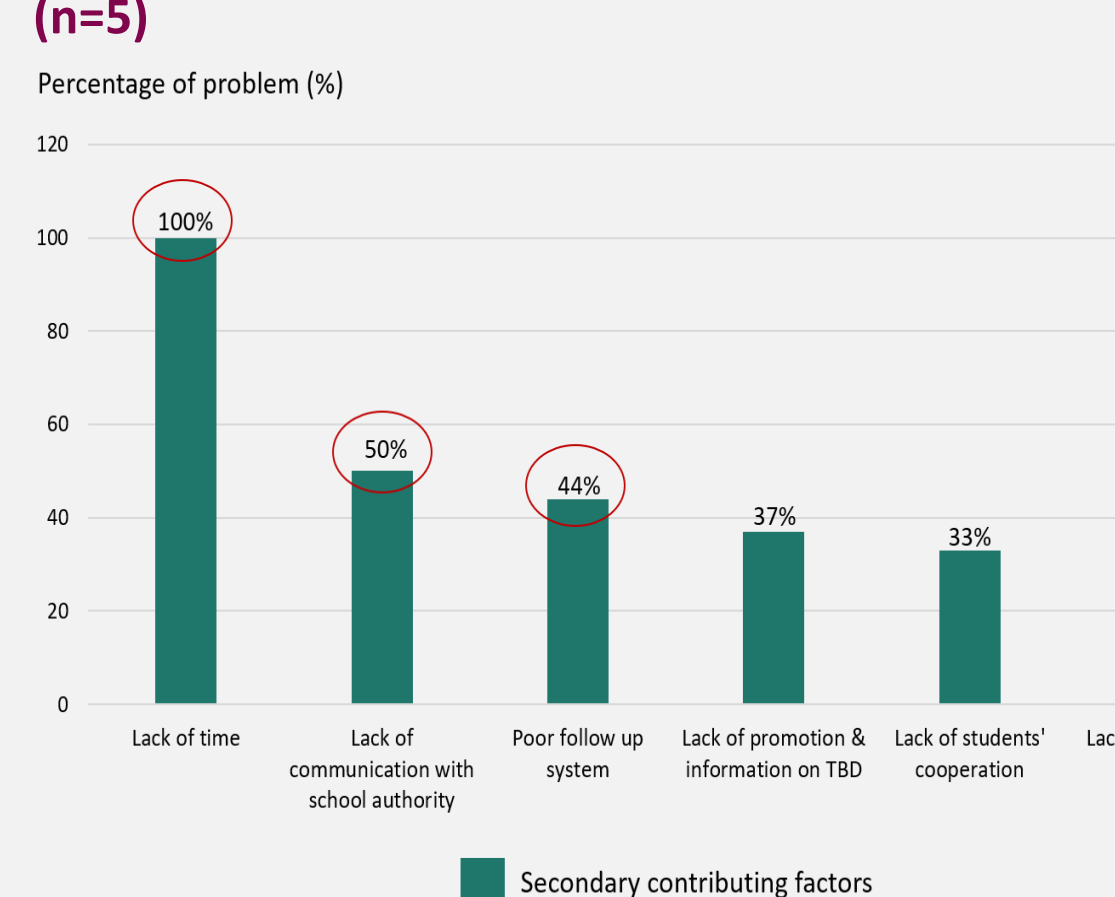
## 3. PROCESS OF GATHERING INFORMATION

### 3.0 METHODOLOGY

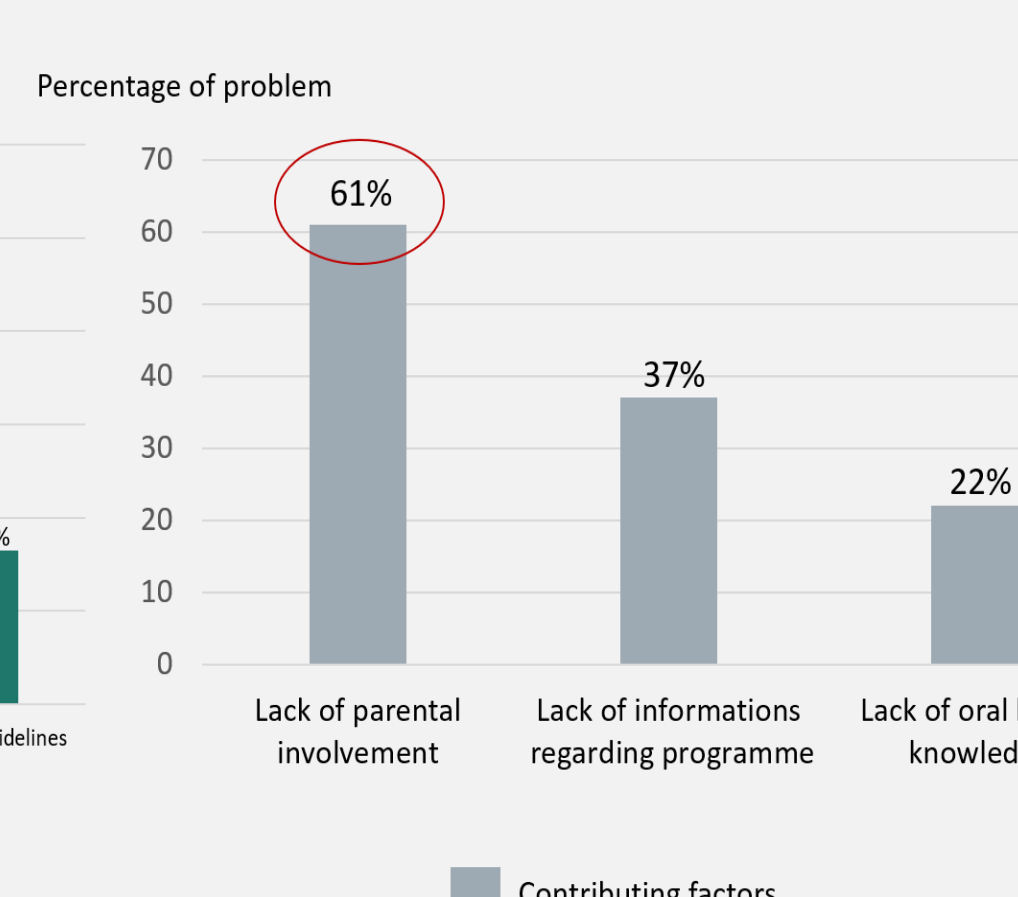
	Dental Team	Teachers	Students	Parents
<b>Tools</b>	Self-administered questionnaire • n = 5 (3 Dental officers + 2 Dental therapists) (Adapted by Muhammad et al 2020 & based on group consensus)	Self-administered questionnaire • n = 16 (Adapted by Garis Panduan Program Kesihatan Pergigian Untuk Bakal Guru : Perikasa Mulut Sihat, 2022, MOH)	Structured questionnaire • n = 37 (Level 2 students) (Adapted by KAP score, Vishwanathiah et al 2016 & Ozturk et al 2020)  Observation checklist • n = 37 (Level 1 students) (Adapted by United Kingdom's Supervised Tooth Brushing Programme, 2023)  Review clinical record Data <i>Kebersihan Mulut A</i> from reten PG201 & PGS201	Self-administered questionnaire • n = 40 (Adapted by Singhal et al 2015)
<b>Place</b>	SK Jengka 25 and KP Jengka 22			
<b>Period of distribution</b>	Pre-remedial : March – April 2023 Post-cycle 1 : August – September 2023 Post-cycle 2 : February 2024			
<b>Study</b>	Interventional study			
<b>Sampling</b>	Purposive sampling method			

## 4. ANALYSIS & INTERPRETATION

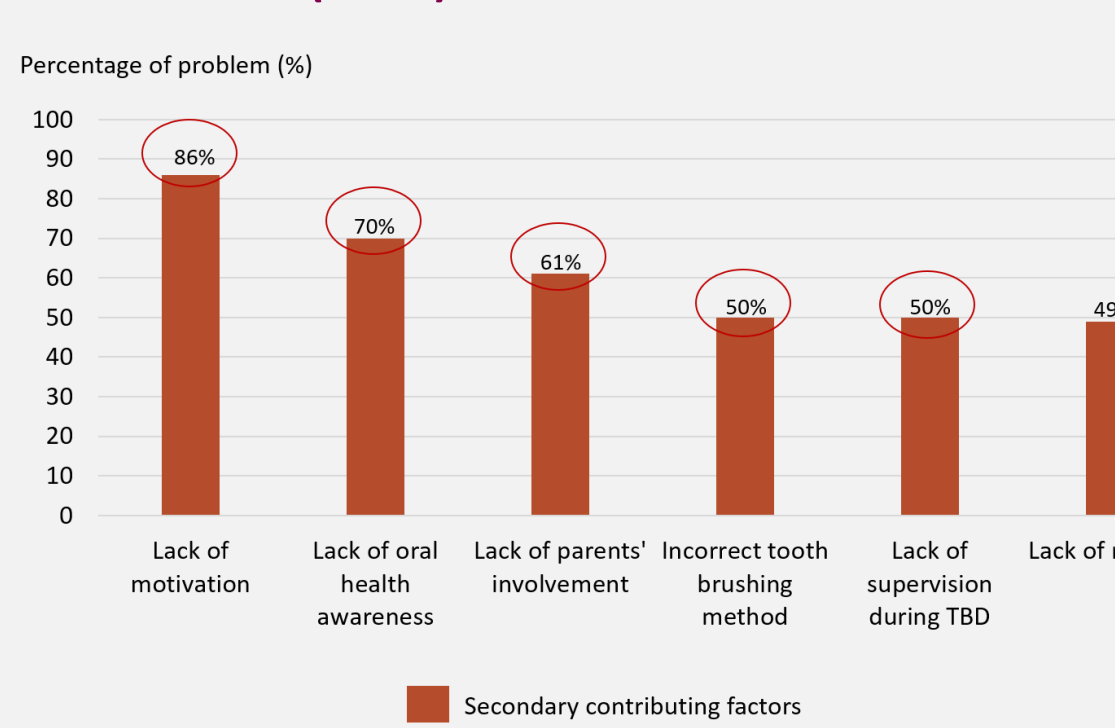
### 4.0 LACK OF COMMITMENT FROM DENTAL TEAM (n=5)



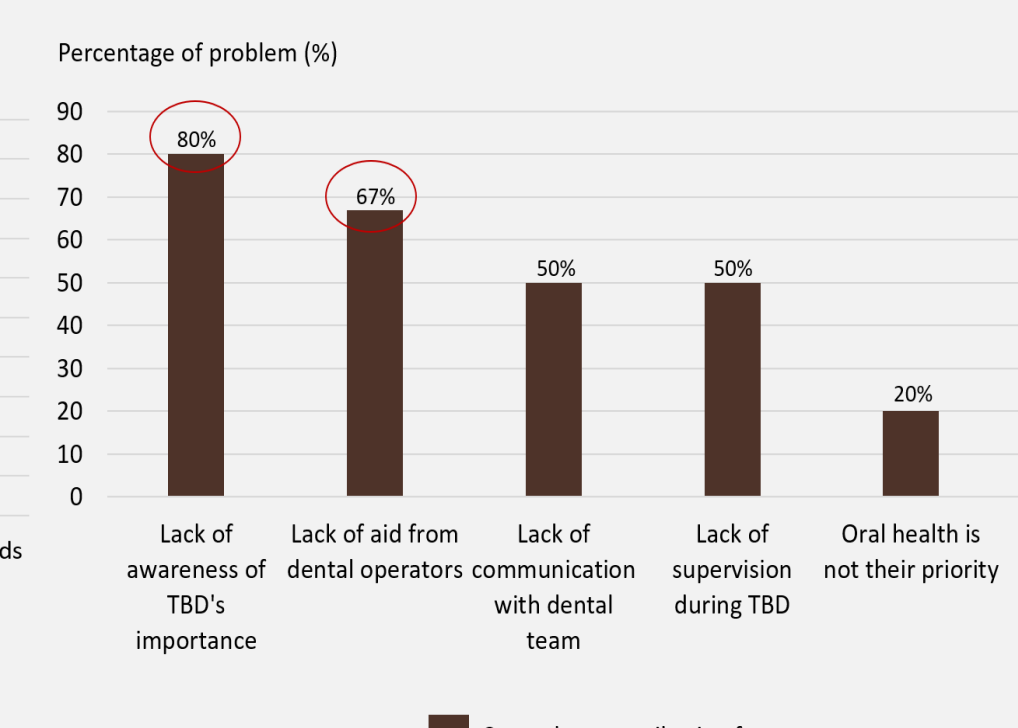
### 4.1 LACK OF PARENTS' INVOLVEMENT (n=40)



### 4.2 INCORRECT TOOTH BRUSHING PRACTICE BY STUDENTS (n=74)



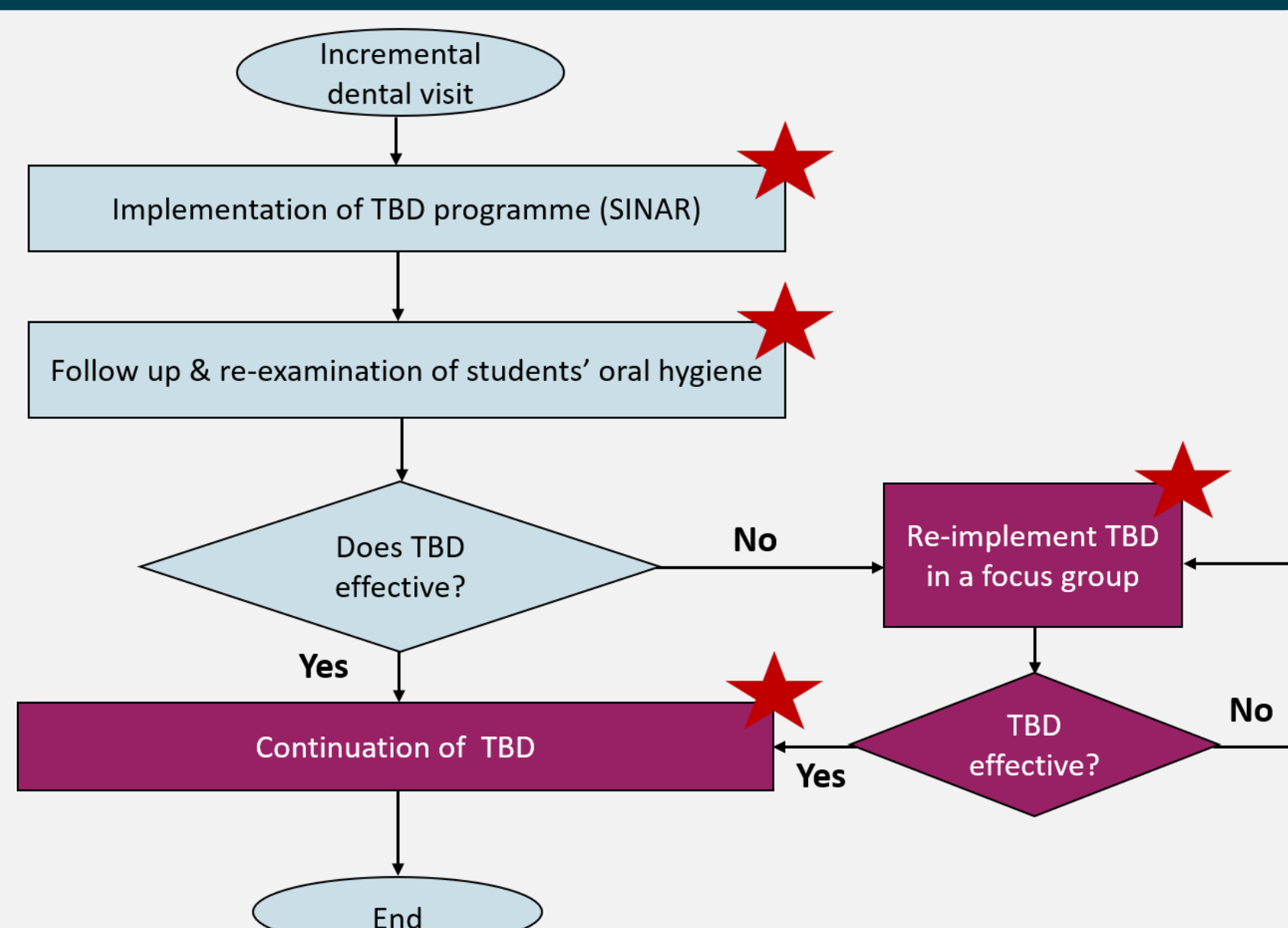
### 4.3 LACK OF TEACHERS' INVOLVEMENT & SUPERVISION (n=16)



## 5. STRATEGIES FOR CHANGE

### CYCLE 1

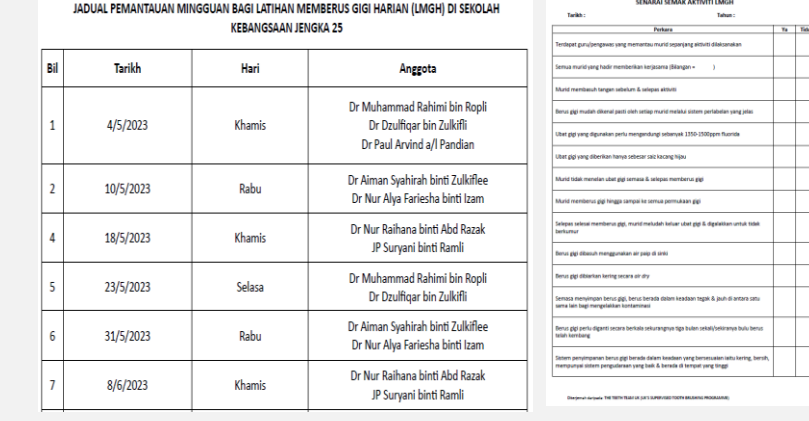
- Introduction and implementation of a new process of care :



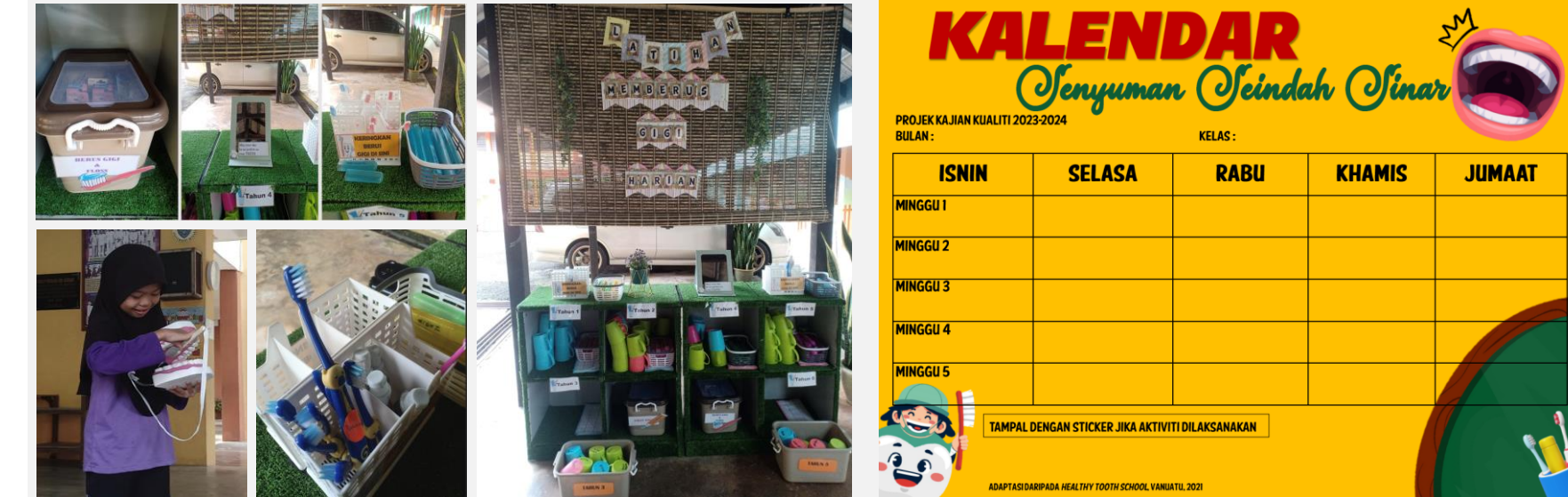
- Improved communication through WhatsApp Business, meeting sessions, and involvement in school's activity



- Enhanced follow up system via monitoring schedule and TBD's checklist usage



- Provided dental aid for TBD session, TBD corner & teeth brushing calendar



- Promoted via rewards, flyers and banner



- Selection of Doktor Gigi Muda

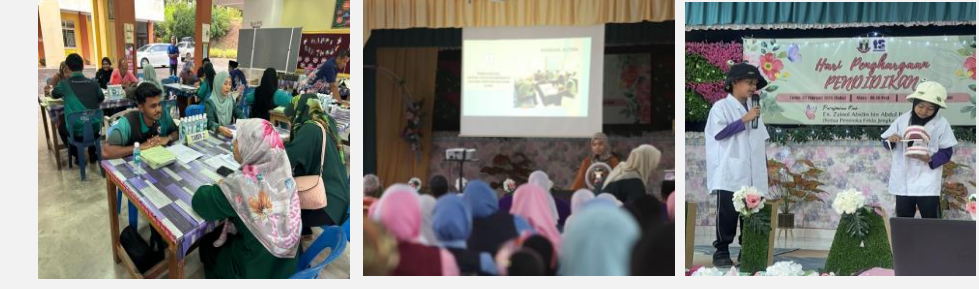


- Conducted *Senyum Seindah Sinar* (SINAR Training Programme)



### CYCLE 2

- Involvement in Academic Appreciation Day



- Utilization of Hygiene Hub during TBD session



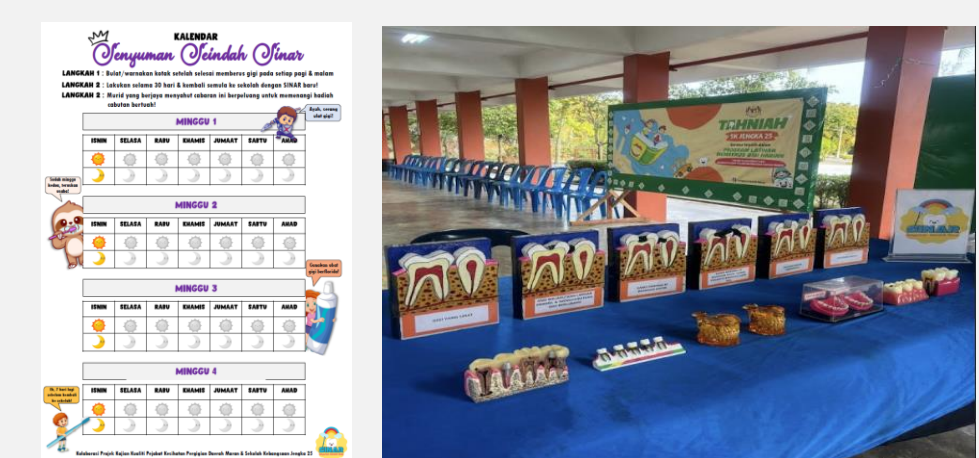
- Introduction of Modul Doktor Gigi Muda & Guideline of SINAR Programme



- Continuous dental education to dental team & revised SINAR flyers to parents



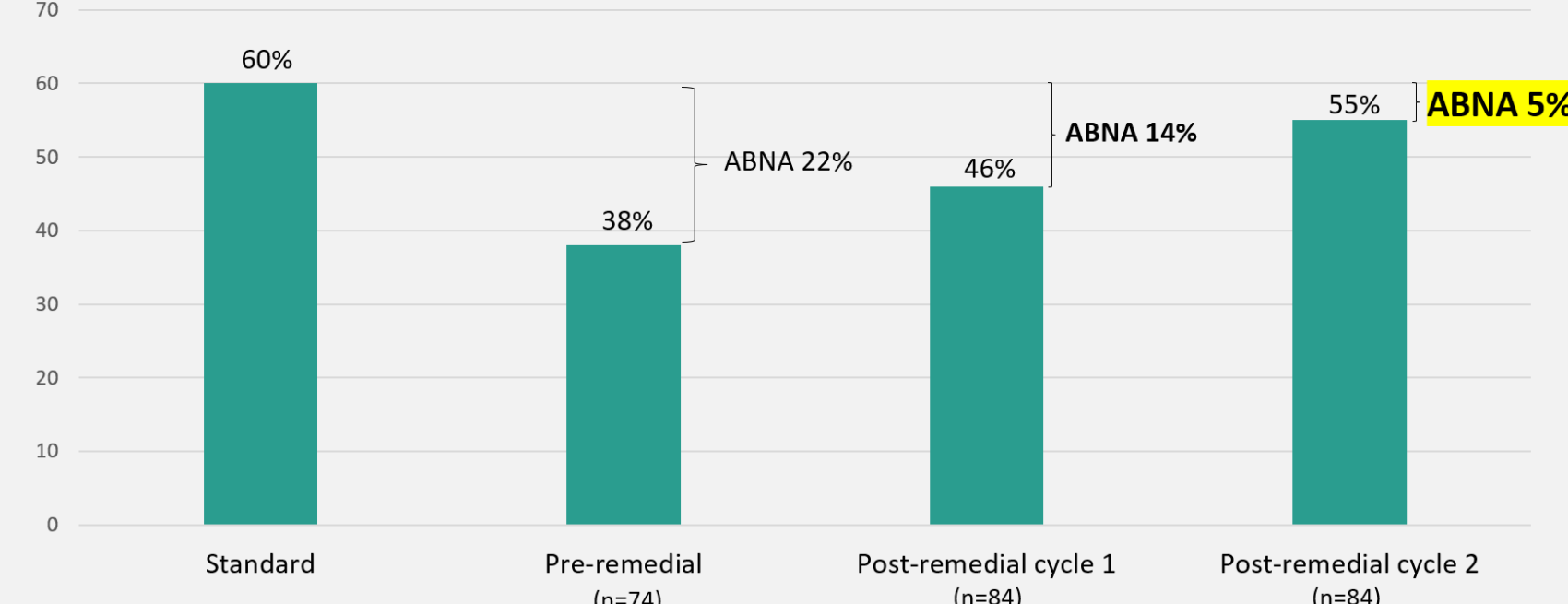
- Improved parental involvement via distribution of teeth brushing calendar for home usage & opened up a promotional booth



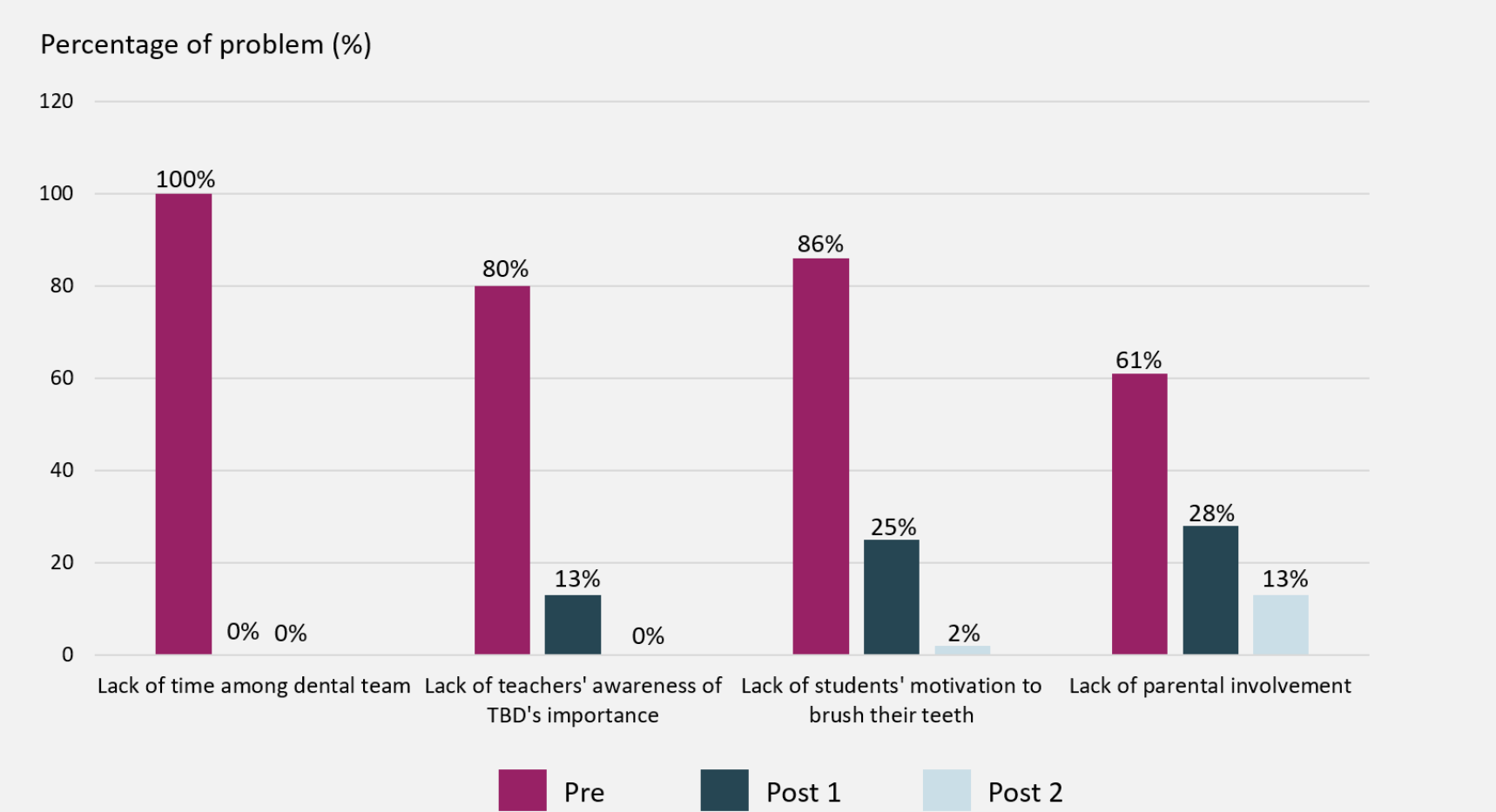
## 6. EFFECTS OF CHANGE

### 6.0 IMPROVEMENT ON ABNA

Percentage of effective Tooth Brushing Drill among students (%)



### 6.1 COMPARISON OF MAIN CONTRIBUTING FACTORS PRE AND POST STUDY



### 6.2 CONCLUSION

- School's cooperation plays a major role in achieving our objectives to improve TBD's effectiveness
- Innovation product of *Hygiene Hub* helps in shortening the time for TBD session, thus reducing teachers' workload during TBD session

### 6.3 LESSON LEARNT

It was challenging to do a frequent close monitoring as it depends on many factors such as time & transportation. Thus, next cycle will focus on strengthening the *Kelab Doktor Gigi Muda* for continuous TBD monitoring.

## 7. NEXT STEP

We aim to continually improve TBD's implementation, to replicate this study at other primary schools in Maran district as well as towards more collaborative efforts with school authority.

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