

1. SELECTION OF OPPORTUNITIES OF IMPROVEMENT

INTRODUCTION

Post-operative follow-up visits are pivotal in preventive dental care as restorative failures and recurrent caries are common in children with poor compliance to follow-up visits after comprehensive dental treatment (CDT) under general

PROBLEM PRIORITISATION

Problem	S	M	A	R	T	Score
Increased caries incidence in patients post-CDT under GA	17	8	18	12	8	63
Low percentage of six-month postoperative follow-up visits	22	14	21	19	14	90
Late referral of Molar Incisor Hypomineralisation cases	17	6	14	9	6	52
Long waiting time for aerosol generating procedures appointments	18	8	15	8	6	55
Long waiting time of GA cases /Long GA waiting list	19	13	18	9	16	75

REASON FOR SELECTION

Seriousness

Low percentage of postoperative follow-up visits increases the risks of recurrent caries and restorative failures leading to increased costs, prolonged retreatment durations, and in certain incidences, repeated GA

Measurable

Percentage of six-month postoperative follow-up visits can be measured through medical records and monthly *reten*

Appropriateness

Increasing the percentage of six-month postoperative follow-up visits can reduce the number of unreported cases of recurrent caries and treatment failures as monitored in Key Performance Indicator(KPI) 2 and 3. Thus, this improves standard of care and ensures treatment effectiveness and safety

Remediable

Integrated approach with active involvement of both staff and patient's guardian can contribute to improvement

Timeliness

This study can be completed within stipulated period of 6-12 months

PROBLEM STATEMENT

From July 2021 to December 2021, only **50%** of patients attended their six-month postoperative follow-up visits.

Non-compliance to preventive regime may indicate unreported cases of recurrent caries and failed restorations

↑ Cost & Time, ↓ Treatment safety & effectiveness

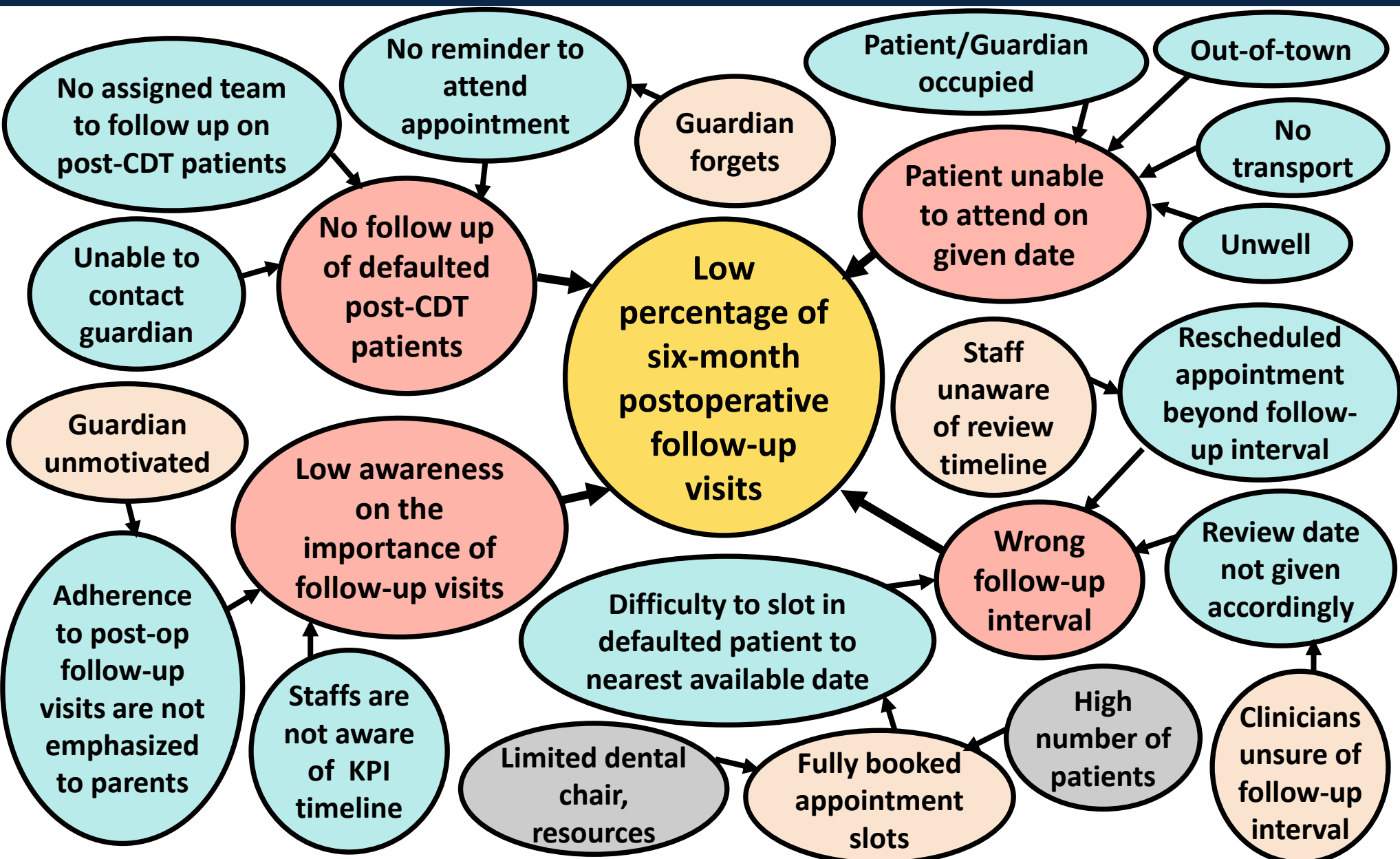
Possible Cause Multiple factors such as low awareness, attitude, and limited resources

Study Aim To improve the percentage of six-month post-operative follow-up visits in paediatric dental patients

LITERATURE REVIEW

Caries relapse rates in children at 6-, 12-, and 24-month post-treatment was 25.53%, 37.23%, and 56.38%, respectively	Zhao J et al., 2022
Caries management pathway for high caries risk individuals includes 3-monthly recall visit and professional topical treatment every 3 months	AAPD, 2023
Factors affecting restoration failure significantly were unsupervised toothbrushing and failure to conform to recall appointments	Morsy et al., 2015
Incidences of repeated GA (4%-24%) were reported in special needs patients or in children who were less compliant to preventive regime	Aikaterini et al., 2023

PROBLEM ANALYSIS CHART



TERMS AND DEFINITION

Comprehensive dental treatment (CDT)	All needed dental treatment for dental caries for a child which includes extractions, restorative and preventive dental procedures done in one visit in a surgical setting. Also known as full mouth dental rehabilitation.
General anaesthesia (GA)	A controlled state of unconsciousness accompanied by a loss of protective reflexes, including the ability to maintain an airway independently and respond purposefully to physical stimulation or verbal command
Post-operative (post-op) follow-up visits	Review appointments after CDT under GA

2. KEY MEASURES OF IMPROVEMENT

OBJECTIVES

GENERAL OBJECTIVES

To improve attendance percentage at six-month postoperative follow-up visits

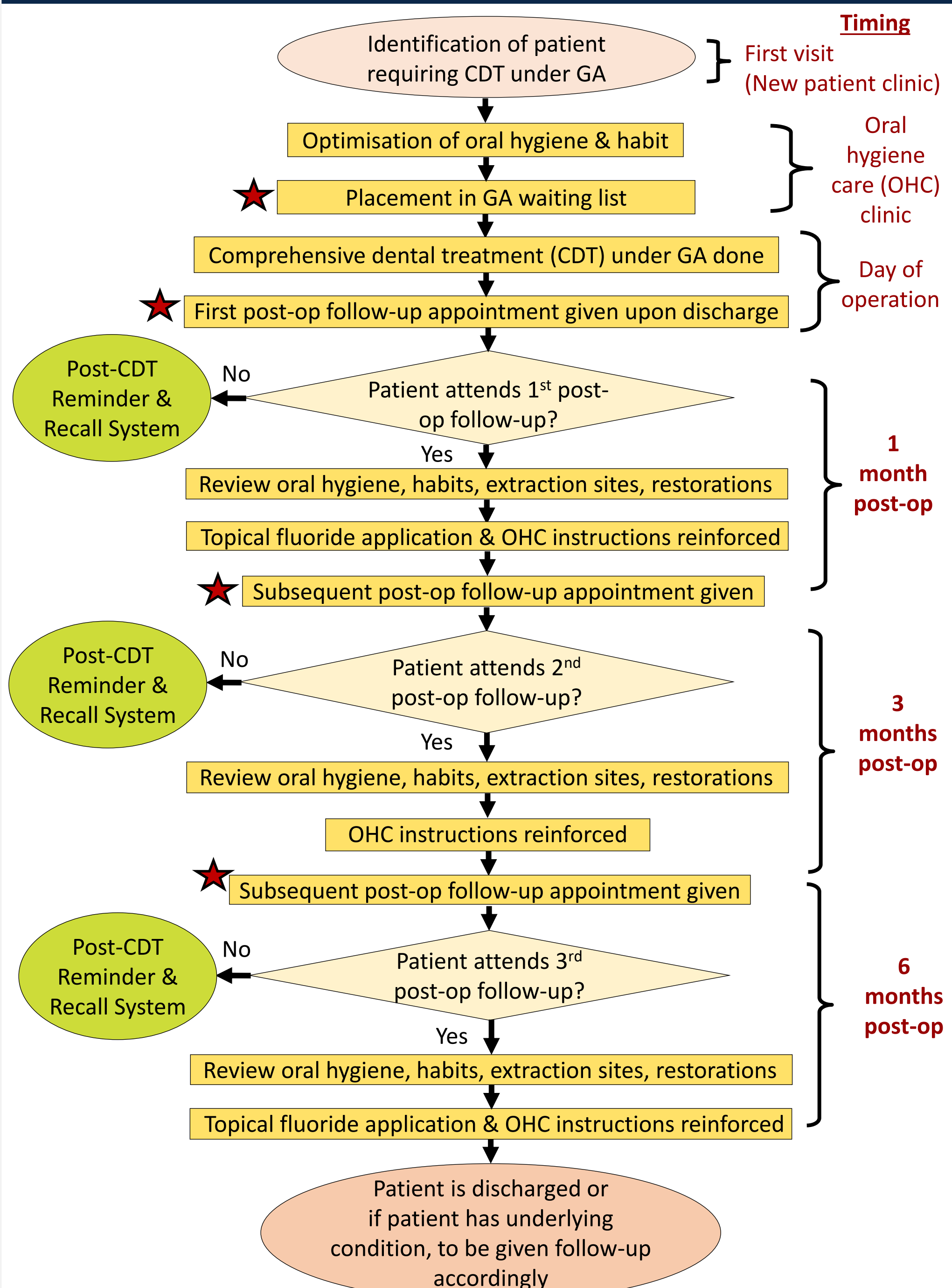
SPECIFIC OBJECTIVES

- To verify the percentage of patients who attended six-month post-operative follow-up visit
- To identify the contributing factors to low attendance percentage at six-month post-operative follow-up visits
- To formulate and implement proper remedial actions
- To evaluate the effectiveness of remedial action

INDICATOR AND STANDARD

INDICATOR	STANDARD
Percentage of six-month postoperative follow-up visits	≥ 90%*
*Based on dental recall interval studies done in children (Skaret et al., 1998; Wang and Aspelund, 2009) and consensus with specialists during department meeting	

PROCESS OF CARE



MODEL OF GOOD CARE

No	Critical Step	Criteria	Standard	Verification Cycle	Cycle 1	Cycle 2	Cycle 3
1	Placement in GA waiting list	Explain regarding procedure under GA Explain about post-op follow-up visits and its importance	100%	100%	100%	100%	100%
2	First post-op review appointment given upon discharge	Advice on post-op care, oral hygiene care (OHC), diet, and medication Give one-month post-op appointment with clinic's contact details Reinforced importance of post-op follow-up visits Place sticker on patient's treatment card (Kad Rawatan LPB) Input data in data sheets	100%	100%	100%	100%	100%
3	Subsequent post-op follow-up appointment given	Second and third follow-up appointment given according to proposed date on sticker and to accommodate patient as deemed necessary Encourage adherence to follow-up appointment with reward system Pre-appointment reminder by calling patient one week prior to six-month follow-up visit If unable to attend, to reschedule within one-two weeks	100%	0%	72%	100%	100%

3. PROCESS OF GATHERING INFORMATION

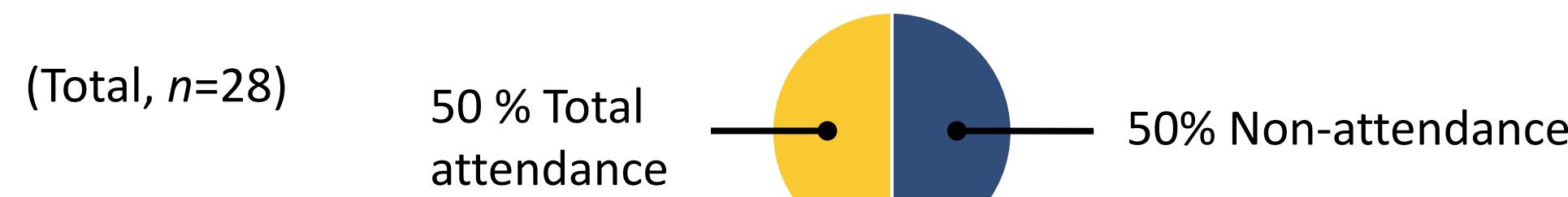
METHODOLOGY

Study Design	Quality improvement study
Study Setting	Paediatric Dental Clinic
Sampling Technique	Convenience Sampling
Inclusion Criteria	All patient who undergone CDT under GA
Exclusion Criteria	Patients who were discharged from Paediatric Dental Clinic before their six-month review (transfer of care to other centre) Patients who were rescheduled by clinic or under quarantine
Data Collection Technique	Review of recorded sources Structured observational study Self-administered questionnaire survey (face validated)
Data Collection Tool	Patient medical record Questionnaire Data collection sheet
Study period	Verification study: 14/3/2022-17/6/2022 Cycle 1: 13/6/2022-31/12/2022 Cycle 2: 13/1/2023-14/5/2023 Cycle 3: 15/5/2023-29/3/2024

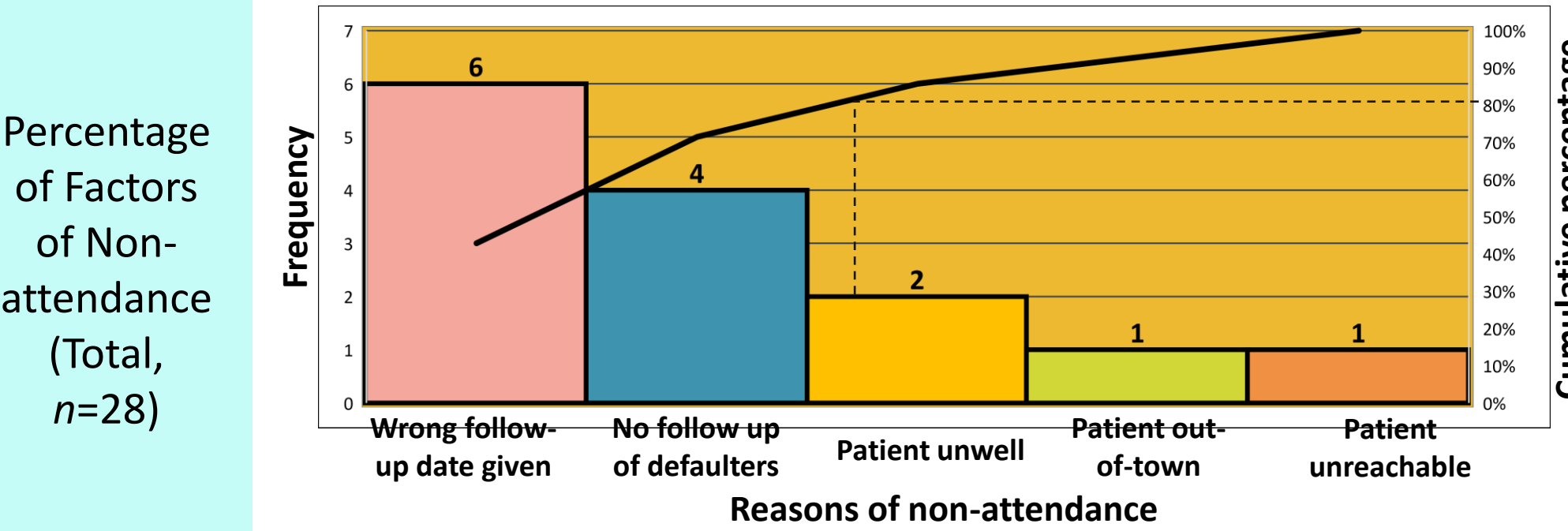
4. ANALYSIS AND INTERPRETATION

VERIFICATION STUDY

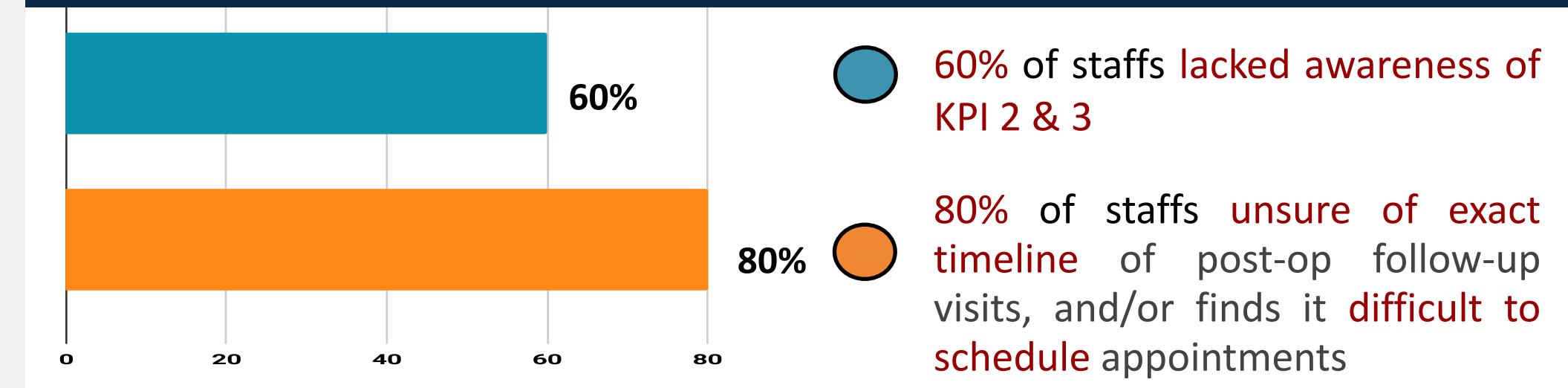
Percentage of Six-month Postoperative Follow-up Visits from July – Dec 2021



PARETO CHART



Survey Findings on Staff Awareness



5. STRATEGY FOR CHANGE

Update Work Process and Standard Operating Procedure (SOP)

- Process of Care was reviewed and updated
- Introduced **Post-CDT Reminder & Recall System**
- Trace and recall defaulted patients
- Pre-appointment Reminder:** Call and remind guardians to bring patients for their six-month follow-up visit
- Encouraged guardian to key-in appointment reminders in handphone

Visual Control (Colour Coding) and Cluster Scheduling

- Pink/Orange colour Post-CDT stickers with proposed follow-up dates placed on the front cover of treatment cards (Kad Rawatan LPB, LP1)

CDT	21/9/2023
1st R/V	19/10/2023
2nd R/V	28/12/2023
3rd R/V	21/3/2024

- Six-month post-op review patient highlighted in green
- Designated slots every Thursday for post-op review

Digitalisation of Appointment Monitoring

Excel sheet to monitor appointments for all post-op patients

NO	PATIENT'S DETAILS			PROCEDURES UNDER GA	TX DONE UNDER GA	OT DATE	DR	REVIEW			ACCEPT	Failed restoration	New caries	MX
	Name	RN IC	Age					Rev 1M	Rev 3M	Rev 6M				
1	KEISHA	14	F	SALAJA	NIL	14/4/2023	CDT GA DR	5/12/2023	7/13/2023	10/5/2023	1	0	0	0
2	LAZZATI	11	F	SALAJA	7	14/6/2023	CDT GA DR	5/11/2023	7/13/2023	10/5/2023	1	0	0	0

Enhance Awareness and Knowledge in Practitioners

Staff training through continuing dental education (CDE) and orientation on various aspects:

- Key performance indicator (KPI)
- Updated work process and SOP
- Post-CDT Reward Card Program

Oral Health Awareness

Post-CDT Infographic available via QR code

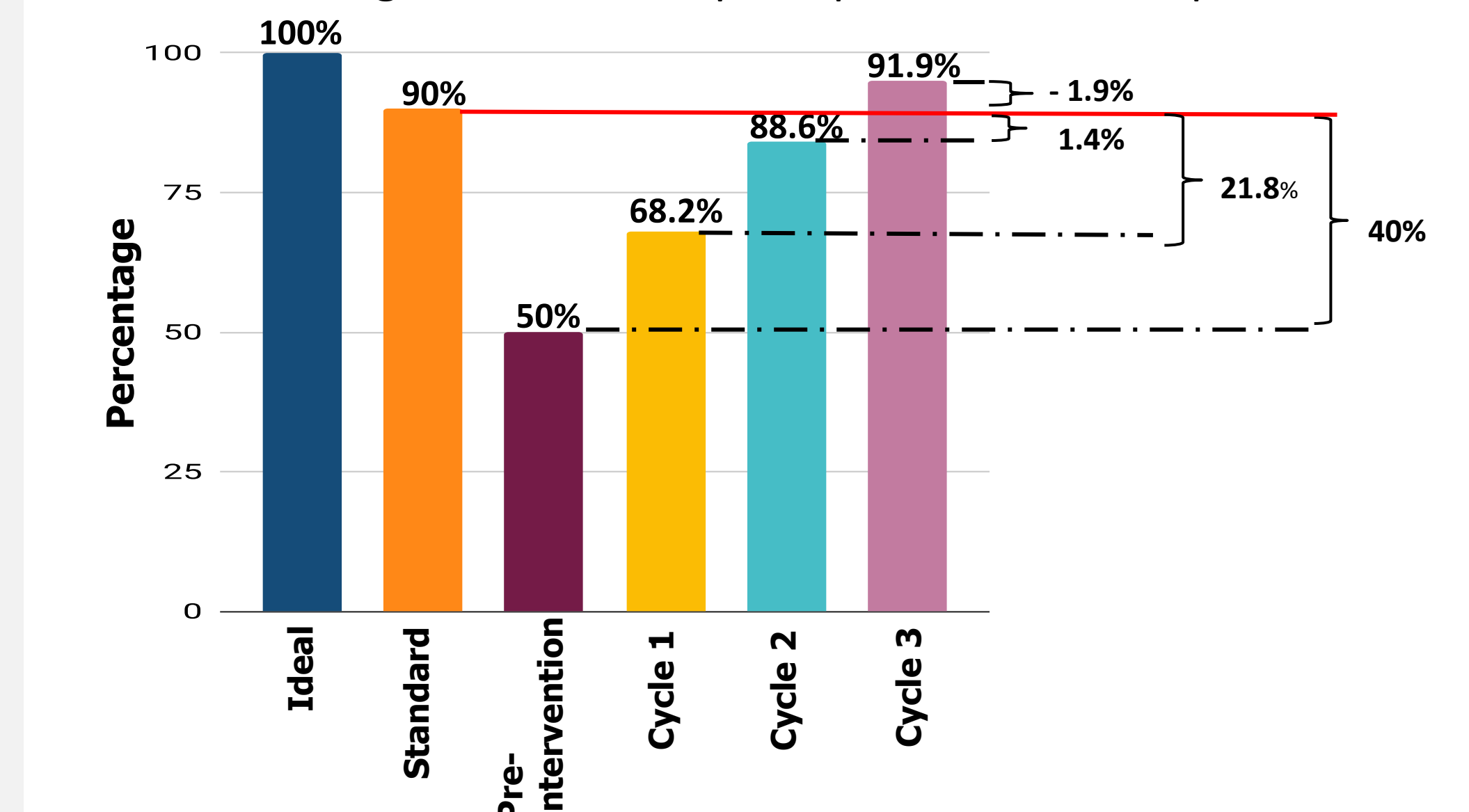
Post-CDT Reward Card Program:

- Reward card with sticker collection
- Gift voucher for free dental check-up

Satisfaction survey among guardians to assess program effectiveness

6. EFFECT OF CHANGE

Percentage of six-month postoperative follow-up visits



IMPACT

PATIENTS' GUARDIAN SATISFACTION SURVEY

91.7% Positive Feedback

- Increased awareness & knowledge regarding oral health
- Good impact on patient's oral health
- Encouraged continuation of the program
- 100% agreed the program motivated patients & guardians to attend follow-up

Work satisfaction survey: 100% rating in ease and duration needed for management of post-op patients

Cost effectiveness: With early detection of caries and failed restorations, timely interventions and targeted treatments can be administered promptly, preventing further deterioration of teeth, which could otherwise necessitate more intricate and costly dental procedures

Enhance awareness, knowledge, and overall quality of life: 41% of new patients who claimed the free dental check-up gift voucher were assessed to have required treatment under specialist clinic

LESSONS LEARNT

STRENGTH AND LIMITATIONS

- Integrate patient-centered care
- Successfully explore and identify intervention strategies that improves follow-up compliance which in turn, reduces the costly ravages of dental neglect in young children
- Patient's attendance largely depends on feasibility of guardians to bring patient for appointments which can be resolved by enhancing awareness among guardians

7. THE NEXT STEP

- To modify strategies for computerized healthcare system/records
- To introduce an audio-visual guide as to increase awareness and educate guardians regarding preventive oral health care following CDT under GA
- To sustain implemented strategies and share our experiences with fellow colleagues in our fraternity, addressing this universal issue

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All those who are directly and indirectly involved in the project

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