PP-33

Improving Percentage of Healthy Gingiva among Young Adults in *Klinik Pergigian Raub* (KPR)

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KEMENTERIAN KESIHATAN MALAYSIA

1.0 SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

Healthy gingiva is imperative in **young adults** as it prevents periodontitis which eventually leads to tooth loss, cardiovascular diseases and reduced quality of life. Unhealthy gingiva is a reversible condition which preventable at younger age. However, the **percentage of unhealthy gingiva among young adults in *Klinik Pergigian Raub*** was **critically high.**

1.1 PROBLEM PRIORITISATION

NO	PROBLEMS	ACHIEVEMENT	S	M	A	R	T	TOTAL
1	High percentage of form 2 children with gingivitis at *Sekolah Menengah Mahmud* in Raub	53.6% (DSA Goal >50%)	21	23	20	24	20	108
2	High percentage of incomplete cases among antenatal mothers in *Klinik Pergigian Raub*	40.3% (DSA Goal > 45%)	23	21	22	21	23	110
3	High percentage of unhealthy gingiva among young adult patients in *Klinik Pergigian Raub*	96.3% (NOHSP 2022-2030 ≤85%)	24	24	23	23	24	118
4	High percentage of rejected x-ray in *Klinik Pergigian Raub*	8.17% (SDO concencus < 5%)	22	20	19	22	21	104
5	High number of return orthodontic patients with poor oral hygiene to *Klinik Pergigian Raub*	16.7% (Orthodontist Concencus <10%)	20	22	23	21	20	106

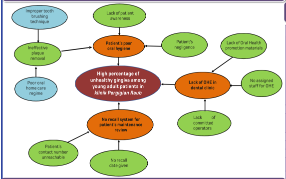
MEMBERS = 8, SCALE 1: Poor 2: Moderate 3: Good
S=seriousness, M=measurable A= appropriateness, R= remediable, T= timeliness

Table 1: Selection of opportunity based on SMART criteria

1.2 REASONS FOR SELECTION

S	Majority of young adults presented with bleeding gums raised a concern as it impacts severely on speech due to tooth loss, malnutrition, poor quality of life, low self-esteem and systemic inflammatory consequence (National Oral Health Plan (NOHP) 2011 – 2020).	Seriousness
M	Data can be obtained based on EZRK and Gi-Ret 2.0 (EZRK= Easy Reten & Gi-Ret 2.0 = Sistem Gabungan Intelektual Reten Pergigian or One stop centre for all KKM Dental reporting)	Measurable
A	Percentage of healthy gingiva among young adults attended Klinik Pergigian Raub was critically low, which is only 3.6% in 2022. This number was below the aim of NOHSP 2022-2030 which set at a target at 15%.	Appropriateness
R	Healthy gingiva among young adult patient with BPE 2 after receiving dental scaling is achievable by patient-centered oral hygiene guidance, periodic recall and team of committed clinicians.	Remediable
T	Study can be completed within a timely manner.	Timeliness

1.3 PROBLEM ANALYSIS CHART



1.4 TERM AND DEFINITION

TERMS	DEFINITION
HEALTHY GINGIVA	Defined as **no supragingival calculus**, no bleeding upon probing, pocketing < 3.5mm (BPE = 0)
BPE 2	**Presence of supra or subgingival calculus**, probing depth < 3.5 mm with black band completely visible.
YOUNG ADULT	New registered patients in KPR aged **18 – 29 years old**

2.0 KEY MEASURES FOR IMPROVEMENT

2.1 OBJECTIVES

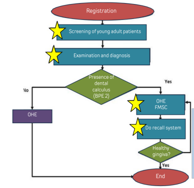
General objective: To **increase percentage of healthy gingiva among young adult patient** in Klinik Pergigian Raub

Specific objectives:
1. To **determine percentage of young adults with healthy gingiva** in KPR
2. To **identify the possible contributing factors** leading to high percentage of unhealthy gingiva among young adults
3. To **formulate strategies and plan appropriate remedial measure** to overcome identified factors
4. To **evaluate the effectiveness** of remedial measures implemented

2.2 INDICATOR, FORMULA AND STANDARD

Indicator	Percentage of young adult patient with healthy gingiva in KPR
Formula	$\frac{\text{Number of young adult with healthy gingiva in Klinik Pergigian Raub}}{\text{Total number of new young adults in Klinik Pergigian Raub}} \times 100\%$
Standard	15% * Standard was set based on National Oral Health Strategic Plan 2022-2030

2.3 PROCESS OF CARE



OHE = Oral hygiene education
FMSC = Full mouth scaling
BPE = Basic Periodontal Examination

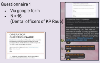
2.4 MODEL OF GOOD CARE

No	Critical Step	Criteria	Standard	Pre remedial
1	Screening of young adult patient	Details required are names, IC, address, phone number and medical history status.	100%	100 %
2	Examination and Diagnosis with BPE screening	• A thorough medical history shall be obtained from patient prior consent and treatment	100%	100%
		• Dental examination and findings recorded in LP8 together with BPE (BSP guideline)	100%	87%
3	OHE	**Oral Health Education (OHE):** Frequency of brushing, type of toothbrush, toothbrushing technique, type and amount of toothpaste		
		• Guided OHE with aid of educational materials (e.g.: flyers, posters, pamphlets, video)	100%	19%
		• To make rotational duty for dental officer and DSA for OHE	100%	15%
		• Oral hygiene checklist via specific oral hygiene care card	100%	11%
		• Provide oral hygiene kit to patients	100%	16%
4	FMSC	Full Mouth Scaling (FMSC): Full mouth scaling is carried out to all patients presented with supra and subgingival calculus using ultrasonic scaler. Referral to periodontal unit specialist will be done in patient with probing depth >3.5mm (BPE 3 and 4). Other dental treatment: as per treatment plan	100%	87%
5	Do recall system	Reassessment is performed at 4 weeks to review BPE charting and to provide OHE. Scaling is done if necessary.		
		• To create a follow-up book and google excel sheet	100%	25%
		• To conduct a 'Gum Care Workshop' for all staff to highlight on the importance of recall system	100%	25%

3.0 PROCESS OF GATHERING INFORMATION

3.1 METHODOLOGY

	Operators	Patient
Tools	Self-administered questionnaire Questionnaire 1 • Via google form • N = 16 (Dental officers of KP Raub)	Structured questionnaire Questionnaire 2 • n = 34 (New young adult patient in KP Raub)
Place	Klinik Pergigian Raub	
Timeline	Vefication study : Sept 2022 – Nov 2022. Cycle 1 : Dec 2022 – March 2023 Post remedial study :Apr 2023 – May 2023 (cycle 1) Cycle 2 : June 2023 – Sept 2023 Post remedial study : Oct 2023 – Dec 2023 (cycle 2) Cycle 3 : Apr – Jun 2024 (data collection)	
Source of data	Clinical oral examination, patient record cards (LP-8), EZRK and Gi-Ret 2.0	
Study	Interventional study	
Sampling	Purposive sampling method	
Inclusion criteria	All dental Officers of *Klinik Pergigian Raub*	New young adult patients ages 18-29 with BPE 2 before dental scaling
Exclusion criteria	No exclusion criteria	New young adult patients with BPE 2 with medical illness and disabilities



4.0 ANALYSIS AND INTERPRETATION

4.1 VERIFICATION STUDY

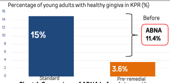


Chart 1: Comparison of ABNA before intervention

4.2 PARETO CHART

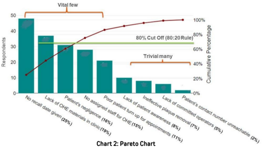
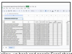


Chart 2: Pareto Chart (n=50)

5.0 STRATEGIES FOR CHANGE

Cycle 1: June 2023 – September 2023

Operator factor



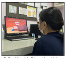
1. Follow-up book and google Excel sheet

2. Gum Care Workshop to all staff to highlight on importance of recall system

3. Rotational duty for dental officer and DSA for OHE

4. Oral Health Education poster

5. Oral Health Education flyer



6. Oral Health Education Video

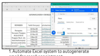
Patient factor

1. Reminder via specific oral hygiene care card

2. oral hygiene kit given to patients

Cycle 2: October 2023 – December 2023

Operator factor



1. Automate Excel system to autogenerate email for recall appointment

2. BPE score updated during recall appointment with MyGusi stamp

Patient factor

1. Wall-of-fame-or-shame for patient's gingiva health self-assessment

Cycle 3: April 2024 – June 2024

All the remedial actions in previous cycles were implemented for continuation of patient's care in Cycle 3 to improve percentage of young adults with healthy gingiva

6.0 EFFECT OF CHANGE

No	Critical Step	Criteria	Standard	Pre-Remedial	Cycle 1	Cycle 2	Cycle 3
1	Screening of young adult patient	Details required are names, IC, address, phone number and medical history status.	100%	100%	100%	100%	100%
2	Examination and Diagnosis with BPE screening	A thorough medical history shall be obtained from patient prior consent and treatment	100%	100%	100%	100%	100%
		Dental examination and findings recorded in LP8 together with BPE (BSP guideline)	100%	87%	100%	100%	100%
3	OHE	**Oral Health Education:** Frequency of brushing, type of toothbrush, toothbrushing technique, type and amount of toothpaste Guided OHE with aid of educational materials (e.g.: flyers, posters, pamphlets, video)	100%	19%	76%	81%	100%
		Rotational duty for dental officer and DSA for OHE	100%	15%	72%	84%	87%
		Oral hygiene checklist via specific oral hygiene care card	100%	11%	89%	91%	100%
		Provide oral hygiene kit to patients	100%	16%	64%	85%	100%
		Wall of 'Fame or Shame' for gingiva self-assessment	100%	16%	64%	85%	100%
4	FMSC	Full mouth scaling is carried out to patients presented with calculus (BPE 2).	100%	87%	100%	100%	100%
5	Do recall system	Reassessment is performed at 4 weeks to review BPE charting and to provide OHE. -Follow-up book and google excel sheet -Automated excel system was used to autogenerate email to young adult patient for recall appointment reminder	100%	25%	68%	87%	89%
		To conduct a 'Gum Care Workshop' to all staff to highlight on importance of recall system	100%	25%	100%	100%	100%
		Update BPE score in LP8 during every recall visit with *MyGusi* stamp	100%	25%	68%	87%	92%

Table 2: Effect of Change on MOGC after 3 cycles of intervention

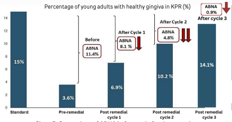


Chart 3: Comparison of ABNA before and after Intervention

6.1 LESSON LEARNT

- 2 cycles of remedial actions has successfully **increased the percentage of healthy gingiva** among **young adult** patients by **improving the recall system** and oral health status.
- Healthy gingiva among young adult patient with BPE 2 after receiving dental treatment was achieved by a comprehensive patient-centered oral hygiene care guidance, full mouth scaling, a systematic recall system and a team of committed operators.

7.0 THE NEXT STEP

We aim to continually **improve and strengthen the strategies implemented on recall systems, OHE sessions**, and **gingiva health awareness** to reach the standard set of **15%**

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