

CURBING UNNECESSARY ANTIBIOTICS PRESCRIPTION FOR PERICORONITIS IN CHERAS

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

PROBLEMS	S	M	A	R	T	TOTAL
Increased incidence of unnecessary antibiotic prescription for pericoronitis	24	24	21	21	24	114
Low coverage of new antenatal patients	21	12	18	18	21	90
Increased incidence of x-ray repetition	12	24	12	12	21	81
Increased incidence of repeated steps during denture fabrication	12	18	15	12	21	78

Not important	Less important	Neutral	Important	Very Important	No. of Voters : 5
1	2	3	4	5	

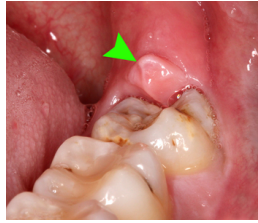
JUSTIFICATION

S	Unnecessary prescribing of antibiotics can lead to antimicrobial resistance and unwanted side effects to the patients
M	Data can be obtained from the prescription slips and patient's clinical records (LP8)
A	Curbing inappropriate antibiotic usage is in line with principles of medical ethics and antimicrobial stewardship
R	Remedial measures such as reminders and awareness talks are readily implementable
T	Data collection and remedial measures can be implemented within an acceptable timeline

INTRODUCTION & DEFINITION

PROBLEM : From January to June 2022, 76.2% of antibiotic prescriptions for pericoronitis cases were deemed unnecessary.

"Inappropriate antibiotic prescribing"
Antibiotics prescribed for indications in which their use is not warranted¹



"Pericoronitis"

Inflammation of the gingiva in relation to the crown of an incompletely erupted tooth; most commonly occurring in the mandibular third molar area²

There are surgical and non-surgical treatment options for pericoronitis. Systemic antibiotic prescription is a non-surgical treatment option indicated when there is a systemic spread of infection suspected.²

OBJECTIVES

GENERAL OBJECTIVE	SPECIFIC OBJECTIVE
To reduce the percentage of inappropriate antibiotics prescription among patients diagnosed with pericoronitis in Cheras	To verify the percentage of inappropriate antibiotic prescription for pericoronitis
	To determine factors contributing to the high percentage of unnecessary prescription of antibiotic in pericoronitis cases
	To formulate and implement remedial measures to reduce the percentage of inappropriate prescription of antibiotic for pericoronitis
	To evaluate the effectiveness of remedial measures

KEY MEASURES FOR IMPROVEMENT

Indicator

Percentage of patients with pericoronitis receiving unnecessary antibiotic prescription in Cheras

Formula

$$\frac{\text{Total no. of patients with pericoronitis receiving unnecessary antibiotics}}{\text{Total no. of patients having pericoronitis prescribed with antibiotic}} \times 100\%$$

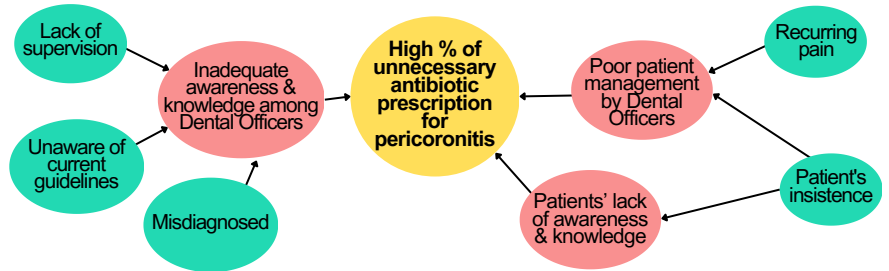
PROCESS OF GATHERING INFORMATION

Study Design	Observational Study
Sampling Method	Universal Sampling
Sample Criteria	Inclusion Prescription for all pericoronitis patients
	Exclusion Pericoronitis patients prescribed with analgesic only Prescription of antibiotics for pericoronitis patients without proper record of clinical examination
Data Tools	Prescription slips Treatment cards (L.P.8-2 PIN.8/2019)
Data Collection	Verification data Collected retrospectively in Feb 2023 (Data from Jan - Jun 2022)
	QA study data May - Nov 2023 (1 st cycle) Dec 2023 - Jun 2024 (2 nd cycle)

ANALYSIS & INTERPRETATION

- Only 54% of dental officers were confident with their knowledge on indications for antibiotics prescription.
- More than 25% of dental officers would prescribe antibiotics for localised pericoronitis, which is not indicated.
- Main reasons for antibiotic prescription without indication was recurring pain (56%), patient's insistence (22%).
- Pre-remedial % of inappropriate antibiotic prescription for pericoronitis was 76.2%.

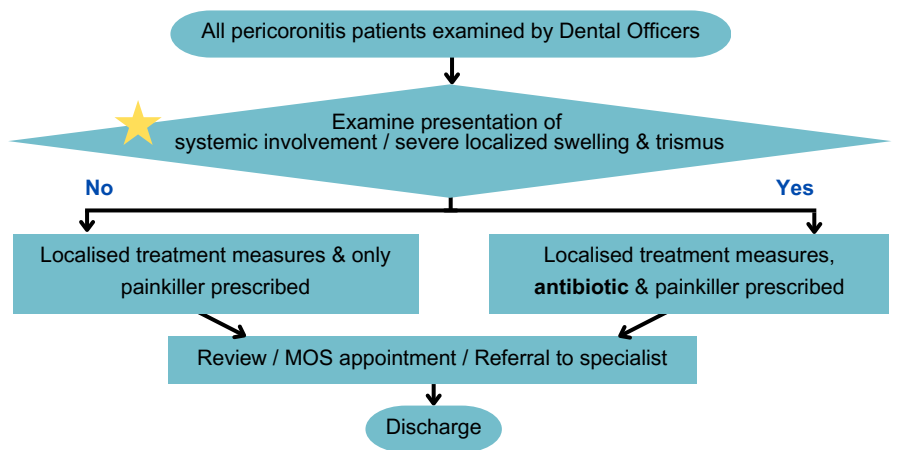
CAUSE-EFFECT ANALYSIS



MODEL OF GOOD CARE

No.	Critical Step	Criteria	Standard
1	Dental officers aware of antimicrobial guidelines	All onboarding dental officers briefed on appropriate usage of antimicrobials	100%
		All dental officers aware of antimicrobial guidelines - NAG 2019	100%
2	Patients aware of appropriate antibiotics usage	Patient educated on harms of inappropriate antibiotics usage	90%
3	Dental officers diagnose patients with pericoronitis requiring antimicrobials	Dental officers identify indications for antibiotics for pericoronitis cases correctly	90%
4	Dental officers prescribe antibiotics and document in LP8	Prescriptions' carbon copy and LP8 contain full diagnosis information for pericoronitis	100%

PROCESS OF CARE

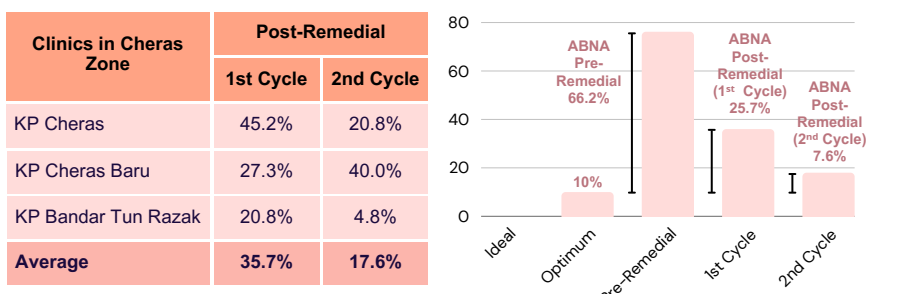


STRATEGY FOR CHANGE

Factors	Strategy for Change	
	1st Cycle	2nd Cycle
Limited knowledge on patient management	Compulsory continuous dental education (CDE) for all dental officers	Weekly infographic reminders
Lack of awareness on guidelines	Printed guidelines in every surgery room	One-to-one reinforcement advice to dental officers still prescribing inappropriately
Lack of awareness and knowledge from patients regarding appropriate antibiotics usage	CDE regarding antibiotic misuse given to patients Printed infographics of antibiotic resistance at patients' waiting area	

Images show printed guidelines and infographics for patients

EFFECTS OF CHANGE



THE NEXT STEP

- Incorporation of intervention into onboarding process for all new dental officers in Cheras.
- Development of a checklist as a decision-making aid prior to prescription of antibiotics for pericoronitis cases.
- Expansion of project to other dental clinics in WPKL&P.

REFERENCES

- National Antimicrobial Guideline (NAG) 2019, 3rd Edition. (2015, May 11). Pharmaceutical Services Programme. <https://pharmacy.moh.gov.my/en/documents/national-antimicrobial-guideline-nag-2019-3rd-edition.html>
- Kwon, G., & Serra, M. (2024). Pericoronitis. In StatPearls. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK576411>