

# ACHIEVING LOW PERCENTAGE OF ALVEOLAR OSTEITIS INCIDENCE AMONG PATIENTS IN PRIMARY DENTAL CLINICS IN PERLIS

Bahagian Kesihatan Pergigian Jabatan Kesihatan Negeri Perlis



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# PROBLEM IDENTIFICATION

High default rate among Minor Oral Surgery (MOS) patients

Long waiting time for outpatients

Inefficient in oral healthcare data reporting in primary dental clinics in Perlis

High incidence of Alveolar Osteitis (AO) among patients in primary dental clinics in Perlis

# PROBLEM PRIORITIZATION

Problems	S	М	А	R	Т	Total
1. High default rate among MOS patients in primary dental clinics in Perlis.	18	24	20	19	22	103
2. Long waiting time for outpatients	22	24	20	16	20	102
3. Inefficient in oral healthcare data reporting in primary dental clinics in Perlis.	12	16	16	13	14	71
4. High incidence of Alveolar Osteitis among patients in primary dental clinics in Perlis.	24	24	24	24	24	120

8 members 4

### PROBLEM TO BE STUDIED:

High incidence of Alveolar Osteitis among patients in primary dental clinics in Perlis

# TERMS AND DEFINITION

TERMS	DEFINITION
Alveolar Osteitis (AO)	Post-extraction socket which exhibits exposed bone that is not covered by a blood clot or healing epithelium and exists inside or around the perimeter of the socket for 3 days after the extraction procedure
Osteomyelitis	An inflammation or swelling of bone tissues that is usually the result of infection.
Exodontia	The removal of tooth from its socket in the alveolar bone.
Paresthesia	The feeling of tingling, numbness or pins and needles.

### REASON FOR SELECTION

S

The prevalence of Alveolar Osteitis which required further treatment was reported between 0.3% - 35%.

"Clinical Practice Guidelines MOH (2<sup>nd</sup> edition) November 2021.

From Oct to Dec 2022 the incidence has reached 19.2% in Perlis. Untreated Alveolar Osteitis may lead to acute osteomyelitis, subperiosteal infection or bony sequestra formation. *C Rohe, M Schlam, 2023* 

M

Data can be obtained from patient's dental record (LP8) and oral examination.

A

The proper tooth extraction procedures as well as post-operative instructions are important to reduce the extraction complications and thus improving the quality of life of the patients

R

Remedial actions could be implemented to improve the procedure of extractions and post-procedure education.

Т

Study duration could be done in an acceptable time-range in order to obtain improved results following actions and interventions.

# LITERATURE REVIEW



The most common complication of tooth extraction is alveolar osteitis and is characterized by a severe type of pain usually starting due to extraction of tooth after two or three days.

- Almutairi BM , 2019

Several factor have been reported to be responsible for the occurrence of alveolar osteitis; this include traumatic, difficult and prolonged extraction, pre-and post operative extraction at the site, smoking, oral contraceptive, bone disorders, and underlying pathologies, irradiation, systemic illness such as diabetes mellitus, clotting problems, and failure to comply with post extraction instructions.

-Akinbami BO, Godspower T, 2014

Prevention methods include, one should avoid smoking, proper use of surgical instruments, less trauma to the soft tissue as well as to the bone, proper medication before and as well as after extraction reduces the chances of alveolar osteitis.

-Nikita Suri, 2020

# INTRODUCTION

- $_{\circ}$  Alveolar Osteitis is an acute inflammation of the alveolar bone around the extracted tooth.
- 3-7 days post extraction.
- o characterized by severe pain, dislodgement of blood clot, and often filled with food debris.
- High risk group: Diabetic patients, smokers, immunocompromised patients, poor oral hygiene and patients taking oral contraceptive pills.



Total number of teeth extracted from Oct- Dec 2022 was 849.



Total number of Alveolar Osteitis cases was 163 (19.2%)

# SOCKET AFTER EXTRACTION



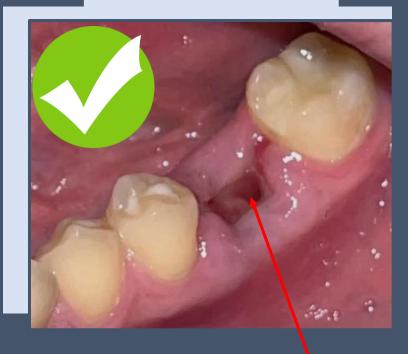
Blood clot

# ALVEOLAR OSTEITIS SOCKET



Exposed bone

#### **NORMAL SOCKET**



Healing socket

# PROBLEM STATEMENT

PROBLEM	Verification study conducted in the period of October – December 2022 shows 19.2% occurrence of AO in primary dental clinics in Perlis.
EFFECT	Result in patient having severe pain and untreated AO can lead to severe complication e.g. Osteomyelitis which may affect the quality of life and increase the cost of healthcare.
POSSIBLE CAUSE	Multiple risk factors may lead to AO including improper practice among staff, improper case selection, patient's incompliance to post-operative instructions and poor post-procedure care.
AIM OF THE STUDY	To achieve low percentage of AO incidence among patients in primary dental clinics in Perlis.

### **OUTCOME OF ALVEOLAR OSTEITIS**

EFFECT	NORMAL HEALING	ALVEOLAR OSTEITIS	POSSIBLE COMPLICATION Eg. OSTEOMYELITIS
QUALITY OF LIFE	SLIGHTLY AFFECTED	<ul><li>HIGHLY AFFECTED</li><li>Severe pain</li><li>Low dietary intake</li></ul>	<ul> <li>HIGHLY AFFECTED</li> <li>Severe pain</li> <li>Low dietary intake</li> <li>Permanent paresthesia</li> <li>Bone swelling</li> </ul>
ADDITIONAL COST	RM0	RM21.00	>RM1300
NUMBER OF VISIT TO DENTAL CLINIC	2	≥3	≥5
PATIENT PERCEPTION TOWARDS DENTAL TREATMENT	GOOD	POOR	VERY POOR 12

# PROBLEM ANALYSIS

PROBLEM	High incidence of AO among patients in primary dental clinics in Perlis.
WHAT	High incidence of AO post extraction procedure in primary dental clinics in Perlis.
WHERE	Primary dental clinics
WHEN	1 to 3 days post extraction
WHO	Personnel involved in the process : dental officer, dental surgery assistant, healthcare assistant, patients
WHY	Improper work practice among staff, patients incompliance to post-operative instructions, improper case selection, poor post-procedure care
HOW	High incidence of AO remains due to multiple causes which involves operators and patients.

## CAUSE EFFECT ANALYSIS

Discharge patient without achieving

proper hemostasis

Incomplete instruments used during extraction

Insufficient supply of gauze to patients

Improper practice among operators

Inadequate extraction skills among operators

Poor postprocedure care

High incidence of **Alveolar Osteitis** among patients in primary dental clinics in Perlis

Improper case selection (DM status, clotting problems, history of difficult extraction)

Lack of postoperative instructions given to patients

> Poor oral hygiene

**Patient** incompliance to post-operative instructions

achieved.

Not biting on supplied gauze until hemostasis

Harsh gargling or spitting

Unable to understand postoperative instructions.

Incomplete

patient

assessment

#### **GENERAL OBJECTIVE**

To achieve low percentage of AO incidence among patients in primary dental clinics in Perlis

#### **SPECIFIC OBJECTIVE**

- 1. To verify the incidence of Alveolar Osteitis in primary dental clinics in Perlis.
- 2. To identify the contributing factors that leads to AO.
- 3. To formulate and institute remedial action on how to reduce AO incidence.
- 4. To evaluate the effectiveness of the remedial measures and monitor it.



Extraction for primary teeth

### INDICATOR AND STANDARD

**Indicator** 

Percentage of AO in patients with tooth extraction procedure in primary dental clinics

**Formula** 

Number of Alveolar Osteitis in tooth extraction

x 100 %

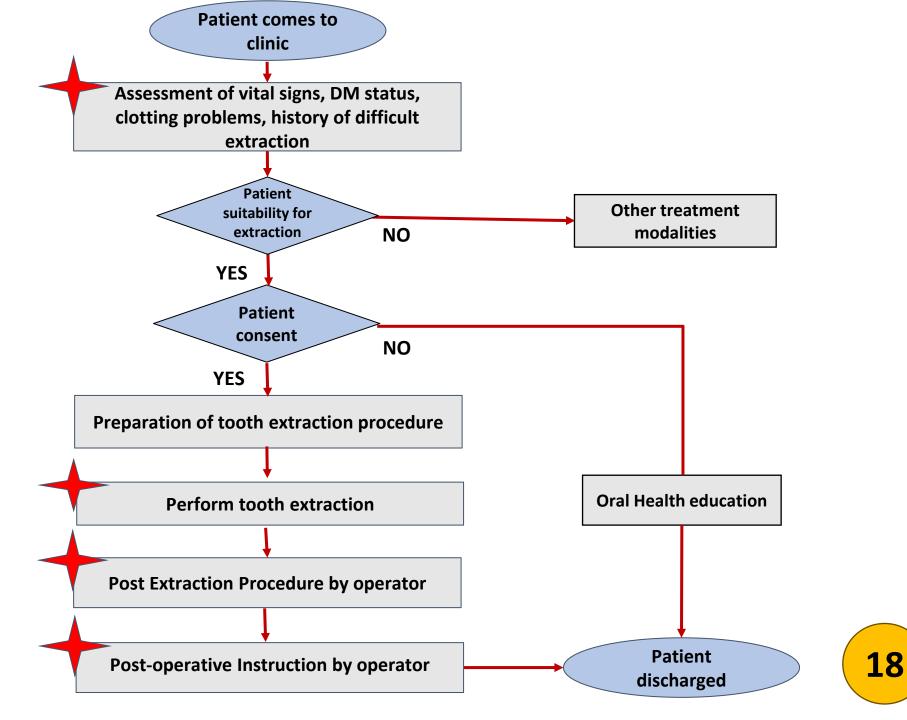
Total number of tooth extraction cases

**Standard** 

Standard ≤ 0.3%

(Clinical Practice Guidelines MOH (2<sup>nd</sup> edition) November 2021)

# PROCESS OF CARE



STEP	PROCESS OF CARE	CRITERIA	STANDARD
1	Patient assessment	1. Vital sign, History taking (eg.DM status, Clotting problems, History of difficult extraction)	• 100%
2	Extraction procedure	<ol> <li>Ensure correct tooth and correct instrumentations</li> <li>Local anesthesia administration with right dosage</li> <li>Tooth loosened from socket using elevator with finger support.</li> <li>Tooth is extracted with correct technique as mentioned in Standard Operative Procedure.</li> <li>Socket checked to ensure no retained tooth fragments and sharp bony edges.</li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD
3.	Post- Extraction procedure by operator	<ol> <li>Apply bucco-lingual pressure to extraction socket with fingers for few seconds.</li> <li>Sterile gauze with pressure placed at extraction site until no active bleeding.</li> <li>For surgical extraction:         <ul> <li>Hemostatic agent is inserted into extraction socket</li> <li>Sutures placed.</li> </ul> </li> <li>Change sterile gauze with pressure placed at extraction site until no active bleeding.</li> <li>Provide enough gauze to patients</li> </ol>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD
4.	Post-operative instruction by operator	<ol> <li>Patient bite the sterile gauze for minimum 30 minutes or until bleeding stop.</li> <li>Avoid harsh gargle or spitting</li> <li>Avoid smoking or vaping for three days after extraction</li> <li>Maintain good oral hygiene</li> <li>Patient to come back again if bleeding persist and pain increasing.</li> <li>Appointment for review given after 3 days</li> </ol>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>

# **METHODOLOGY**

STUDY DESIGN	Cross Sectional Study		
STUDY PERIOD	Verification Study	Oct- Dec 2022	
	Post- intervention 1	Apr- Jul 2023	
	Post-intervention 2	Dec 2023 - Feb 2024	
SAMPLE POPULATION	All patients undergoing tooth extraction in primary dental clinics in Perlis		
SAMPLE SELECTION	<ul> <li>Universal sampling (Oct 2022- Feb 2024)</li> <li>Inclusion Criteria : All the non-surgical and surgical extractions in primary dental clinics Perlis.</li> <li>Exclusion Criteria : Extraction for primary teeth</li> </ul>		
TOTAL SAMPLE	849 (verification study) 1580 (post-intervention 1) 1420 (post-intervention 2)		
STUDY TOOLS	Questionnaire, Clinical Audit Form, Pat	ient's Dental Record	

# ACHIEVABLE BENEFIT NOT ACHIEVED (ABNA)

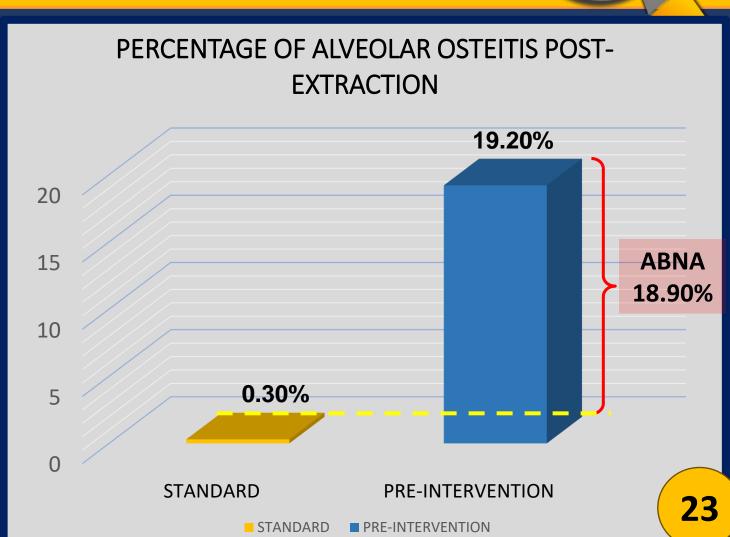


Number of AO after non-surgical and extractions

n=163

Total number of extraction cases done

N = 849





WRONG
EXTRACTION
TECHNIQUE



No finger support

# INCOMPLETE INSTRUMENT SETUP

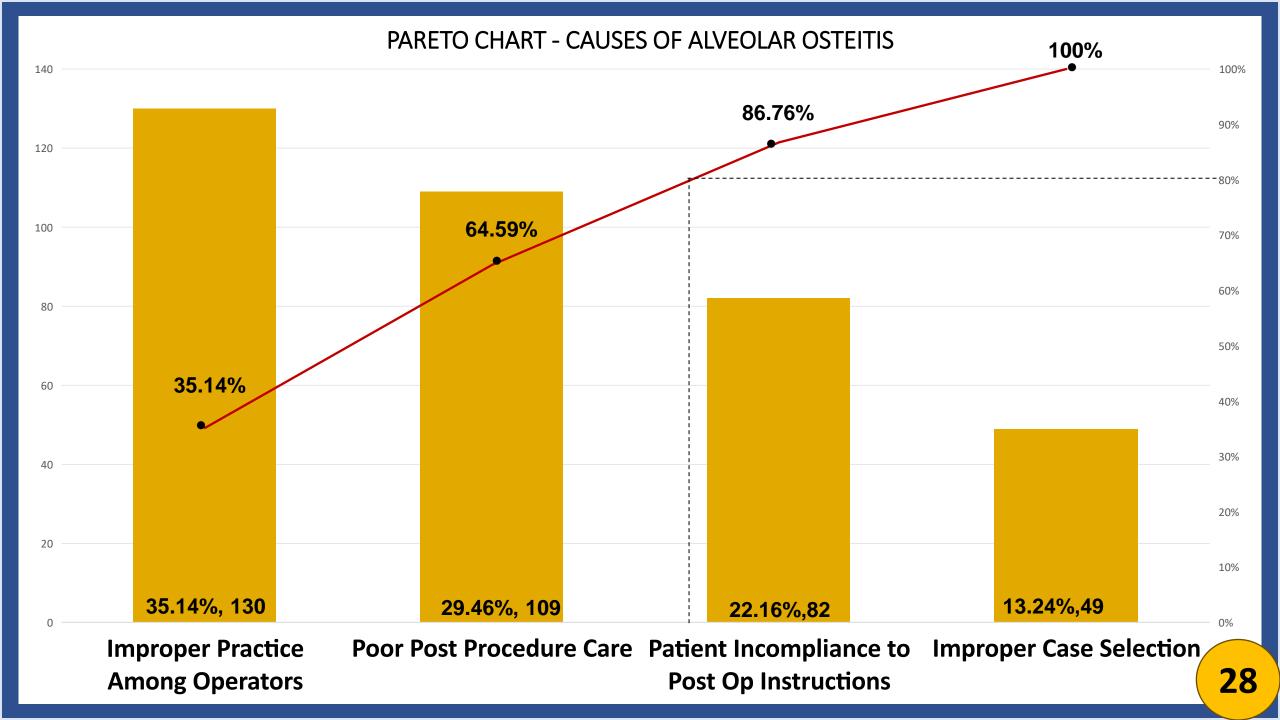






POST-OPERATIVE
INSTRUCTIONS
GIVEN TO PATIENTS
VERBALLY





STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION
1	Patient screening	Vital sign, History taking (eg. DM status, Clotting problems, History of difficult extraction)	• 100%	30%
2	Extraction procedure	<ol> <li>Ensure correct tooth and correct instrumentations</li> <li>Local anesthesia administration with right dosage</li> <li>Tooth loosened from socket using elevator with finger support.</li> <li>Tooth is extracted with correct technique as mentioned in Standard Operative Procedure.</li> <li>Socket checked to ensure no retained tooth fragments and sharp bony edges.</li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	85% 80% 95% 70% • 100%

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION
3.	Post- extraction procedure by	<ol> <li>Apply bucco-lingual pressure to extraction socket with fingers for few seconds.</li> <li>Sterile gauze with pressure placed at extraction site until no active bleeding.</li> <li>For surgical extraction:         <ul> <li>Hemostatic agent is inserted into extraction socket</li> <li>Sutures placed.</li> </ul> </li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	<ul><li>83%</li><li>100%</li><li>55%</li><li>100%</li></ul>
	operator	<ul><li>4. Change a sterile gauze with pressure placed at extraction site until no active bleeding.</li><li>5. Provide enough gauze to patients</li></ul>	<ul><li>100%</li><li>100%</li></ul>	74%

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION
4.	Post- operative instruction by operator	<ol> <li>Patient bite the sterile gauze for minimum 30 minutes or until bleeding stop.</li> <li>Avoid harsh gargle or spitting</li> <li>Avoid smoking or vaping for three days after extraction</li> <li>Maintain good oral hygiene</li> <li>Patient to attend appointment review after 3 days.</li> </ol>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>	<ul> <li>70%</li> <li>100%</li> <li>100%</li> <li>60%</li> <li>30%</li> </ul> 31

# STRATEGIES FOR CHANGE (INTERVENTION 1)

### STRATEGIES FOR CHANGE CYCLE 1

FACTOR	PROBLEM	ACTIONS	
1. Improper case selection	1) Incomplete patient assessment	<ul> <li>Patient with DM was tested for RBS with glucometer.</li> </ul>	
2. Improper practice among operators	2) Inadequate skills of operators	<ul> <li>Follow standard extraction protocol</li> <li>Mentorship programme by senior officers</li> <li>Workshop and Continuous Dental Education (CDE)</li> </ul>	
	3) Incomplete tools used during extraction	<ul><li>Demonstrations by senior officers</li><li>Complete tools setup</li></ul>	
3. Poor post procedure care	5) Poor post-extraction instructions	<ul> <li>Give appointment review date 3 days after extraction</li> <li>Provide patients with post-op instructions leaflets</li> </ul>	
	6) Insufficient supply of gauze to patients	Adequate supply of gauze to patients	

### 1. RBS TEST DONE FOR PATIENTS WITH DM





#### STANDARD PROTOCOL FOR SIMPLE TOOTH EXTRACTION

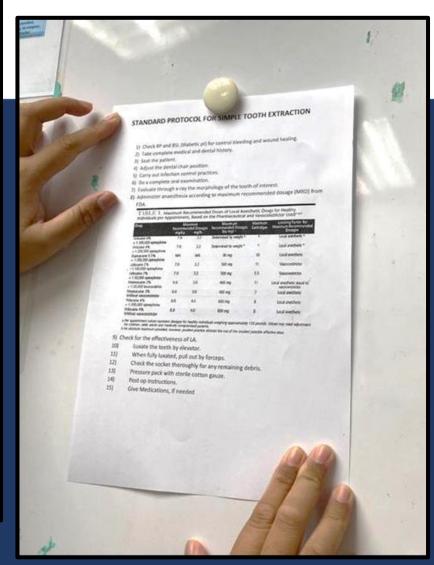
- 1) Check BP and BSL (diabetic gt) for control bleeding and wound healing.
- 2) Take complete medical and dental history.
- 3) Seat the patient.
- 4) Adjust the dental chair position.
- 5) Carry out Infection control practices.
- 6) Do complete oral examination.
- 7) Evaluate through x-ray the morphology of the tooth of interest.
- 8) Administer anaesthesia according to maximum recommended dosage (MRD) from FDA.

TABLE 1. Maximum Recommended Doses of Local Anesthetic Drugs for Healthy Individuals per Appointment, Based on the Pharmaceutical and Vasoconstrictor Used<sup>1–4,7</sup>

Drug	Maximum Recommended Dosages mg/kg mg/fb		Maximum Recommended Dosages (by mg) *	Maximum Cartridges	Limiting Factor for Maximum Recommended Dosages
Articaine 4% + 1:100,000 epinephrine	7.0	3.2	Determined by weight h		Local anesthetic <sup>b</sup>
Articaine 4% + 1:200,000 epinephrine	7.0	3.2	Determined by weight <sup>b</sup>	*	Local anesthetic <sup>b</sup>
Buphacaine 0.5% + 1.200,000 epinephrine	N/A	NA	90 mg	10	Local anesthetic
Lidocaine 2% +1:100,000 epinephrine	7.0	3.2	500 mg	11	Vasoconstrictor
Lidocaine 2% + 1:50,000 epinephrine	7.0	3.2	500 mg	5.5	Vasoconstrictor
Mepivacaine 2% + 1:20,000 levonordefrin	6.6	3.0	400 mg	11	Local anesthetic equal to vasoconstrictor
Mepivacaine 3% Without vasoconstrictor	6.6	3.0	400 mg	7	Local anesthetic
Prilocaine 4% + 1:200,000 epinephrine	8.8	4.0	600 mg	8	Local anesthetic
Prilocaine 4% Without vasoconstrictor	8.8	4.0	600 mg	8	Local anesthetic

a Per appointment values represent dosages for healthy individuals weighing approximately 150 pounds. Values may need adjustment for children, older adults and medically compromised patients.

- 9) Check for effectiveness of LA.
- 10) Luxate the teeth by elevator.
- 11) When fully luxated, pull out by forceps.
- 12) Check the socket thoroughly for any remaining debris.
- 13) Pressure pack with sterile cotton gauze.
- 14) Post op instructions.
- 15) Give Medications, if needed







b No absolute maximum provided, however, prudent practice dictates the use of the smallest possible effective dose.

# 3. MENTOR- MENTEE PROGRAM FOR NEW DENTAL OFFICERS





# 4. ATRAUMATIC EXTRACTION COURSE GIVEN BY SPECIALISTS



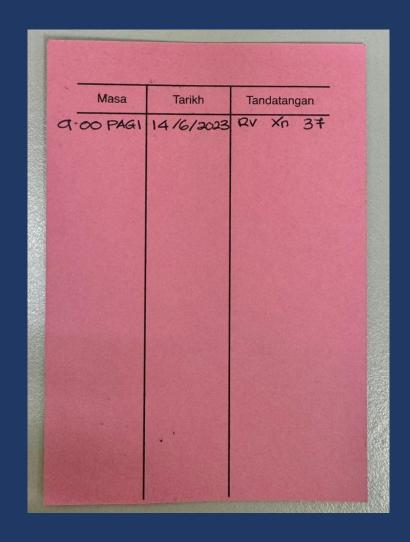


# 5. ENSURE PROPER INSTRUMENTS USED DURING EXTRACTION



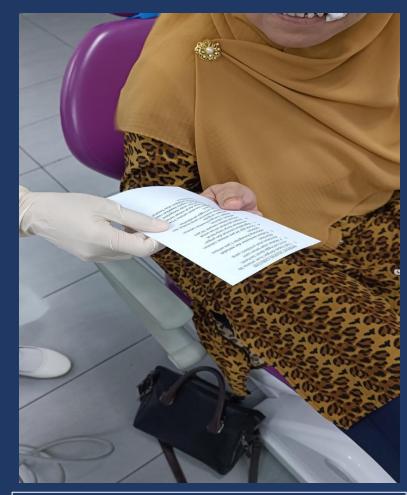


# 6. IMPROVING FOLLOW UP PATIENT BY IMPROVING APPOINTMENT CARD





# 7. THOROUGH POST-OPERATIVE INSTRUCTIONS GIVEN TO PATIENT

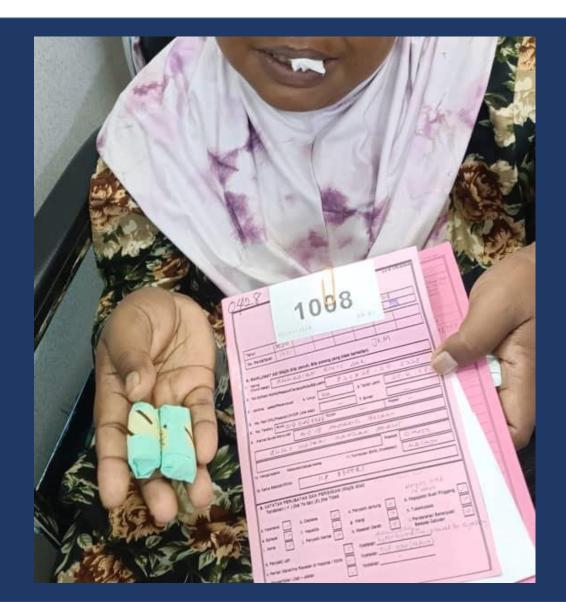


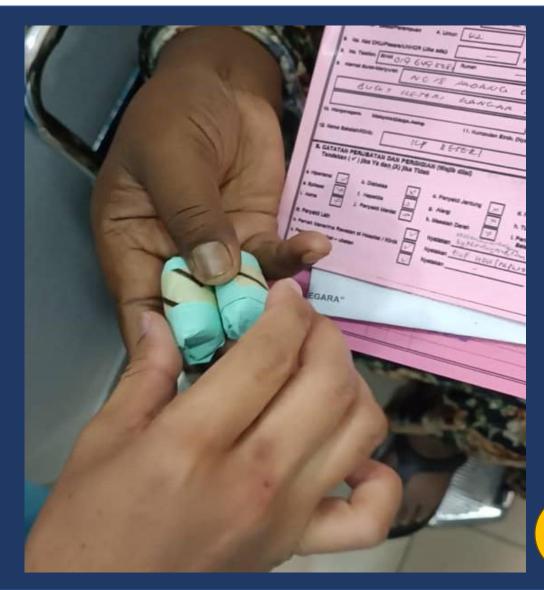
Leaflets of post-extraction instructions given



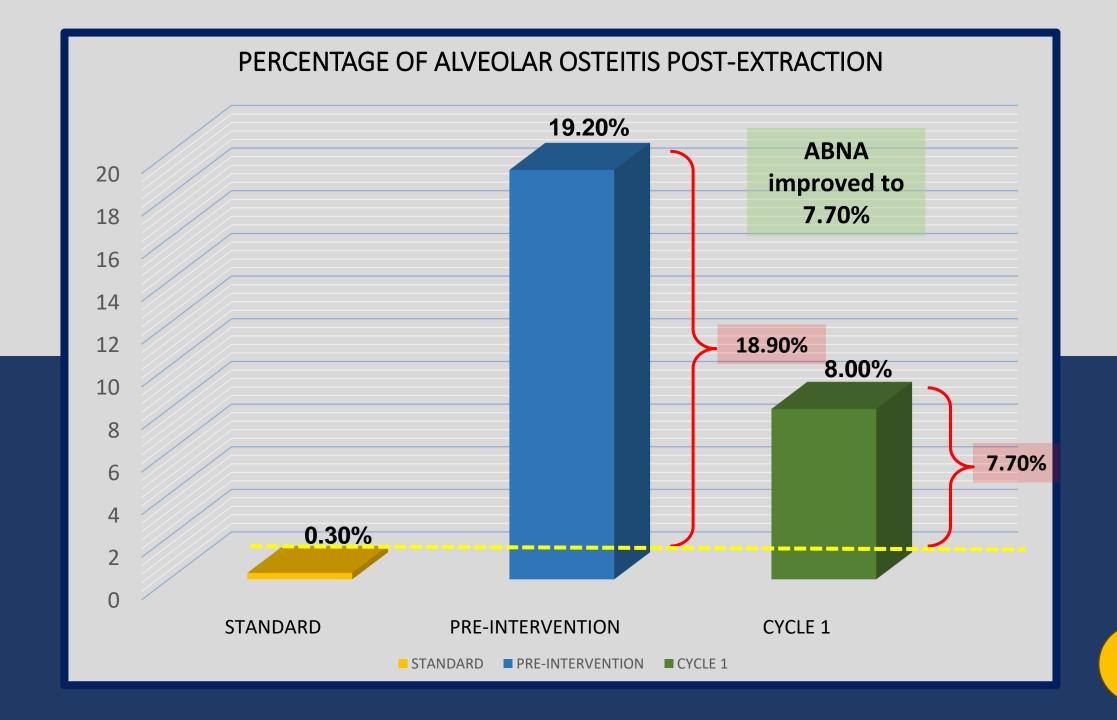
Verbal instruction given to patients

# 8. PROVIDE ENOUGH GAUZE TO PATIENT





# POST INTERVENTION 1



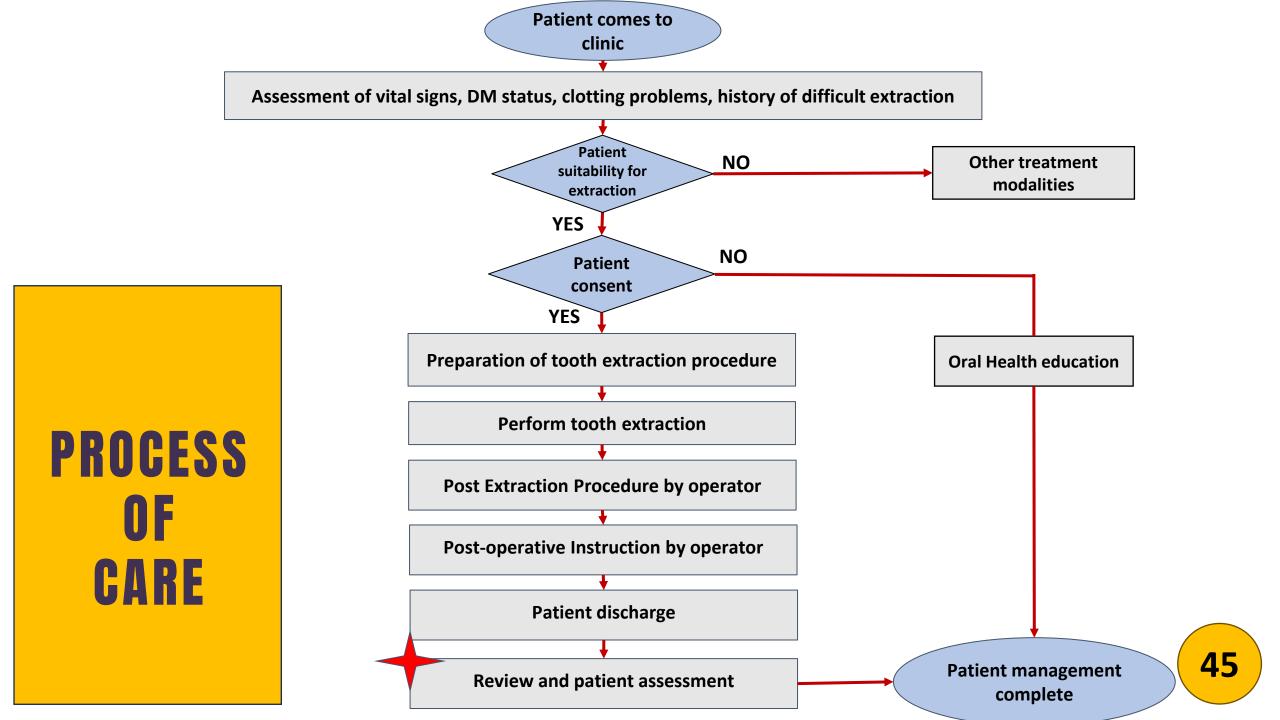
### **FINDINGS POST-INTERVENTION 1**



47% of patients has poor oral hygiene.



65% of patients gargle/spit within 24 hours after tooth extraction.



STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1
1	Patient screening	Vital sign, History taking (eg.DM status, Clotting problems, History of difficult extraction)	• 100%	30%	• 100%
2	Extraction procedure	<ol> <li>Ensure correct tooth and correct instrumentations</li> <li>Local anesthesia administration with right dosage</li> <li>Tooth loosened from socket using elevator with finger support.</li> <li>Tooth is extracted with correct technique as mentioned in Standard Operative Procedure.</li> <li>Socket checked to ensure no retained tooth fragments and sharp bony edges.</li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	85% 80% 95% 70%	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>46</li> </ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1
		<ol> <li>Apply bucco-lingual pressure to extraction socket with fingers for few seconds.</li> <li>Sterile gauze with pressure placed</li> </ol>	<ul><li>100%</li><li>100%</li></ul>	<ul><li>83%</li><li>100%</li></ul>	<ul><li>100%</li><li>100%</li></ul>
3.	Post Extraction procedure by	at extraction site until no active bleeding.  3. For surgical extraction: -Hemostatic agent is inserted into extraction socket	• 100%	55%	• 100%
	operator	<ul> <li>-Sutures placed.</li> <li>4. Change a sterile gauze with pressure placed at extraction site until no active bleeding.</li> </ul>	• 100%	74%	• 100%
		5. Provide enough gauze to patients	• 100%	20%	• 100%

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1
4.	Post operative instructions by operator	<ol> <li>Patient bite the sterile gauze for minimum 30 minutes or until bleeding stop.</li> <li>Advice to avoid harsh gargle or spitting</li> <li>Advice to avoid smoking or vaping for three days after extraction</li> <li>Oral hygiene instructions given</li> <li>Patient to attend appointment review after 3 days.</li> </ol>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>	<ul> <li>70%</li> <li>100%</li> <li>100%</li> <li>60%</li> <li>30%</li> </ul>	<ul> <li>90%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>48</li> </ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1
NEW  5.	Review and Patient Assessment (Patient Compliance)	<ol> <li>Avoid harsh gargle or spitting</li> <li>Avoid smoking or vaping for three days after extraction</li> <li>Maintain good oral hygiene</li> <li>Attend review appointment after 3 days.</li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	-	35% 88% 53% 11%

# STRATEGIES FOR CHANGE

(INTERVENTION 2)

# STRATEGIES FOR CHANGE CYCLE 2

#### PATIENT INCOMPLIANCE TO POST-OPERATIVE INSTRUCTIONS

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- 1. Not biting on supplied gauze until hemostasis achieved.
- 2. Failed to maintain good oral hygiene.

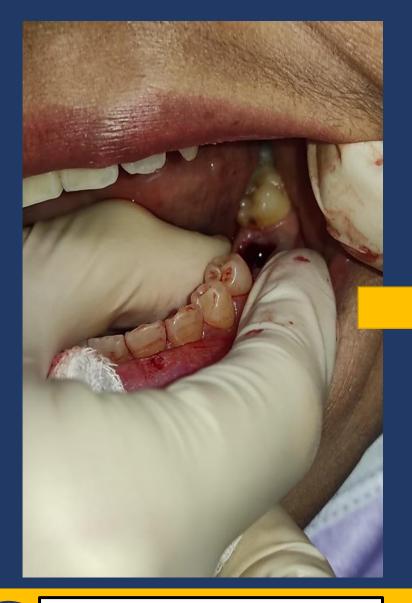
- 3. Failed to attend review appointment.
- 4. Unable to understand post-operative instructions.

- Patient is asked to wait for 10 minutes in resting area for chair side review.
- Demonstration of correct tooth brushing technique.
- Prescription of mouthwash.
- Call patient to reschedule their review appointment date.
- Self-review of pain score by patients after 24, 48 and 72 hours.
- Use flipcharts to explain post-extraction instructions.
- •QR code for post-extraction education shared with patient (innovation: i-READ).

A C T

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**51** 





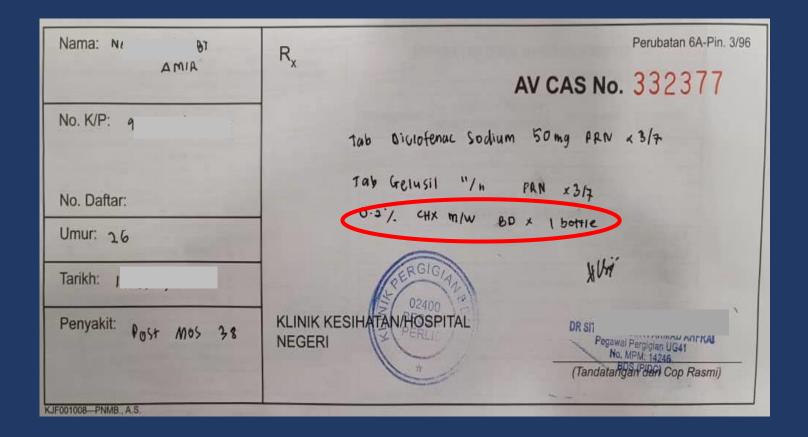


SOCKET IS BEING COMPRESSED POST EXTRACTION PROCEDURE

PATIENT RESTING FOR 10 MINUTES
POST EXTRACTION

SOCKET IS BEING INSPECTED TO ENSURE HEMOSTASIS







1				Type of Xla		XLA time		
2	Name	Ic No (birthdate)	XLA date	Surgical	Non-surgical	< 1 hr	>1 hr	Phone No
3			14-02-2024		1	1		
4			14-02-2024		1	1		
5			14-02-2024		1	1		Commence
6			14-02-2024		1	1		
7		990523	14-02-2024		1	1		
8		881029	19-02-2024		1	1		C
9	$\qquad \qquad =$	750518	19-02-2024		1	1		
10		631103	19-02-2024		1	1		
11		621209	19-02-2024		1	1		
12		800210	16-02-2024		1	1		
13 🗨		580512			1	1		$\leftarrow$
14		980531	16-02-2024		1	1		
15		710115	19-02-2024		1	1		
16		910303	19-02-2024		1	1		
17		870815	19-02-2024		1	1		
18		761114			1	1		
19	_,	671111			1	1		
20 🕊		930407	15-02-2024		1	1		
21		740520	15-02-2024		1	1		
22		620323	16-02-2024		1	1		
23 🔳		611003			1	1		
24		50809			1	1		
25		660109			1	1		
26		901218			1	1		
27		640520			1	1		
28		881026			1	1		
29		10806			1	1		
30		441015			1	1		
31		970806	20-02-2024	1				
32								
33								
34								

















'Dry socket' adalah komplikasi yang selalu terjadi selepas cabutan

#### SIMPTOM 'DRY SOCKET'

- Sakit sehingga ke kepala dan telinga
- Sakit melebihi 3 hari di tempat cabutan
- Pendarahan yang berpanjangan
- Mulut berbau

#### **SOKET NORMAL**



- Pembetukan darah beku berlaku • Gusi kurang bengkak dan semakin
- · Warna merah jambu sekitar soket

#### **DRY SOCKET**





- Kemerahan sekitar soket cabutan
- Pernampakan tulang terdedah • Pembetukan darah beku tidak



Dapatkan pemeriksaan di klinik gigi yang berdekatan jika anda mengalami sakit yang berlanjutan selepas cabutan.





#### **BAHAGIAN KESIHATAN PERGIGIAN NEGERI PERLIS** (MEMO PERHUBUNGAN)



Fail: JKNPS.100-6/2/20 (16)

Tarikh: 22 Mac 2024

Tajuk	ARAHAN PENGGUNAAN INOVASI I-READ DI SEMUA KLINIK PERGIGIAN DI NEGERI PERLIS
Daripada	Timbalan Pengarah Kesihatan (Pergigian) Negeri Perlis
Kepada	Pegawai Pergigian Daerah Arau Pegawai Pergigian Daerah Kangar

Tuan/Puan.

Dengan segala hormatnya saya merujuk pada perkara di atas.

- 2. Dimaklumkan kumpulan inovasi dari Klinik Pergigian Kuala Perlis telah menubuhkan inovasi I-Read yang digunakan bagi memantapkan lagi penyampaian Pendidikan Kesihatan Pergigian kepada pesakit.
- Inovasi I-Read adalah bahan bacaan elektronik secara interaktif dimana bahan bacaan ini ditambah baik dengan penggunaan video,muzik latar belakang dan suara
- 3 Sehubungan dengan itu, mohon kerjasama tuan untuk menghebahkan penggunaan inovasi I-read ini kepada semua klinik pergigian. Pautan QR bagi inovasi ini disertakan pada lampiran 1.
- Kerjasama tuan dalam hal ini didahulukan dengan ribuan terima kasih.

Sekian, terima kasih.

Saya yang menjalankan amanah



(DR ZAIHAN BINTI OTHMAN)

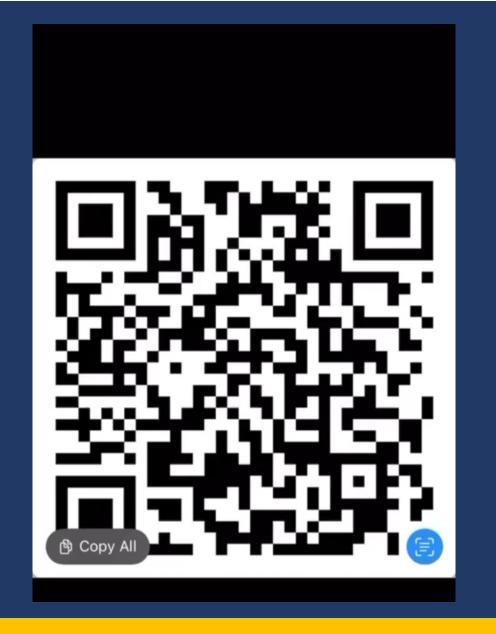
No. Pendaftaran MDC: 3572, DPH:0040)

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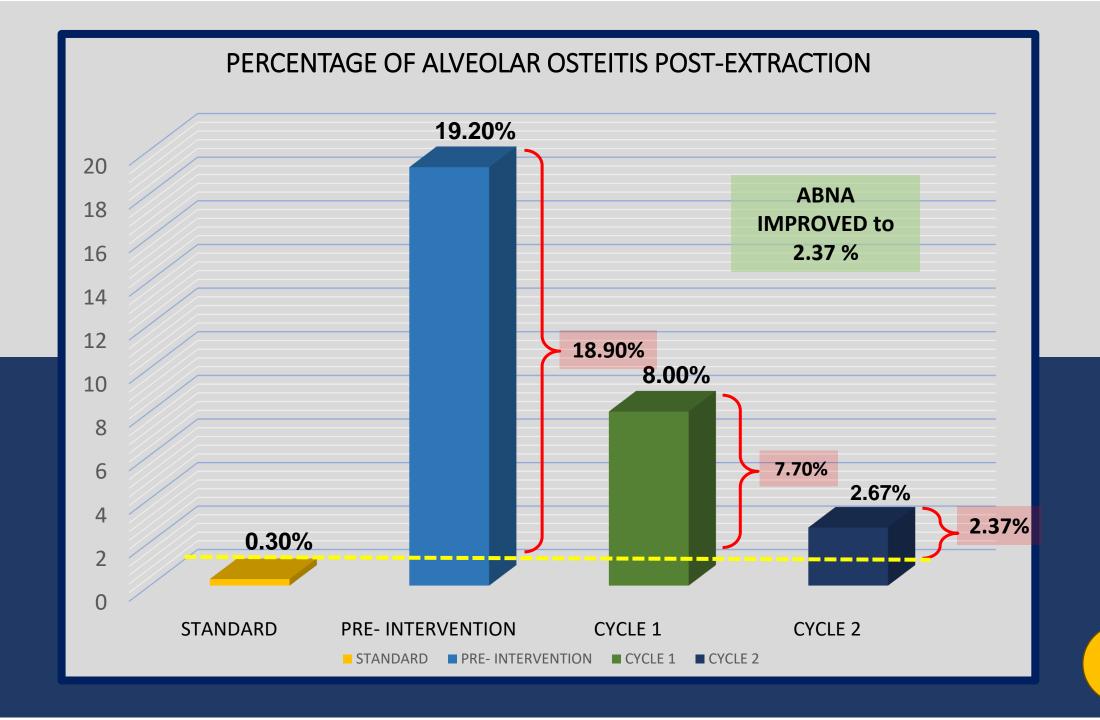


Lampiran 1

**Standardization** of the use of iRead in all primary dental clinics in Perlis



# POST INTERVENTION 2



STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1	CYCLE 2
1	Patient screening	Vital sign, History taking (eg. DM Status, Clotting problems, History of difficult extraction)	• 100%	• 30%	• 100%	• 100%
2	Extraction procedure	<ol> <li>Ensure correct tooth and correct instrumentations</li> <li>Local anesthesia administration with right dosage</li> <li>Tooth loosened from socket using elevator with finger support.</li> <li>Tooth is extracted with correct technique as mentioned in Standard Operative Procedure.</li> <li>Socket checked to ensure no retained tooth fragments and sharp bony edges.</li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	<ul><li>85%</li><li>80%</li><li>95%</li><li>70%</li><li>100%</li></ul>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>63</li> </ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1	CYCLE 2
3.	Post Extraction procedure by operator	<ol> <li>Apply bucco-lingual pressure to extraction socket with fingers for few seconds.</li> <li>Sterile gauze with pressure placed at extraction site until no active bleeding.</li> <li>For surgical extraction:         <ul> <li>Hemostatic agent is inserted into extraction socket</li> <li>Sutures placed.</li> </ul> </li> <li>Change a sterile gauze with pressure placed at extraction site until no active bleeding.</li> <li>Provide enough gauze to patients.</li> <li>Patient is asked to bite the sterile gauze and wait in the resting area for 10 minutes.         <ul> <li>Recall patient to surgery room and extraction socket is checked again to confirm no active bleeding.</li> </ul> </li> </ol>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>	<ul> <li>83%</li> <li>100%</li> <li>55%</li> <li>74%</li> <li>20%</li> </ul>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>64</li> </ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1	CYCLE 2
4.	Post operative instructions by operator	<ol> <li>Patient bite the sterile gauze for minimum 30 minutes or until bleeding stop.</li> <li>Advice to avoid harsh gargle or spitting</li> <li>Advice to avoid smoking or vaping for three days after extraction</li> <li>Oral hygiene instructions given</li> <li>Patient to attend appointment review after 3 days.</li> </ol>	<ul><li>100%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	<ul> <li>70%</li> <li>100%</li> <li>100%</li> <li>60%</li> <li>30%</li> </ul>	<ul><li>90%</li><li>100%</li><li>100%</li><li>100%</li><li>100%</li></ul>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>

STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE- INTERVENTION	CYCLE 1	CYCLE 2
5.	Review and Patient Assessment (Patient Compliance)	<ol> <li>Avoid harsh gargle or spitting</li> <li>Avoid smoking or vaping for three days after extraction</li> <li>Maintain good oral hygiene</li> <li>Attend review appointment after 3 days.</li> <li>Self-review of pain score by patients after 24 hours, 48 hours and 72 hours.</li> </ol>	<ul> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> <li>100%</li> </ul>		<ul><li>35%</li><li>88%</li><li>53%</li><li>11%</li></ul>	71% 94% 82% 15% 66

# THE NEXT STEP

- To ensure the implementation of the proposed intervention until the standard is achieved.
- To incorporate as a regular clinical audit until it becomes a culture among all dental officers.
- To introduce our work process in orientation session of all new dental officers (NDO) in primary dental clinics.
- The developed procedural guidelines and interventions will be subsequently shared with another state.

# LESSON LEARNT

## **STRENGTH**

- 1 First study to be conducted in *Bahagian Kesihatan Pergigian Perlis* to reduce the incidence of Alveolar Osteitis among patients in primary dental clinic in Perlis.
- 2 Interventions taken were proved efficient to be practiced among operator and assistant in primary dental clinics in Perlis.
- New innovation (iRead) to facilitate and educate patients on post-operative care at the tip of the finger.

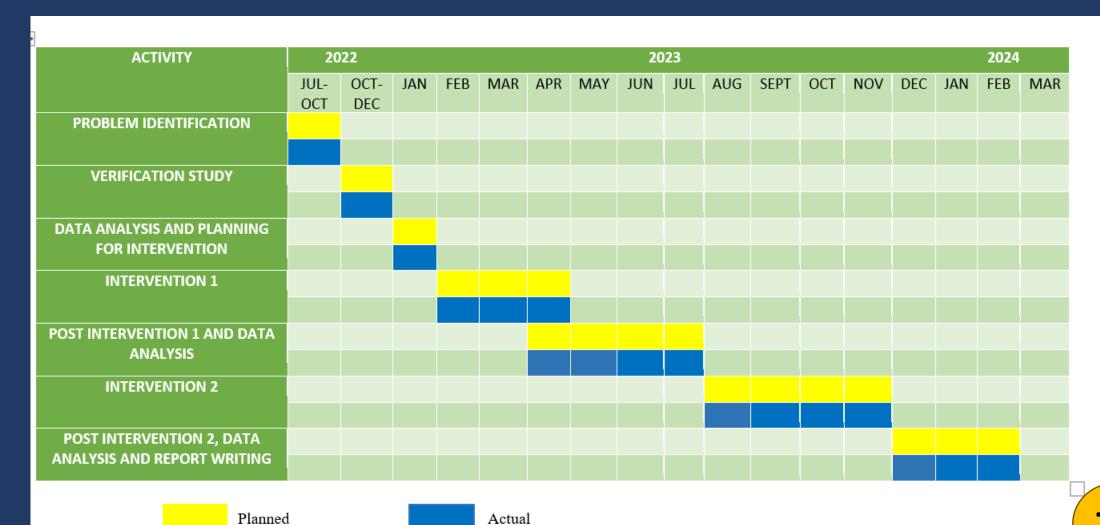
# LIMITATION

# **LESSON LEARNT**

1 Patient's compliance towards post-extraction care has proved to be one of the biggest limitations in achieving 0.3% AO case.

We need to ensure that whole dental team in Perlis consistently apply our standard protocol in daily practice.

### GANTT CHART



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# THANK YOU