



Increasing the Percentage of Elderly Patients Receiving Denture within 8 Weeks in Klinik Pergigian Parit Raja

12th National QA Convention
8 – 10 October 2024
Negeri Sembilan





Group Members



Dr Amnah Binti A. Malik
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KP Parit Raja



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Mutalib
Dental Officer UG41
KP Parit Raja



Dr Muhamad Nabil Bin Mohd Haron
Dental Officer UG44
KP Ayer Hitam



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Dental Officer UG41
KP Parit Raja



Dr Wan Muhammad Nazrul Fitri Bin Wan
Azhar
Dental Officer UG44
KP Parit Raja





SELECTION OF OPPORTUNITIES FOR IMPROVEMENT



Problem Identification



No	Problem Statement	Magnitude of problem
1	Low percentage of completed case among antenatal mothers (DSA Goal : >50%)	38.93%
2	Low percentage of 6 years old children with caries free status (DSA Goal : >60%)	54.04%
3	Low percentage of senior citizens' dentures issue within 8 weeks KPI Goal : >50%)	39.72%
4	Low percentage of senior citizen having 20 functional teeth (NIA Goal : >60%)	41.8%
5	Percentage of Basic Periodontal Examination among new adult outpatients (DSA Goal : >30%)	41.73%

Problem Prioritization – ‘SMART’ Criteria



No	Problem Statement	S	M	A	R	T	Total marks
1	Low percentage of completed case among antenatal mothers	15	15	13	11	13	67
2	Low percentage of 6 years old children with caries free status	11	15	13	9	7	55
3	Low percentage of senior citizens' dentures issue within 8 weeks	15	15	15	15	15	75
4	Low percentage of senior citizen having 20 functional teeth	15	15	11	9	7	53
5	Percentage of Basic Periodontal Examination among new adult outpatients	13	15	11	15	15	63

NGT (Nominal Group Technique) based on SMART criteria

5 Group members

Mark Awarded	1	2	3
Rating	Low	Average	High

Reasons For Selections



Seriousness

Dentures is the most common solution to edentulism. However only 38.3% of elderly patients received dentures within 8 weeks in Klinik Pergigian Parit Raja from January to December 2020.



Measurable

Data related to this study are quantifiable, and the process is clearly defined.



Appropriateness

Dentures should be issued within a certain period of time as the patient's existing hard and soft tissues may change over time.



Remedial

Solution possible within the capacity of the dental team and less requirement of others' involvement.



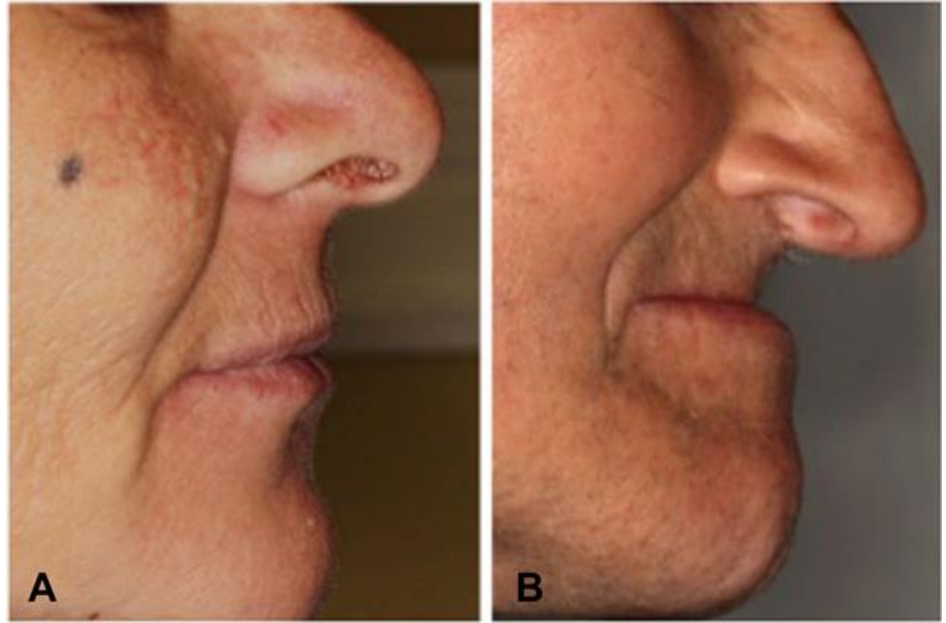
Timeliness

Project does not take too long and changes can be seen immediately after strategies are implemented.

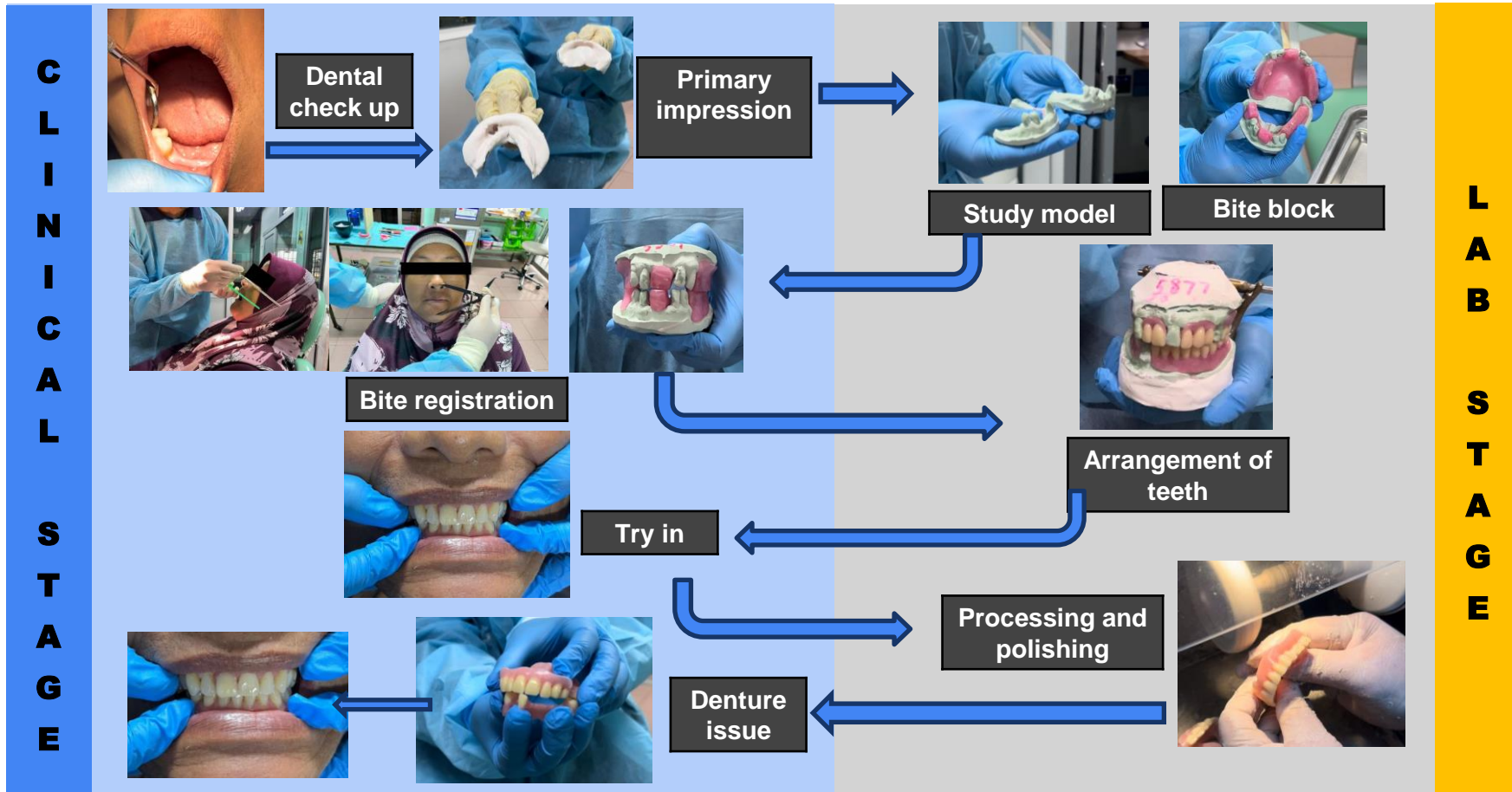
Literature Review



- Edentulism affects quality of life (QoL) as patients suffer from **poor facial aesthetics** and **food masticatory deficiencies**. The QoL was regained after oral rehabilitation with dentures. (Nordendram et al, 2012)
- Edentulism not only **impair aesthetics and functions (chewing and digestion)** but also **phonation** (Bilhan H et al, 2012). In addition this may also causes **nutritional deficit** and **worsening self-esteem** as part of its negative impact on QoL. (De Carvalho et al, 2020)
- Study done by Bannwart L et al noted positive impact after dentures treatment. There was **increase in oral health-related quality of life**, **reduction in anxiety** and **perception of greater salivation**. (Bannwart L et al, 2020)



Flow Chart Of Denture Construction





STATEMENT OF THE PROBLEM



Statement of the Problem



PROBLEM	Increased denture demand in 2020 but only 38.3% of elderly patients received theirs within 8 weeks from the date of the patient's request.
EFFECT	Dentures should be issued within a certain period of time to avoid changes the patient's existing hard and soft tissues . This is to ensure dentures are well fitted and serve their function
POSSIBLE CAUSE	Denture fabrication involves three parties; patients, dental officers, and dental technicians. Lack of knowledge and skill may contribute to challenges to complete fabrication of dentures.
AIM OF THE STUDY	To increase the percentage of elderly patients' denture issue within 8 weeks in Klinik Pergigian Parit Raja to 50% (KPI) in 2020



KEY MEASURES FOR IMPROVEMENT





Indicator & Standard

Indicator

Percentage of Elderly Patients Receiving Denture within 8 Weeks in Klinik Pergigian Parit Raja

Formula

$$\frac{\text{Number of elderly patients receiving denture within 8 weeks from date of requesting and fit for denture}}{\text{Number of senior citizens requesting and fit for denture}} \times 100$$

STANDARD : Based on Key Performance Index (KPI) no. 10 PKP, KKM

($\geq 50\%$) - 2020

Study Objectives



General Objective

To increase the percentage of elderly patients' denture issue within 8 weeks

Specific Objectives

1

To identify problems and their contributing factors towards low percentages of denture issue for elderly patients within 8 weeks

2

To take remedial actions towards those contributing factors

3

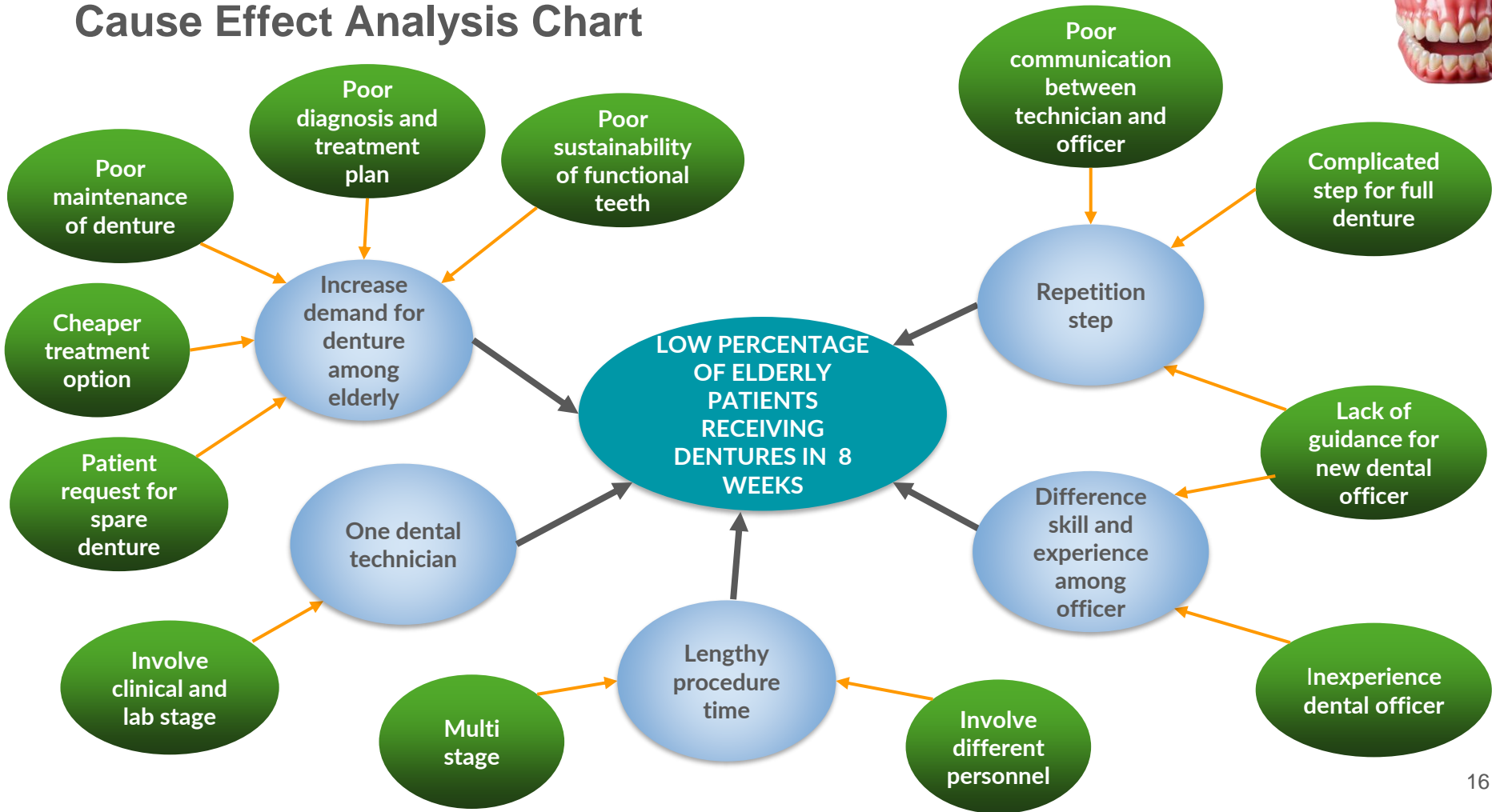
To evaluate the effectiveness of remedial actions taken



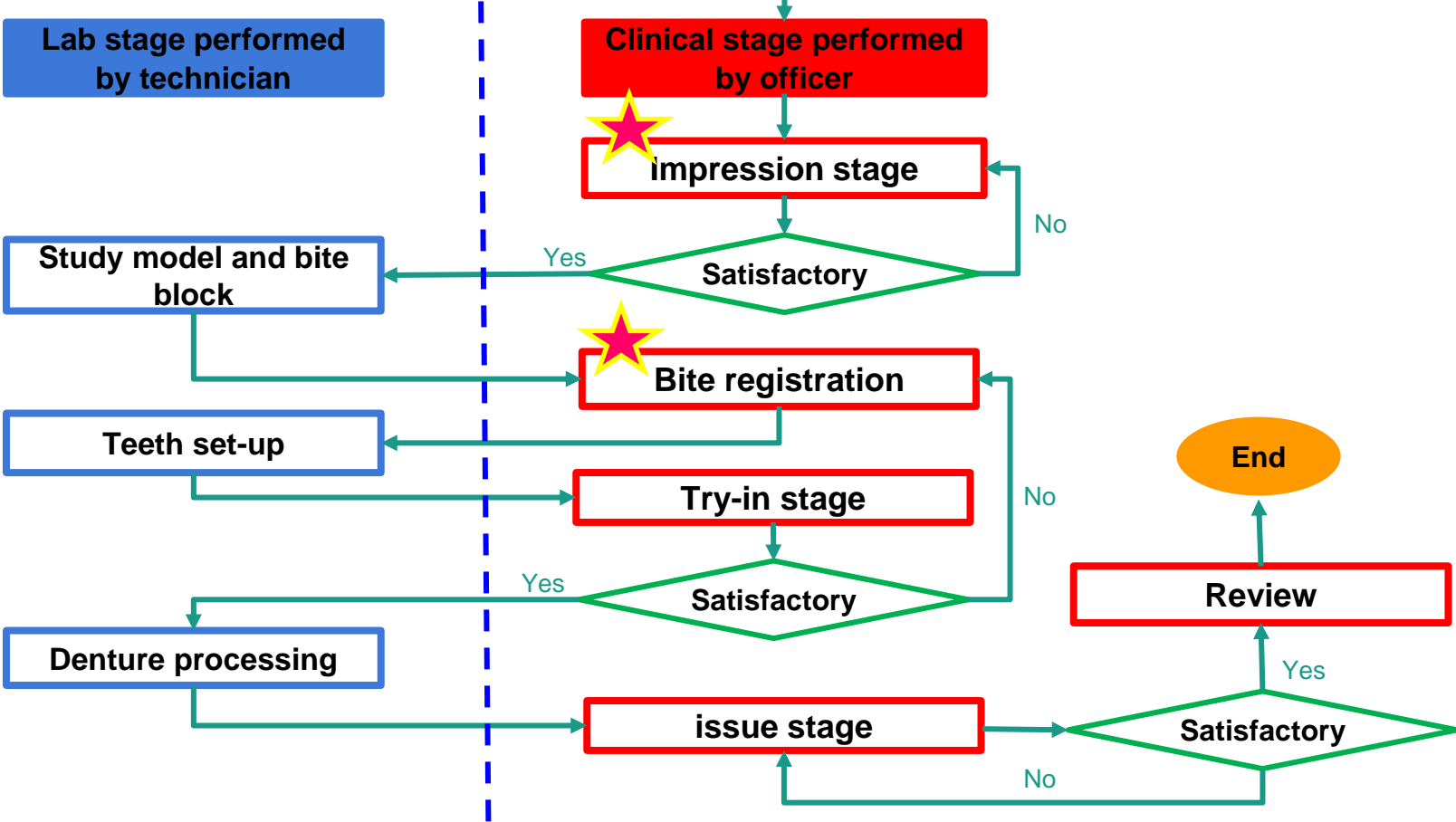
CAUSE EFFECT AND ANALYSIS



Cause Effect Analysis Chart



Process of Care



Model Of Good Care



Step	Process of Care	Criteria	Standard	Verification
1	Impression stage	<ul style="list-style-type: none">To ensure all anatomical landmark recorded adequately	100%	70%
		<ul style="list-style-type: none">To ensure suction present upon removal	100%	90%
2	Bite registration stage	<ul style="list-style-type: none">To ensure bite with stable occlusion	100%	70%
		<ul style="list-style-type: none">To ensure centric relation record	100%	70%
3	Try-in stage	<ul style="list-style-type: none">To ensure patient satisfied with denture appearance	100%	100%
		<ul style="list-style-type: none">To confirm bite achieved as previous bite registration	100%	80%



PROCESS OF GATHERING INFORMATION



Methodology – Study Timeline



Verification Study

Verification of problem and identification of contributing factors
(January 2021)

Cycle 1

- Implementation and evaluation of remedial measures
- February – December 2021

Re-evaluation

- Remedial measures still being carried out and monitored
- January – December 2022

Maintenance

- Remedial measures maintained and monitored
- January – December 2023

Methodology



1

Retrospective
Collection from LP8

To identify types of denture requested and number of cases repeated.

2

Cross sectional
survey done

To identify reasons not receiving denture in 8 weeks.

To identify contributing factors affecting confidence and competency.

Methodology



1

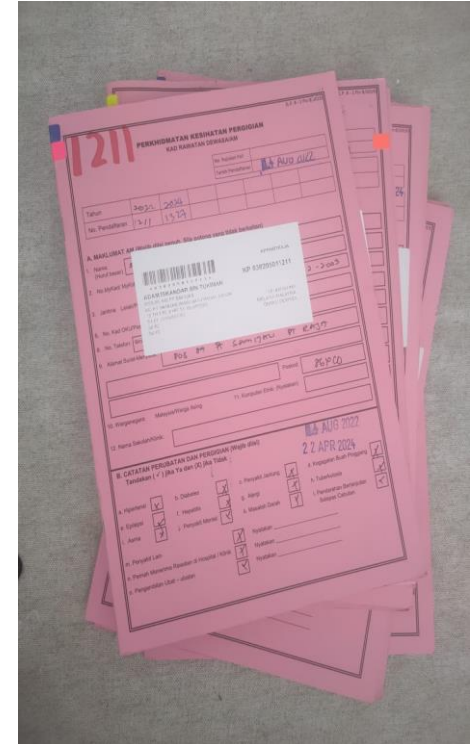
Study design	Retrospective data collection
Time frame	Jan - Dec 2020
Data collection	<ul style="list-style-type: none">- Convenience sampling- From LP8 (clinical cards)- From PG 207 (Monthly report)
Data analysis	Microsoft Excel

Inclusion Criteria

All elderly patients not receiving denture from January to December 2020.

Exclusion Criteria

All elderly patients under denture treatment who fail to attend at any stage of treatment.



Methodology



2

Study design	Cross sectional survey
Time frame	Jan 2021
Data collection	- Convenience sampling - Online questionnaire
Data analysis	Microsoft Excel

Inclusion Criteria

All dental personnels of KP Parit Raja involves in denture fabrication.

Exclusion Criteria

All dental personnel that are not directly involved in denture fabrication.



Online Questionnaire KP Parit Raja

Increasing the Percentage of Elderly Patients Receiving Denture within 8 Weeks in Klinik Pergigian Parit Raja

nabilmh95@gmail.com [Switch account](#)



Not shared

Name

Your answer

Working experience

- Less than 2 years
- 2 years and above

What are the factors affecting your confidence and competency in denture fabrication?

- Lack of knowledge in impression taking.
- Lack of skill in conducting bite registration.
- Complicated technique of bite registration stage.
- Lengthy procedure time.

Which denture fabrication stage that you have repeated?

- Impression taking
- Bite registration
- Denture try in
- Denture issue

Submit

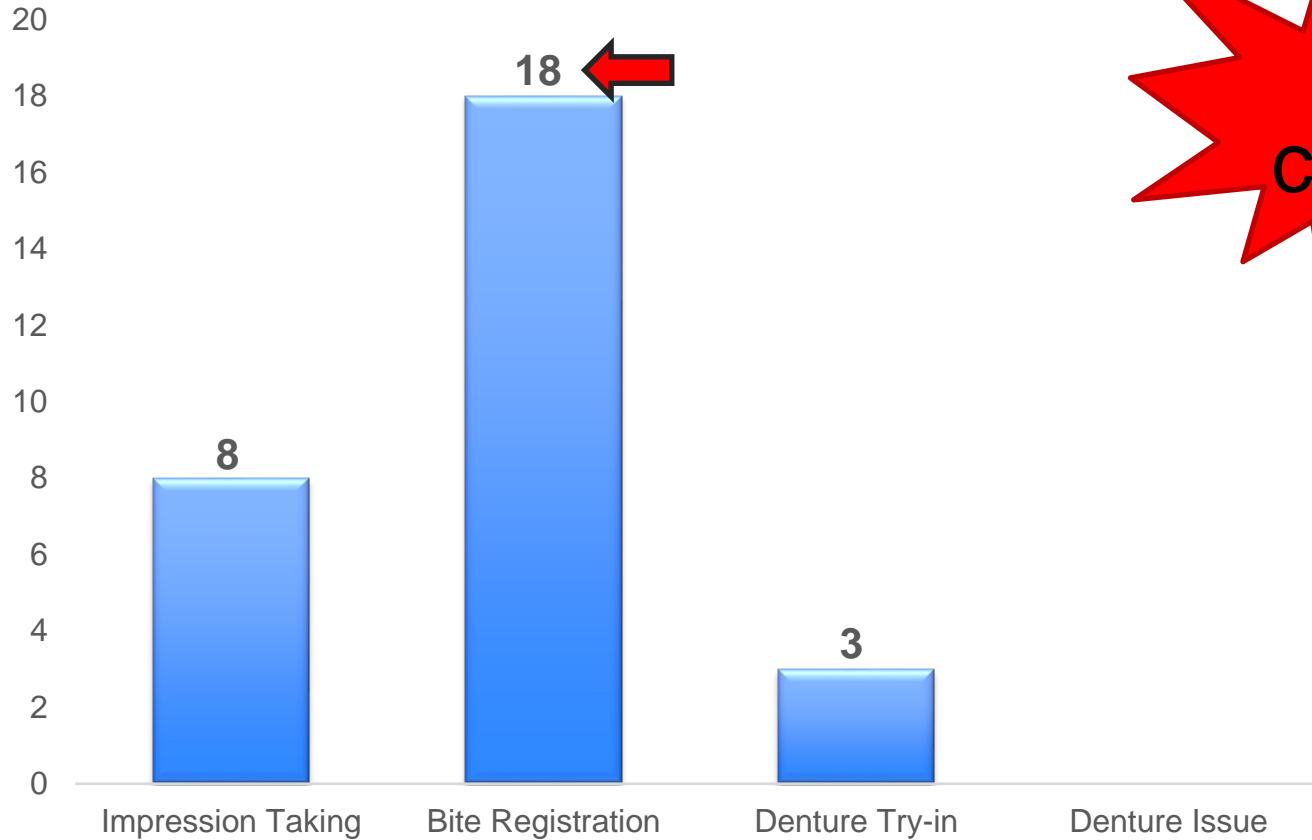
Clear form



DATA ANALYSIS AND INTERPRETATION (Verification)

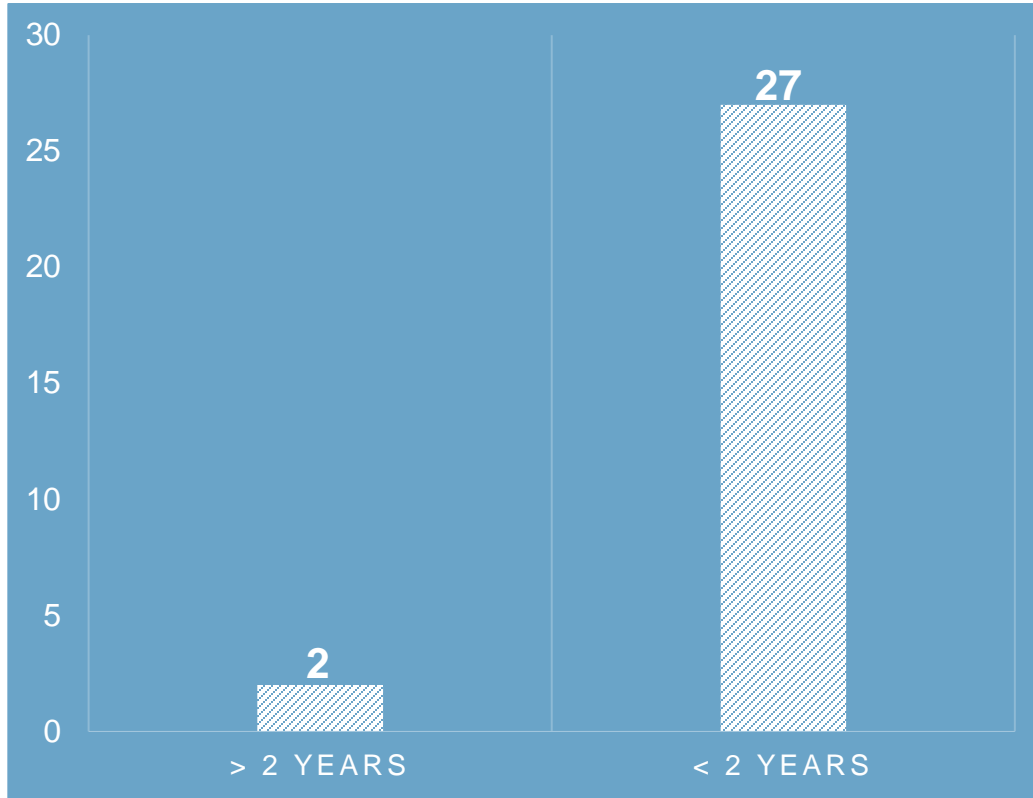


Chart 1: Repeated denture stages in 2020



29
cases

Chart 2: amount of case repeated in 2020



Working experience	Case repeat
> 2 years	2
< 2 years	27

Chart 3: contributing factors affecting confidence and competency among dental officer



Points scored

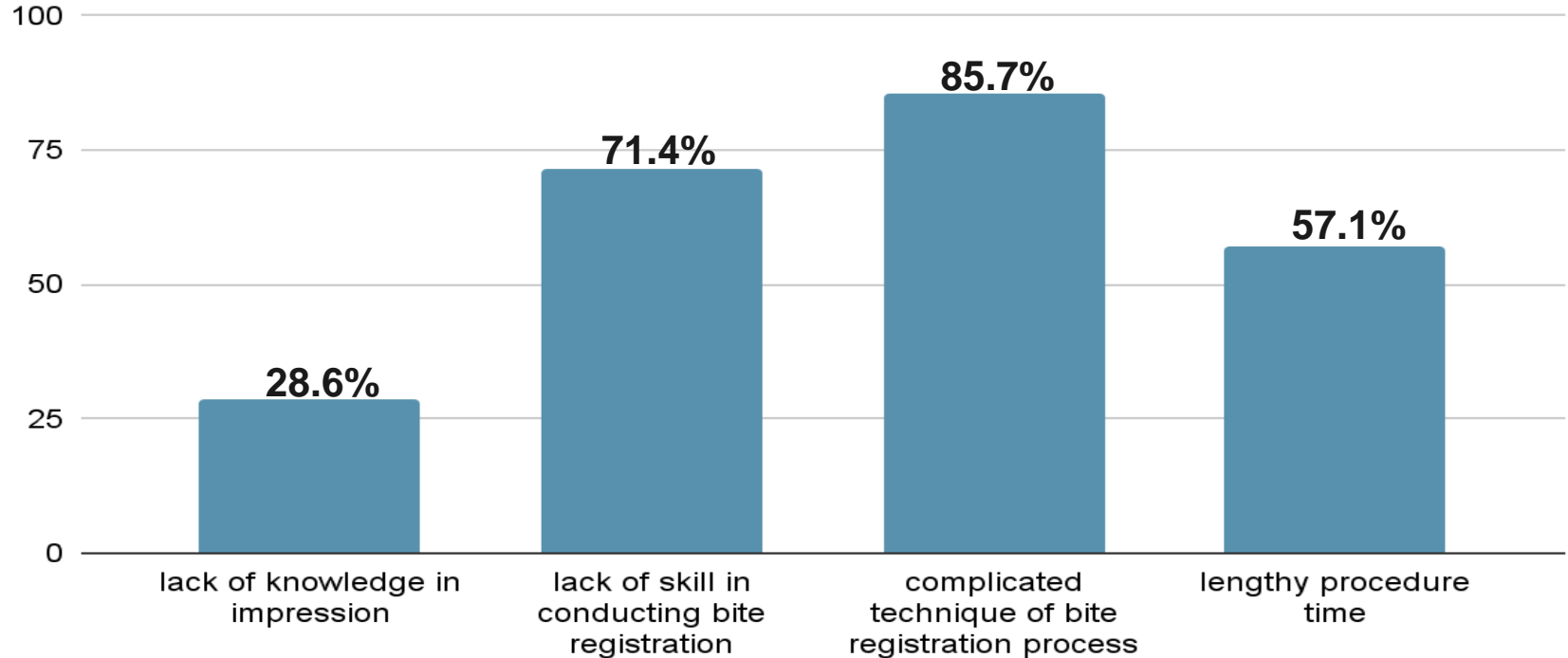
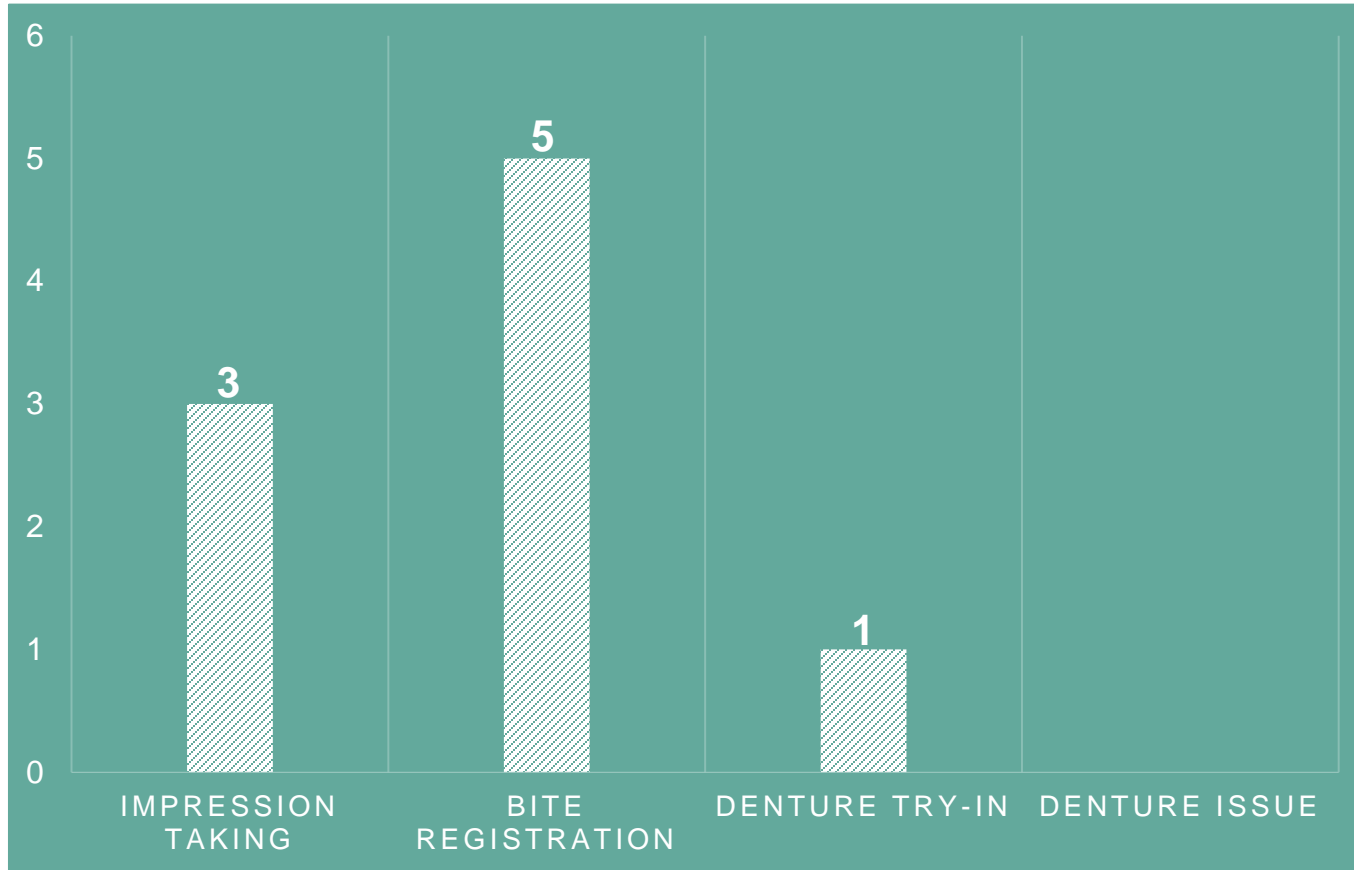


Chart 4: Denture stage repetition

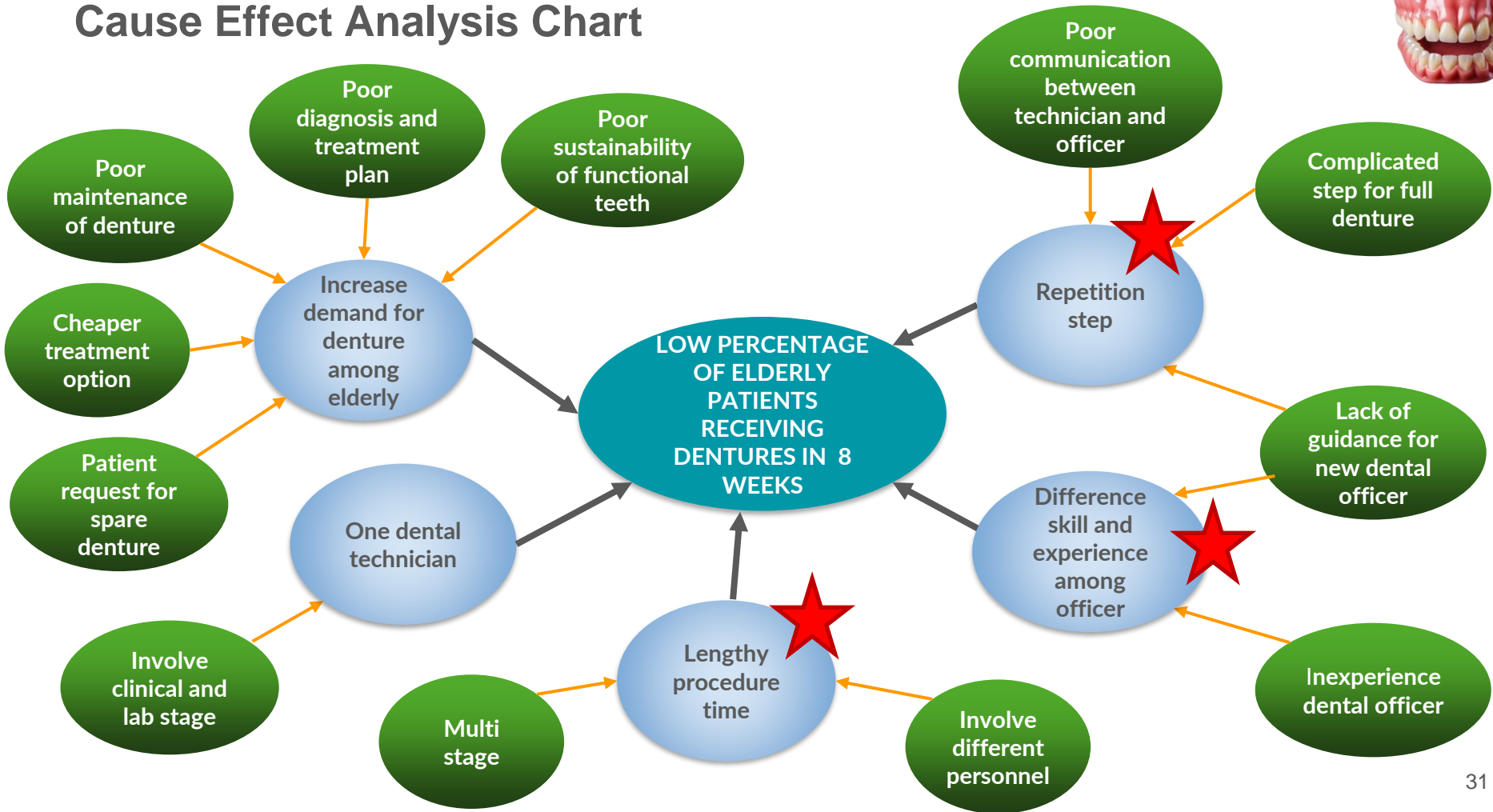




STRATEGY FOR CHANGE



Cause Effect Analysis Chart



Strategy for Change



- **Denture workshop (CDE)**

- To enhance knowledge of good impression taking skills and bite registration technique

- **Officer tagging schedule**

- Separate officer to senior and new accordingly
- Allow better supervision and guidance

- **Denture Burner Box**

- Innovation to provide organized workstation during bite registration stage
- Quick guide helps for more systematic bite registration

Denture workshop (CDE)



SENARAI KEHADIRAN
JABATAN KESIHATAN NEGERI JOHOR
 AKTIVITI CPD / NAMA : Bengkel Pemulihan Palsu Rembutan ANJURAN : Klinik Pergigian Pusat Raje
 KURSUS : 151/121 Gigi Ralat DAERAH : Pergigian Barat Pahat
 TEMPAT : 15/1/21 MASA / TEMPOH : 3jam
 TARIKH :
 KATEGORI CPD : A9-1 MARKAH CPD : 1

NO	NAMA PESERTA	JAWATAN	GRID	TEMPAT BERTUGAS	EMAIL	TANDA TANGAN
16	Rimon Muhammad Rusdiah Wan Aida	PP	UG 44	K.P.P.		<i>[Signature]</i>
17	Mohd Yusoff Md Pinal	J.T	UG 49	K.P.P.		<i>[Signature]</i>
18	Enaah Md Saleh	PPP	UG 17	K.P.P.		<i>[Signature]</i>
4	Amnah A Kallik	PP	UG 45	K.P.P.		<i>[Signature]</i>
5	Yasmin Najihah Kamardin	PP	UG 41	K.P.P.		<i>[Signature]</i>
6	Liyana Mohd Saleh	PP	UG 51	K.P.P.		<i>[Signature]</i>
7	Mohd Nabil	PP	UG 41	K.P.P.		<i>[Signature]</i>
8						

Disahkan Oleh : *[Signature]*
 Nama : DR. **ROSLAN BINI A. MALIK**
 Jawatan : **Penyelia Pergigian UGOS**
 Tarikh : **15/01/21**

Tarikh Kuatkuasa: 01-10-2017

No. Pendaftar: 00



Officer tagging schedule



TUGAS	TUJUH DATA		SEK	KDGG	KD FABRIKA	CDE	EL/MC/ CR
TARIKH	CD	ACD					
Ahad (14/6)	Peg 1 Wan Peg 2 Liyana Asst Farahin Csid: Hizami	Peg: Syiqah asst: Im Pm: Faimz	SMAPR: Faimz, mimi STATIL: Annah	Fathanah Peg: Asst: Haida			Lavi Syafiqah
Isnin (15/5)	Peg 1 Liyana Peg 2 Asst: Im Csid: Hizami	am:- Peg: Annah asst: Farahin Pm:- Peg: Annah	KPATI: Fathanah SMAPR: Faimz, mimi	Fathanah Peg: Asst: Haida		Wan Rasyiqah	Lavi Syafiqah
Selasa (16/5)	Peg 1: Annah Asst: Mimi Csid: Farahin	as:- Peg: Liyana Asst: Im Pm: Peg: Liyana		Fathanah Peg: Asst: Haida		Wan Rasyiqah Syafiqah Farahin	Lavi Faimz-klp Hizami
Rabu (17/5)	Peg 1: Fathanah Peg 2: Annah Asst: Farahin Csid: Farahin	am:- Peg: Syafiqah Asst: Im Pm: Peg: Syiqah	SMAPR: Liyana, mimi	Wan Peg: Asst: Haida		Hizami Faimz-klp	Lavi
Khamis (18/5)	Peg: asst: kaunter:		Team: A	Syiqah Peg: Asst: Haida			

TEAM A

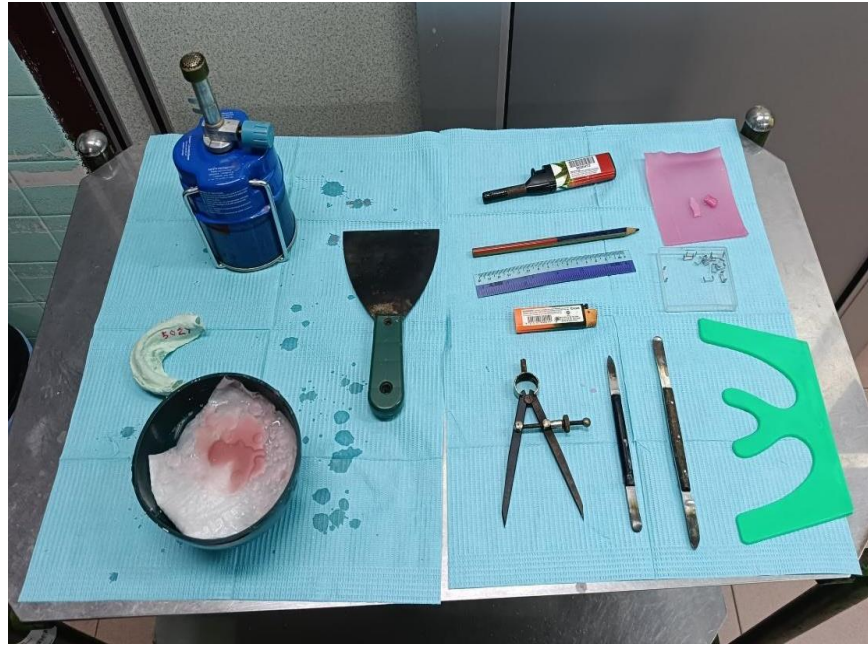
- ◊ DR AMANAH
- ◊ DR LAVANYAH
- ◊ DR LIYANA
- ◊ DR FARISQAH
- Wan

TEAM B

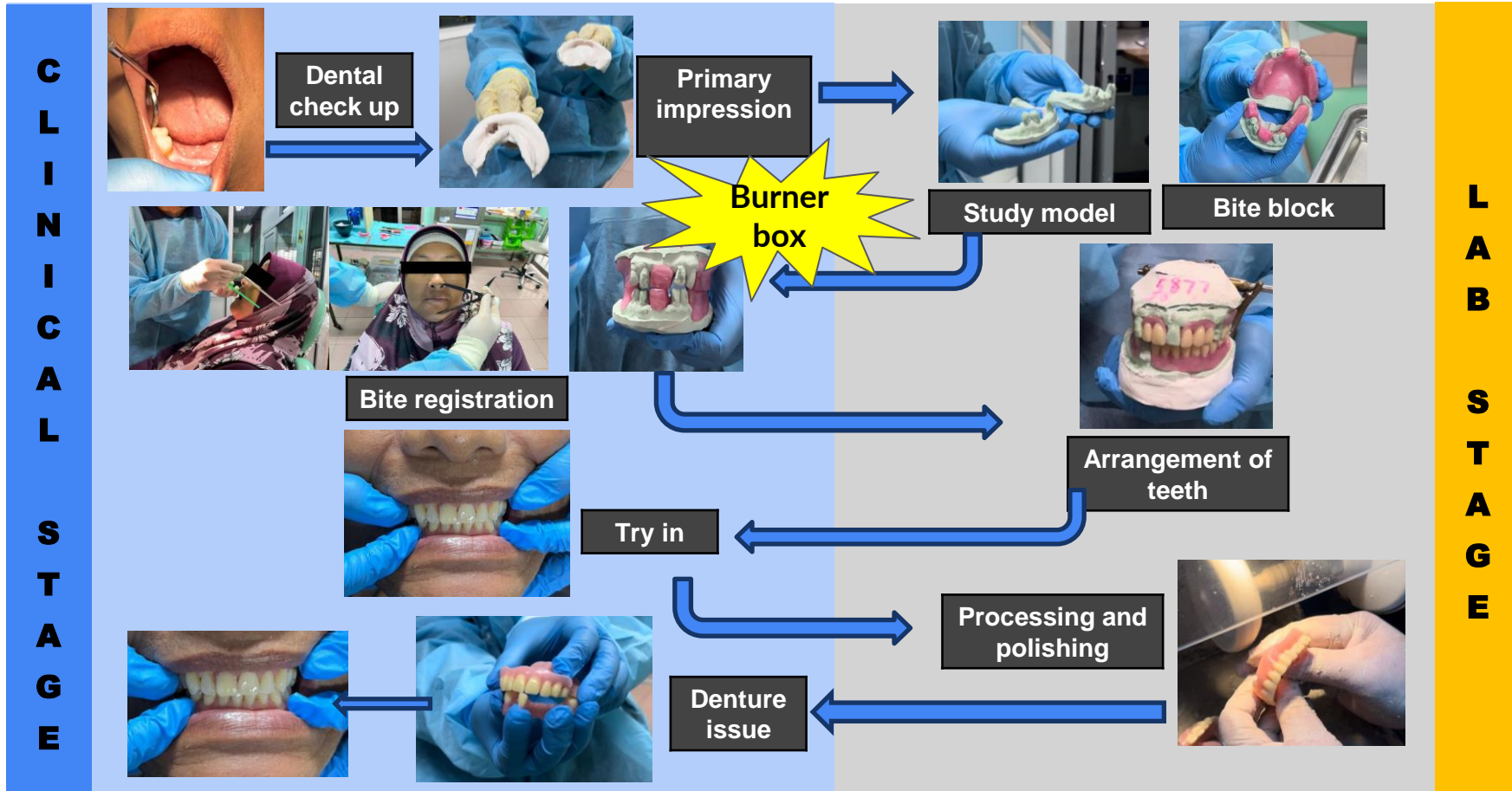
- ◊ DR SYAFIQAH
- ◊ DR FARUZ
- ◊ DR SYAFIQAH
- Lavi



Innovation: Denture Burner Box

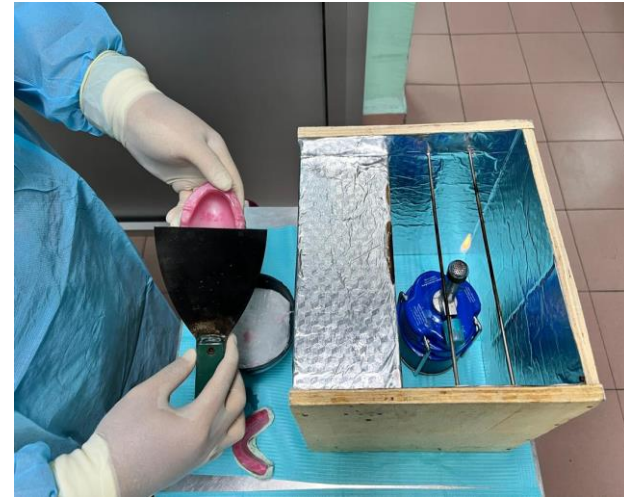
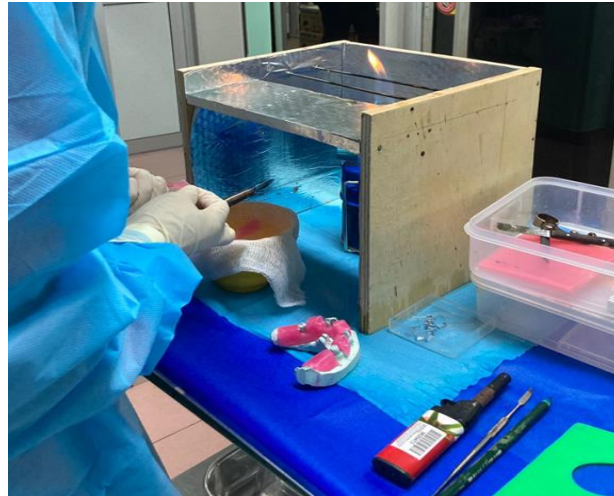


Flow Chart Of Denture Construction



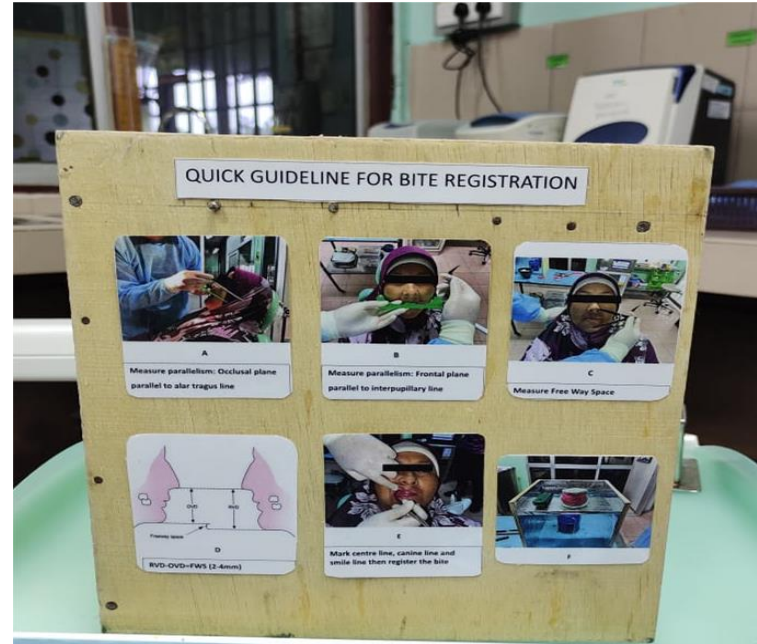


Innovation: Denture Burner Box





Innovation: Denture Burner Box

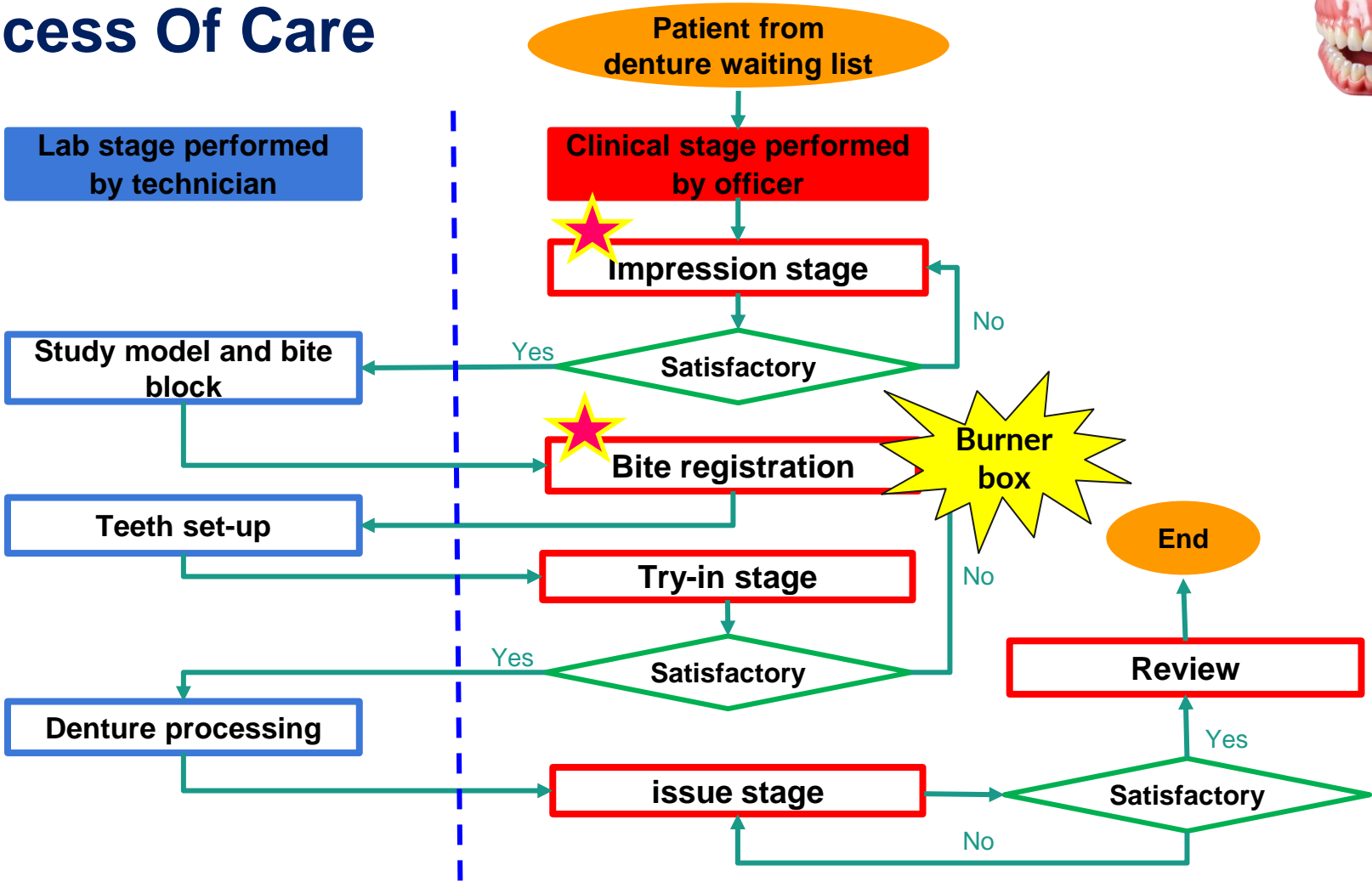




EFFECT OF CHANGE



Process Of Care



Effect of Change

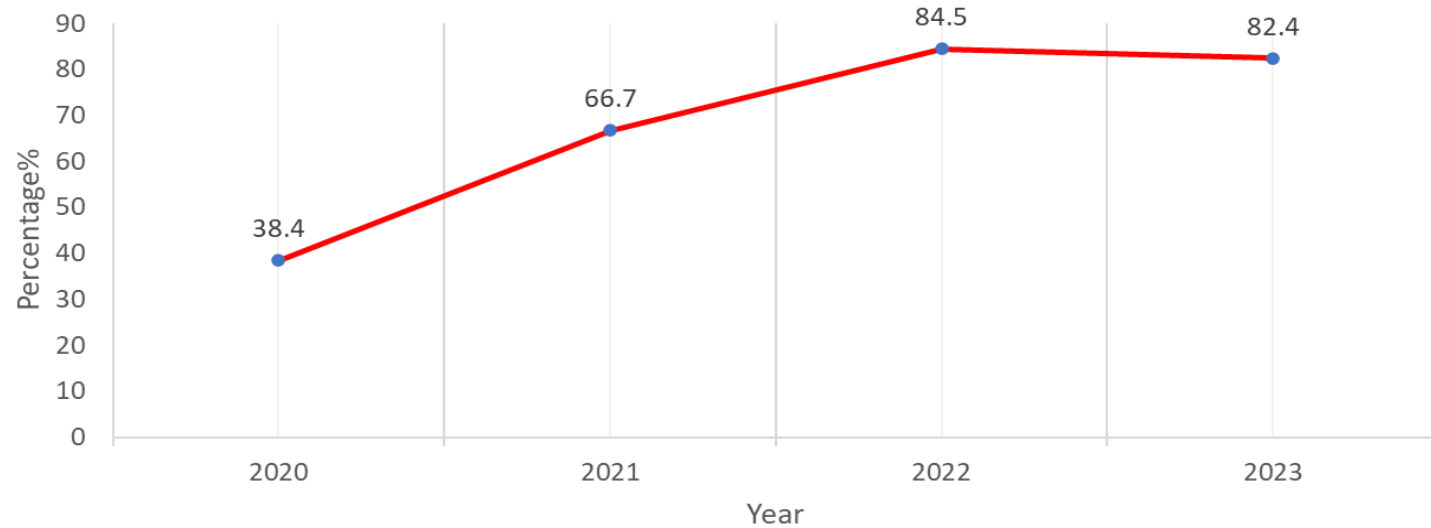


Difference in repetition of clinical denture stages before and after intervention

Clinical Stages of Denture	Before intervention	After intervention
Impression	8	1
Bite Registration	18	3
Try-in	3	0
Issue	0	0



Percentage of Elderly Patients Receiving Denture within 8 Weeks at KP Parit Raja

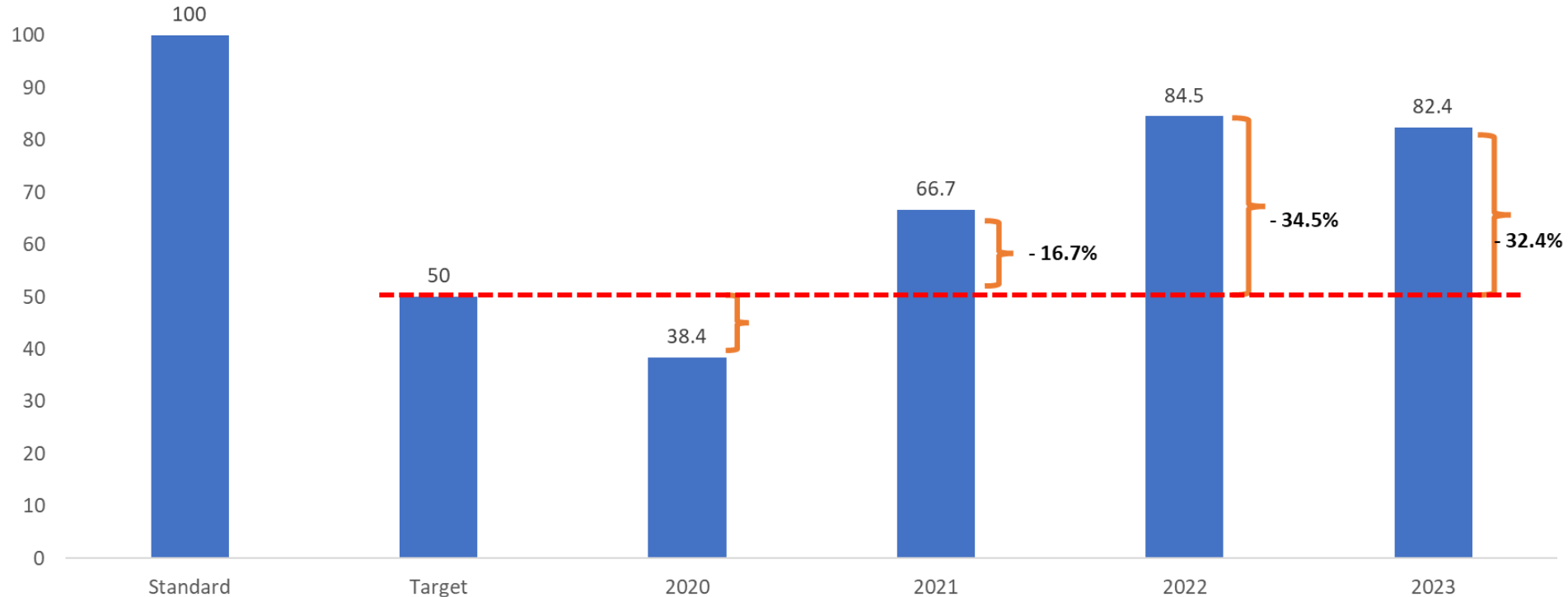


Year	2020	2021	2022	2023
No of denture issue	28	42	49	70
Percentage of denture issue	38.4%	66.7%	84.5%	82.4%

ABNA








Percentage (%) of Elderly Patients Receiving Dentures within 8 Weeks at KP Parit Raja



Model Of Good Care



Step	Process of Care	Criteria	Standard	Verification	Post Intervention
1	Impression stage	<ul style="list-style-type: none">To ensure all anatomical landmark recorded adequately	100%	70%	100% 
		<ul style="list-style-type: none">To ensure suction present upon removal	100%	90%	100% 
2	Bite registration stage	<ul style="list-style-type: none">To ensure bite with stable occlusion	100%	70%	100% 
		<ul style="list-style-type: none">To ensure centric relation record	100%	70%	100% 
3	Try-in stage	<ul style="list-style-type: none">To ensure patient satisfied with denture appearance	100%	100%	100%
		<ul style="list-style-type: none">To confirm bite achieved as previous bite registration	100%	80%	100% 

The next step



- In order to maintain high percentage of elderly patient receiving denture within eight weeks, the remedial measures is still carried out and monitored
- The project were expanded to all dental clinics in Batu Pahat and plan to be replicated in other districts in Johor
- The standard will be elevated to 80% in 2025

Permohonan bagi replikasi projek Quality Assurance ke seluruh klinik pergigian negeri Johor.



KEMENTERIAN KESIHATAN MALAYSIA
PEJABAT KESIHATAN PERGIGIAN BATU PAHAT

MEMO BAHAGIAN PENGURUSAN
No. Tel : 07- 4331103

Ruj Fail	(45)PPDBP60(2 / 1)	Tarikh : 9 Januari 2024
Kepada	TIMBALAN PENGARAH KESIHATAN (PERGIGIAN) NEGERI JOHOR	Salinan Kepada :
Daripada	PEGAWAI PERGIGIAN DAERAH BATU PAHAT	
Perkara	PERMOHONAN BAGI REPLIKASI PROJEK QUALITY ASSURANCE (QA) KE SELURUH KLINIK PERGIGIAN NEGERI JOHOR	

Dengan segala hormatnya merujuk kepada perkara di atas.

3. Sehubungan dengan itu, bersama-sama ini dimajukan surat yang diterima dari Dr Amnah Binti A. Malik bertarih 8 Januari 2024 yang dengan sendirinya menjelaskan maksud untuk kelulusan mengreplikasikan projek QA ke seluruh klinik pergigian di negeri Johor bagi meningkatkan peratus pesakit mendapat gigi palsu dalam masa 8 minggu.

Sekian untuk makluman dan tindakan pihak tuan/puan.

"MALAYSIA MADANI"

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

(DR SARAH BINTI ABDUL RAHMAN)
NO. MDC : 4676
Pegawai Pergigian UG 54
b.p. Pegawai Pergigian Daerah
Pejabat Kesihatan Pergigian Batu Pahat

Dr. Amnah binti A. Malik,
Klinik Pergigian Parit Raja,
Batu Pahat, Johor

Dr. Nurul Ashikin binti Abdullah,
Timbalan Pengarah Kesihatan Negeri (Pergigian),
Jabatan Kesihatan Negeri Johor
UP: Unit Amalan dan Perkembangan Kesihatan Pergigian

8 JANUARI 2024

Tuan/Puan,

PERMOHONAN BAGI REPLIKASI PROJEK QUALITY ASSURANCE (QA) KE SELURUH KLINIK PERGIGIAN NEGERI JOHOR

Dengan segala hormatnya merujuk kepada perkara di atas.

2. Dimaklumkan bahawa projek QA bertajuk 'Increasing Percentage of Elderly Receiving Dentures within 8 Weeks at Klinik Pergigian Parit Raja' telah dilaksanakan di seluruh Batu Pahat sejak tahun 2023.

3. Oleh itu, kami bercadang untuk mengreplikasi projek QA kami ke seluruh klinik pergigian di negeri Johor bagi meningkatkan peratus pesakit mendapat gigi palsu dalam masa 8 minggu dan secara tidak langsung dapat memberi manfaat kepada pesakit.

4. Sehubungan dengan itu, kami sertakan lampiran cara pelaksanaan projek ini. Kelulusan dari pihak tuan amat kami hargai.

Sekian untuk makluman dan tindakan pihak tuan selanjutnya. Terima Kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan Amanah,

(DR. AMNAH BINTI A. MALIK)
PEGAWAI PERGIGIAN UG52
KLINIK PERGIGIAN PARIT RAJA

Gantt chart



Steps	Jan 2021	Feb – Dec 2021	Jan 2022	Feb-Dec 2022	2023	2024
Identifying problem	Plan					
	Implementation					
Data collection	Plan					
	Implementation					
Data analysis	Plan					
	Implementation					
Remedial action		Plan				
		Implementation				
Re-evaluation of remedial measures			Plan			
			Implementation			
Maintenance				Plan	Plan	Plan
				Implementation	Implementation	Implementation
Report writing					Plan	
					Implementation	Implementation



Plan



Implementation

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1. Bilhan H, Erdogan O, Ergin S, Celik M, Ates G, Geckili O. Complication rates and patient satisfaction with removable dentures. J Adv Prosthodont. 2012 May;4(2):109-115. <https://doi.org/10.4047/jap.2012.4.2.109>
2. De Carvalho BMDF, Parente RC, Franco JMPL, Silva PGB. GOHAI and OHIP-EDENT Evaluation in Removable Dental Prosthesis Users: Factorial Analysis and Influence of Clinical and Prosthetic Variables. J Prosthodont 2020
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4. Bannwart, L. C., de Moraes Melo Neto, C. L., Goiato, M. C., dos Santos, D. M., da Silva Paiva, C. A., de Araújo Moreno, N. V., da Silva, E. V., & de Magalhães Bertoz, A. P. (2021). Oral health-related quality of life, dry mouth sensation, and level of anxiety in elderly patients rehabilitated with new removable dentures. European Journal of Dentistry, 16(02), 351–359. <https://doi.org/10.1055/s-0041-1735796>

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- We are grateful for those who directly or indirectly involved during this project commencement