REDUCING MISSED APPOINTMENTS AMONG ORTHODONTIC PATIENTS IN THE ORTHODONTIC UNIT, SEREMBAN DENTAL SPECIALIST CENTRE

Syaza Mohd Noor, Siti Sakhira Hamzah, Noraliza Amiruddin

Orthodontic Unit, Seremban Dental Specialist Clinic, Seremban, Negeri Sembilan

Corresponding Author: Syaza Mohd Noor
Email: syaza@moh.gov.my

Abstract

Orthodontic treatment requires regular follow-up to ensure the treatment's success. Failure to attend appointments regularly contributed to prolonged treatment duration, exposure to the treatment's side effects, and poor utilisation of clinical and administrative resources. Our study aimed to reduce the number of missed appointments from 22.4% to 0% in the Orthodontic Unit, Seremban Dental Specialist Centre. A questionnaire was developed to identify reasons for missed appointments and to assess patients' awareness of the missed appointments' effects. The main strategy for improvement was sending reminders through 'WhatsApp Bussiness Messages' to patients before their scheduled appointment, which was done in two cycles (December 2021 - February 2022 and September - November 2022). Reasons for missed appointments were due to other commitments (36%), forgetfulness (32%), and illness (18%), followed by difficulty getting transportation (10%), bad weather (3%), and miscommunication between staff and patients (1%). The majority of respondents were aware of the missed appointments' effects on their dental health, treatment progression, and clinical resources (87%). The first re-evaluation conducted in March 2022 showed a reduction in the percentage of missed appointments to 4.7%, and further reduced to 0% in the second cycle in December 2022. The intervention strategy showed an effect in reducing the number of missed appointments among orthodontic patients. Respondents expressed a preference for receiving a reminder via text message one day before their appointment. The added values from this study included improvement in organised documentation and updated patient information. A graphical flyer sent together with reminders has helped to increase patients' understanding of the importance of regular orthodontic follow-up, hence enhancing patients' compliance with their orthodontic appointments. Consistent efforts to provide reminders to patients, along with regular evaluation of the reminders' effectiveness, are essential in promoting patients' attendance. This, in turn, enhances treatment efficiency, shortens overall treatment duration, optimises resource utilisation, and contributes to improved clinical outcomes and patient satisfaction.

KEYWORDS: Missed appointment, Orthodontics, Quality improvement study

Problem

Correction of discrepancies in teeth and jaw alignment requires orthodontic treatment. A successful completion of orthodontic treatment depends on the patient's cooperation by attending appointments scheduled, wearing prescribed appliances as directed, and maintaining good oral hygiene (1,2). Unlike any other dental treatment, orthodontic treatment entails using fixed or removable appliances that require regular follow-up to complete the treatment. When a patient fails to appear on a regular visit, the appointment must either be rescheduled or postponed until the next appointment cycle. As a result, treatment time will be prolonged, and patients are prone to experience more side effects, such as dental decalcification, periodontal problems, ulcers, and root resorption (3,4). Furthermore, missed appointment contributes to poor utilisation of clinical and administrative resources, which leads to a decrease in clinic productivity (5,6). Rescheduling patients' appointments may also disrupt the efficient scheduling of the clinic.

Seremban Dental Specialist Clinic (SDSC) is a government dental facility under the Ministry of Health Malaysia located in the heart of Seremban, Negeri Sembilan. This facility consists of two administrative units and four clinical units, including the Orthodontic Unit, Restorative Unit, Periodontic Unit, and Dental Public Health Unit. This facility is equipped with twelve dental chairs and supported by a sterilisation room in each unit and a dental laboratory serving approximately 692,407 of the Seremban population. The Orthodontic Unit of SDSC serves as the main orthodontic referral centre in the district of Seremban. It has two orthodontic specialists, four dental officers, one orthodontic technician and six dental surgery assistants. On average, 440 patients are being seen monthly in this unit for orthodontic treatment.

In Malaysia, studies to highlight the issue of missed appointments in orthodontic clinics are lacking. A total of 18.7% of orthodontic patients missed their appointments in the Orthodontic Unit, Seremban Dental Specialist Centre in 2019. The percentage increased to 22.4% during the first quarter of 2000. This triggered an alarm that the issue of missed appointments among orthodontic patients must not be taken lightly. As the demand for orthodontic treatment continues to rise among the population in Seremban, patients whose malocclusion does not require immediate intervention are placed on an orthodontic waiting list. Delaying treatment progression of ongoing orthodontic patients not only affects the care but also results in wasted appointment slots. The inefficiency subsequently extends the orthodontic waiting list, creating longer delays for new patients.

Effective scheduling and patient compliance are crucial to minimise such disruptions and optimise treatment timelines. In addressing the problem, there is a need to further understand the reasons for failure in appointment attendance, which will be useful in developing strategies for the efficient delivery of health care services in the future. Therefore, to improve service efficiency, this study aims to reduce the number of missed appointments from over 20% to 0% in the Orthodontic Unit of SDSC by implementing appointment reminder strategies between December 2021 and December 2022.

Background

A missed appointment can be described as a failure to attend a session that has been scheduled at a particular time for a particular patient. Missed appointments have become a significant problem not only in primary care settings but also in specialist clinics. Studies in an orthodontic unit of King Saud University and an orthodontic unit of University Dental Hospital in Manchester showed that the rate of missed orthodontic appointments was 24.8% and 19.4 % respectively (7,8). The issue of nonattendance in orthodontic clinics has an important influence on patients and clinics. It is frustrating when failure in orthodontic attendance will not only slow treatment progression but also compromise the patient's dental health by exposing the patient to adverse effects of orthodontic treatment, such as root resorption, pain, dental decalcification, and periodontal diseases, as mentioned in a study by Nabeel (9). In addition to clinical consequences

for patients, missed appointments cause unnecessary costs and inefficiencies for dental care facilities. This is supported by a study by McLean et al that underutilisation of healthcare providers, equipment, space and staff will result in loss of revenue, which may lead to increasing overall charges to patients and payers (10).

Richard and Thomas stated in their study that patients commonly provide several reasons for missing appointments, including forgetfulness, confusion, or miscommunication over appointment information, feeling better, transportation issues, and difficulty leaving work or school (11). Reminders have been traditionally used to improve patient adherence to their appointment. A study by Crutchfield et al. reported that effective appointment reminder types include mail, phone calls, email, and text messaging (12). Crutchfield et al. suggested that giving initial reminders and sending the most preferred type of reminder may have the most impact on appointment attendance (12).

Another study by Guy et al. reported that appointment attendance improved by 50% after providing short message service (SMS) reminders to patients (13), whereas in a study by Ho et al., the no-show rate reduced from 30.2% to 21.3% when patients were reminded by a phone call a week before their scheduled appointment (14). This is supported by a study done by Wood et al. on the use of AI technology reminders within the National Health Service in the United Kingdom, which highlighted the importance of implementing tailored communication strategies to enhance patient engagement with their appointments (13).

Measurement

The objective of this study is to reduce the number of missed appointments among orthodontic patients in the orthodontic unit, SDSC. This study measured the percentage of missed appointments among orthodontic patients as the main indicator. This was calculated based on the number of orthodontic appointments missed over the total number of orthodontic appointments given. The formula used to calculate the indicator is stated below.

$$\text{Percentage of orthodontic missed appointments} = \frac{\text{Number of orthodontic appointments missed (n)}}{\text{Total number of orthodontic appointments given (N)}} \times 100$$

The selected study population was patients attending orthodontic treatment in the Orthodontic Unit at SDSC. Patients who had active fixed or removable appliance treatment and did not attend their appointment at least once were considered as missing their appointment; meanwhile, patients who had completed their orthodontic treatment and were in the retention phase were excluded. The number of missed orthodontic appointments and the total number of orthodontic appointments given were collected from the Orthodontic Appointment Book, which was then used to calculate the indicator performance by the study team member.

In view of the increasing trend of missed appointments from 18.7% in 2019 to 22.4% in the first quarter of 2020 in our setting, the urgency for intervention was identified. Based on expert consensus, the standard was set to achieve 0% missed appointments among orthodontic patients in the orthodontic unit SDSC.

Initial Assessment of the Problem

Factors contributing to the increase in missed appointments among orthodontic patients are shown in the problem analysis chart in Figure 1.

Under the supervision of an Orthodontist and a Dental Public Health Specialist, a structured, self-administered questionnaire was developed to identify reasons contributing to missed appointments and to evaluate patients' awareness of the effect of missed appointments on their dental health, treatment progression and clinical resources. The questionnaire was designed in *Bahasa Malaysia* and English, which consisted of three parts (Appendix 1). The first part consisted of five items for assessing patients' sociodemographic characteristics, including gender, age, race, education level and source of payment. The second part

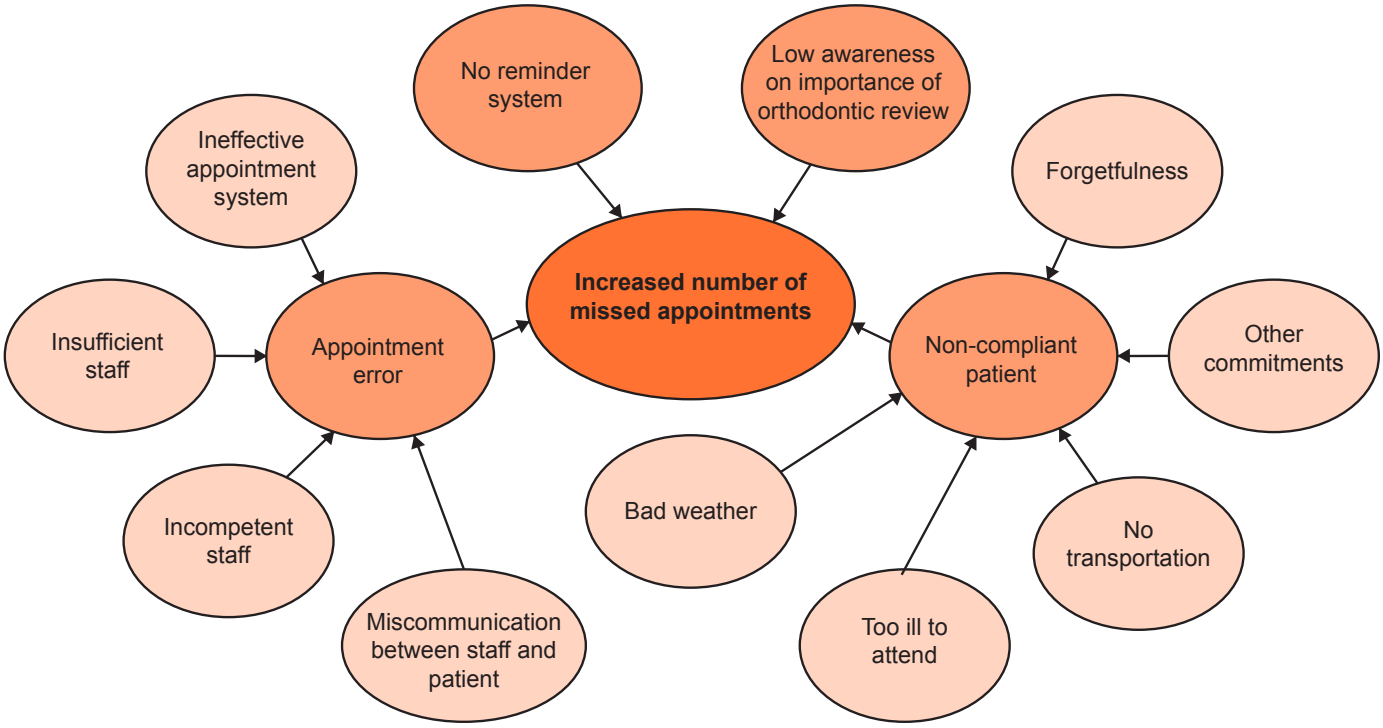


Figure 1: Factors contributing to the increase in missed appointments among orthodontic patients.

was about the reasons that contributed to missed appointments. Potential reasons for missed appointments, such as forgetting about appointments, having other commitments, being too ill to attend the appointment, having no transportation to go for an appointment, miscommunication with dental staff and bad weather, were listed in this section. Respondents were instructed to choose only one main reason for breaking their appointment. The third part consisted of three items to evaluate the patient's awareness of the effect of missed appointments on dental health, treatment progression and clinical resources. In this part, a tick box layout of 'yes' and 'no' was given to be answered.

The questionnaire was pre-tested before actual data collection to assess patient understanding of the components in the questionnaire. Thirty (30) orthodontic patients who had missed their appointment at least once were selected to participate in the session. Those participants were not included in answering the questionnaire during the actual study. Feedback from respondents regarding their understanding of the questionnaire content was obtained from this session. Necessary adjustments were made accordingly, and the questionnaire was re-revised by an orthodontist and public health specialist before being distributed in the actual study.

Subjects who fit the inclusion and exclusion criteria were selected for this study using a random sampling technique. The inclusion criteria were orthodontic patients who had active fixed or removable appliance treatment and who had missed their orthodontic appointment at least once before the study. Meanwhile, the exclusion criteria were patients who had completed their orthodontic treatment and were in the retention phase.

We enrolled 106 patients who fit the inclusion and exclusion criteria. Questionnaire distribution required only one visit and the questionnaire was collected back on the same day. Data from the questionnaire were entered into SPSS version 23 for analysis.

The mean age of the respondents was 22 years (range 16-28 years), with the majority of participants being females (79%). More than half were Malay (56%), followed by Chinese (29%) and Indian (15%) and mostly had a tertiary level of education (71.9%). Approximately two-thirds of the patients were self-paying patients (70.2%).

Findings showed that the reasons for missed appointments were mainly due to having other commitments (36%), forgetting about appointment (32%), being too ill to attend appointment (18%), followed by no transportation to go for appointment (10%), bad weather (3%), and miscommunication with dental staff (1%). 89.4% of the subjects were aware of the importance of orthodontic appointments. In addition, the majority of the subjects were also aware of the effect of missed appointments on their dental health (87.7%), orthodontic treatment progression (95.6%) and clinical administration (91.2%).

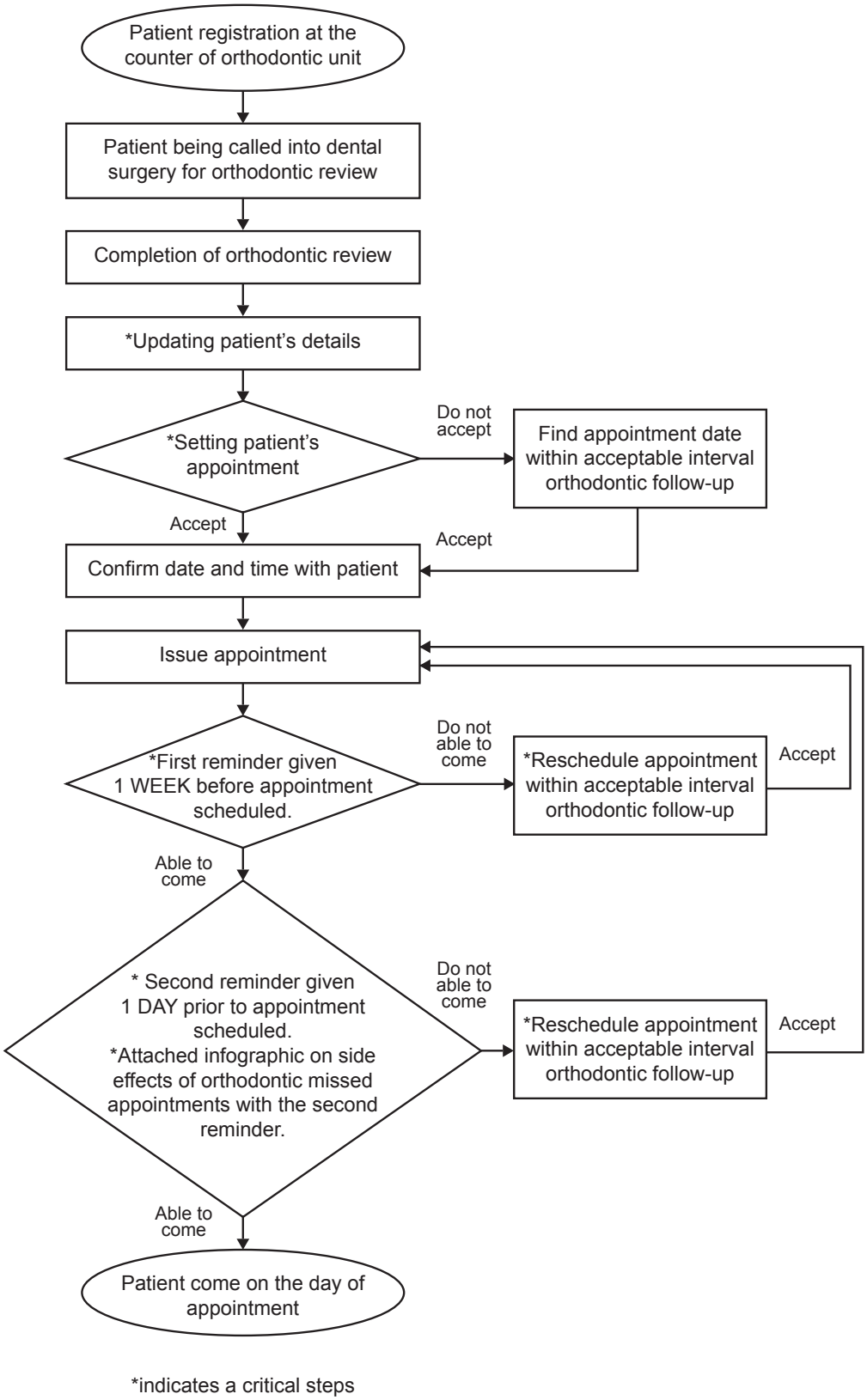


Figure 2: Flowchart on appointment process in Orthodontic Unit, Seremban Dental Specialist Centre

Strategy

Remedial measures were implemented in two cycles of three months each (Cycle 1: December 2021 - February 2022; Cycle 2: September 2022 – November 2022). Strategies in the previous cycle were continuously carried out in the following cycle throughout the study period. The effectiveness of remedial measures was evaluated in March 2022 and December 2022.

In Cycle 1, a reminder system was introduced in addition to traditional appointment cards to address factors of having other commitments, forgetting about appointments and being too ill to attend the appointment, which hinder the patients in keeping with their appointments. Starting from December 2021, all patients' contact numbers were updated following their orthodontic treatment review. The appointment date and time agreed upon by patients were issued and written down on the appointment card. A reminder was sent to patients using "WhatsApp Business Messages" one week before their scheduled appointment. This reminder includes the type of orthodontic review and the date and time for the orthodontic review. In the case of patients with unavoidable commitments on their scheduled appointment time, they were encouraged to give a call directly to our clinic at least a day prior to their appointment time to reschedule their appointment to another day within an acceptable period of orthodontic review interval. Using this approach, patients were not left unseen and the appointment slots were not wasted. Patients who had given a call to reschedule their appointment at least a day before their actual appointment were not considered as missing their appointment.

In Cycle 2 (September 2022 – November 2022), in addition to the first reminder sent a week before the appointment, a second reminder was sent a day before their scheduled appointment by using "WhatsApp Business Messages". This reminder was strengthened by adding an infographic attachment of the side effects of missed orthodontic appointments to the text messages delivered to patients, aiming to create an awareness of the importance of attending orthodontic appointments regularly. Improvement in the intervention for Cycle 2 has resulted from the subsequent questionnaire on a group of patients who still missed their orthodontic appointment despite the reminder given (Appendix 2). This was the improved version of the previous questionnaire, in which a new section was added on preferred type and timing of appointment reminders to improve their attendance at orthodontic appointments. Feedback received from this group agreed that they preferred to be reminded a day before their appointment by text messages.

Results

Following the implementation of remedial measures in Cycle 1 (December 2021 – February 2022), the number of missed appointments among orthodontic patients in the Orthodontic Unit, SDSC was observed to have reduced tremendously (Figure 3) from 22.4% in the pre-remedial phase to 4.7% during the evaluation phase conducted in March 2022. However, we were still unable to achieve our target of reducing the rate of missed appointments to 0%. Thus, the patient who continued to miss their orthodontic appointment was re-evaluated by giving another improved version of the questionnaire. The subsequent interventions were implemented as another remedial measure in Cycle 2 (September 2022 – November 2022). The evaluation of Cycle 2, conducted in December 2022, showed improved appointment attendance. We managed to obtain a 0% rate of missed appointments. Before this study, patients' information details were not updated in patients' dental records, leading to difficulty in contacting patients in case of rescheduling patient appointments or providing new information in regard of their treatment. Therefore, a discussion was convened with the staff at the registration counter to remind them to update the patient's information regularly each time the patient came for an orthodontic appointment. Consistent orthodontic attendance among orthodontic patients has accelerated treatment progress, enabling the treatment to be completed within a reasonable timeframe. Also, this allows efficient scheduling for orthodontic appointments and as a result, a significant reduction in the orthodontic waiting list was seen from two years in January 2021 to six months in January 2023.

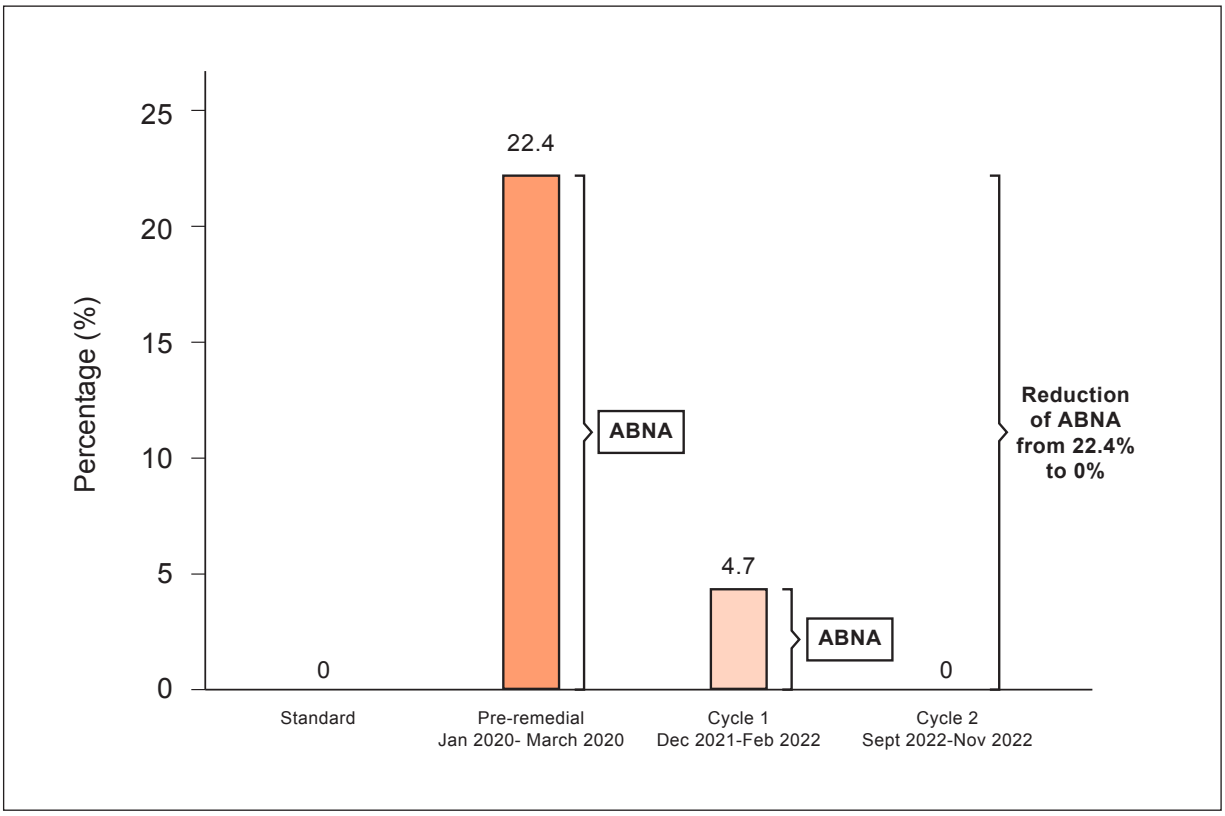


Figure 3: Percentage of missed appointments among orthodontic patients before and after remedial actions.

Table 1: Comparison of Model of Good Care Achievement Before and After Remedial Measures.

No.	Critical Step	Criteria	Standard	Verification	Cycle 1	Cycle 2
1.	Updating patients' details.	Ensure the correct patient attended his/her appointment at the time scheduled.	100%	100%	100%	100%
		Ensure that the patient's details are updated such as age, home address and contact number	100%	50%	100%	100%
		Ensure the details are properly registered and documented in the patient's dental record.	100%	70%	100%	100%
2.	Setting patients' appointments.	The date and time for the follow-up appointment are determined within a 6-week interval by the staff at the registration counter	100%	100%	100%	100%

	Ensure that the patient is available on the day of the follow-up appointment suggested.	100%	100%	100%	100%
	Once agreed, the date, time and type of appointment is documented on the patient's appointment card.	100%	100%	100%	100%
3. First reminder given 1 WEEK before appointment scheduled.	Send the first reminder with full details of the patient's appointment (date, time and type of appointment) through '*WhatsApp Business Message*'.	100%	0%	100%	100%
4. Reschedule appointment within an acceptable interval for orthodontic follow-up.	Patients who were not able to come on the date of the initial appointment given will be given a new appointment date, which will be no more than 8 weeks from the previous orthodontic appointment attended.	100%	0%	100%	100%
5. Second reminder given 1 DAY before appointment scheduled.	Send the second reminder with full details of the patient's appointment (date, time and type of appointment) through '*WhatsApp Business Message*'.	100%	0%	0%	100%
	Attached infographic on the side effects of orthodontic missed appointments with the second reminder.	100%	0%	0%	100%
6. Reschedule appointment within an acceptable interval for orthodontic follow-up.	Patients who were not able to come on the date of the initial appointment given will be given a new appointment date, which will be no more than 8 weeks from the previous orthodontic appointment attended.	100%	0%	100%	100%

Lessons and Limitations

Strong teamwork between dentists, assistants and nurses plays an essential role in ensuring the success of the mitigation. No similar study has been carried out in any Orthodontic Clinic in Negeri Sembilan. Thus, these findings have further proven that the intervention is effective in reducing the number of missed appointments among orthodontic patients in the Orthodontic Unit, Seremban Dental Specialist Centre. The added value of conducting this study included improvement in organised documentation and updated patient information. Improved communication channels by using graphical flyers have helped to increase patients' understanding of the importance of regular orthodontic follow-up, hence enhancing patients' compliance with their orthodontic appointments.

There are limitations in this study in terms of human resources. The Orthodontic Unit of SDSC is a small unit consisting of ten staff. As the main orthodontic referral centre in the district of Seremban, the rate of patients' attendance is high compared to other units in Seremban. It is sometimes challenging to find time to consistently provide reminders to patients daily. This strategy may be improvised in the future by establishing a digital platform of automated reminder systems that can be standardised across all dental facilities. However, the automated reminder system may impose additional approval, cost and trials before it can be implemented into the system. In the meantime, a manual reminder will be used to ensure the success of the intervention.

Conclusions and the Next Steps

The project was able to reduce the percentage of missed appointments to the standard set through the identification of contributing factors and the implementation of appropriate interventions to tackle this problem. The finding suggests that appointment reminders have the potential to increase patient adherence to orthodontic appointments. Consequently, it is expected that improved patient adherence to appointment attendance may result in improved patient orthodontic treatment outcomes and operational efficiency, and in the long run, will indirectly reduce the time on the orthodontic patient waiting list. Due to the significant result of this project, it would be beneficial for the knowledge gained and strategies implemented to be shared and adopted among other Orthodontic Units in the state.

To sustain the intervention project, staff will be appointed to maintain reminders to the patients by continuously discussing the results of practice change and appointment adherence rate at the clinic's monthly staff meeting. Staff will receive training focused on strengthening communication and delivering clear information regarding orthodontic appointment schedules. From time to time, patients and parents will be provided with ongoing education on the importance of maintaining consistent attendance to ensure optimal treatment outcomes, with emphasis on the potential consequences of missing appointments. The effectiveness of appointment reminders will be regularly evaluated to adapt to evolving communication patterns and mechanisms.

References

1. Nanda RS, Kierl MJ. Prediction of cooperation in orthodontic treatment. Am J Orthod Dentofacial Orthop. 1992;102:15-21.

2. Skidmore KJ, Brook KJ, Thomson WM, Harding WJ. Factors influencing treatment time in orthodontic patients. Am J Orthod Dentofacial Orthop. 2006;129:230-238.

3. Lindauer SJ, Jacob AP, Brian CL, Eser T, Bhavna S. Influence of Patient Financial Account Status on Orthodontic Appointment Attendance. Angle Orthod. 2009;79(4):755-758.

4. Omair MB , Keyvan S, Mary T. Factors affecting patient's adherence to orthodontic appointments. Am J Orthod Dentofacial Orthop. 2016;149(3):319-324.

5. Charity GM, Whitterspoon PW, Probst JC. Time and money: Effects of No-Shows at a Family Practice Residency Clinic. [online]. Researchgate: Family Medicine 2001; 33(7) :522-527. [Accessed 8 September 2021]. Available from https://www.researchgate.net/publication/11886118.

6. Sahar FA. Appointments Failure Among Female Patients at a Dental School Clinic in Saudi Arabia. Eur J Dent Educ. 2009;73(9):1118-1124.

7. Salwa AA. Frequency of missed and cancelled appointments in King Saud University orthodontic clinic. King Saud University Journal of Dental Sciences. 2013;4:77-80.

8. Can S, Macfarlane T, O'Brien KD. The use of postal reminders to reduce non-attendance at an orthodontic clinic: A randomized controlled trial. .2003;195:199-201.

9. Nabeel F.T. Adverse effects of orthodontic treatment. Saudi Dent J. 2011;23:55-59.

10. McLean SM, Booth A, Gee M, Salway S, Cobb M, Bhanbhro S, et al. Appointment reminder systems are effective but not optimal: Results of a systematic review and evidence synthesis employing realist principles.[online]. Dove Medical Press Limited. 2016;10:479–499. [Accessed 20 November 2021]. Available from www.tandfonline.com/journals/dppa20.

11. Deyo RA, Inui TS. Dropouts and broken appointments. A literature review and agenda for future research. Med Care. 1980;18(11):1146–1157.

12. Trisha MC, Christine EK. Getting patients in the door: Medical appointment reminder preferences. Patient Preference And Adherence. 2017;11:141–150.

13. Guy R, Hocking J, Wand H, Stott S, Ali H, Kaldor J. How effective are short message service reminders at increasing clinic attendance? A meta-analysis and systemic review. Health Service Research. 2012;47:2; 614-63.2.

14. Ho TL. Improving waiting time and operational clinic flow in a tertiary diabetes center: BMJ Quality Improvement Reports 2014;2:u201918. w1006.

15. Wood KV, Frings D, Flood C, Thomas N. Artificial intelligence machine learning-driven outpatient appointment management: A qualitative study on acceptability. Digital health. 2025 Jun;11:20552076251321016.

Acknowledgements

The author would like to thank the Director-General of Health for his approval to publish this work. The authors were grateful to the State Health Director, Deputy State Health Director (Dental), Senior Dental Officer Seremban and Orthodontic Specialist Seremban Dental Specialist Centre for their kind support.

Conflict of Interest

The authors declare that there is no conflict of interest.

Funding

This study received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Appendix 1: Questionnaire on Missed Appointment in Orthodontic Clinic 1.0.

Please read each question carefully before answering. Please answer all questions given. Thank you.

SECTION 1: SOCIODEMOGRAPHIC INFORMATION			Tick here to answer	For office use only
a.	Gender	Male		
		Female		
b.	Age	……. year old		
c.	Race	Malay		
		Chinese		
		Indian		
		Others *Please specify*		
d.	Education Level	Primary		
		Secondary		
		Tertiary		
e.	Payment Method	Guarantee Letter		
		Own Money		
		Others *Please specify*		
SECTION 2: REASON FOR MISSED APPOINTMENT				
a.	Which one of the following options is the reason you failed to attend your orthodontic appointment? (Please choose **ONE ANSWER ONLY**)	Forgetting about appointments		
		Having other commitments		
		Being too ill to attend appointment		
		No transportation to go for appointment		
		Miscommunication with clinical staff		
		Bad weather		
SECTION 3: PATIENT'S AWARENESS ON EFFECT OF MISSED APPOINTMENT				
a.	In your opinion, does missing an orthodontic appointment is important to you?	Yes		
		No		
b.	In your opinion, does missing an orthodontic appointment will have an effect on your oral health?	Yes		
		No		
c.	In your opinion, does missing an orthodontic appointment will have an effect on progression of your orthodontic treatment?	Yes		
		No		
d.	In your opinion, does missing an orthodontic appointment will have an effect to the clinic?	Yes		
		No		

Appendix 2: Questionnaire on Missed Appointments in Orthodontic Clinic 2.0

Please read each question carefully before answering. Please answer all questions given. Thank you.

SECTION 1: SOCIODEMOGRAPHIC INFORMATION			Tick here to answer	For office use only
a.	Gender	Male		
		Female		
b.	Age	……. year old		
c.	Race	Malay		
		Chinese		
		Indian		
		Others *Please specify*		
d.	Education Level	Primary		
		Secondary		
		Tertiary		
e.	Payment Method	Guarantee Letter		
		Own Money		
		Others *Please specify*		
SECTION 2: REASON FOR MISSED APPOINTMENT				
a.	Which one of the following options is the reason you failed to attend your orthodontic appointment? (Please choose **ONE ANSWER ONLY**)	Forgetting about appointments		
		Having other commitments		
		Being too ill to attend appointment		
		No transportation to go for appointment		
		Miscommunication with clinical staff		
		Bad weather		
SECTION 3: PATIENT'S AWARENESS ON EFFECT OF MISSED APPOINTMENT				
a.	In your opinion, does missing an orthodontic appointment is important to you?	Yes		
		No		
b.	In your opinion, does missing an orthodontic appointment will have an effect on your oral health?	Yes		
		No		
c.	In your opinion, does missing an orthodontic appointment will have an effect on progression of your orthodontic treatment?	Yes		
		No		
d.	In your opinion, does missing an orthodontic appointment will have an effect to the clinic?	Yes		
		No		

SECTION 4: APPOINTMENT REMINDER				
a.	Do you think a reminder is useful to help you attend your appointment as scheduled?	Yes		
		No		
b.	What type of appointment reminder that you prefer? (Please choose **ONE ANSWER ONLY**)	a.By email		
		b.By phone		
		c.By text message (eg whatsapp)		
c.	What is your preferred timing of appointment reminder? (Please choose **ONE ANSWER ONLY**)	a.One day before appointment		
		b.One week before appointment		
		c.Two weeks before appointment		
		d.More than 2 weeks before appointment		

Appendix 3: Infographic attachment sent together with appointment reminder.

