



# Education with interaktif website media on patient compliance levels for implementation of post-odontectomy instructions

Nani Mira Khoirunnisa<sup>1</sup>, Dewi Sodja Laela<sup>2\*</sup>, Nurul Fatikhah<sup>3</sup>, Yonan Heriyanto<sup>4</sup>

<sup>1,2,3,4</sup> Department of Dental Health, Polytechnic Health of Bandung, Indonesia

## ARTICLE INFO

### Article history:

Received: August 19, 2024

Revised: Sep 14, 2024

Accepted: Sep 22, 2024

Available online: Sep 23, 2024

### Keywords:

Compliance, Instruction, Odontectomy, Website



This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.

Copyright © 2024 by Author. Published by Center of Excellent (PUI) Poltekkes Kemenkes Jakarta I, Indonesia

## ABSTRACT

**Introduction:** Patient compliance with post odontectomy instructions is one of the factors that determine postoperative success. Lack of patient knowledge can interfere with the healing process and cause complications. Instructions given verbally often make patients less aware of post-operative care. Interactive website media through gadgets can be used as a tool to increase patient knowledge as an effort to prevent complications. The purpose of the study was to determine the effect of providing education with interactive website media on the level of patient compliance with post-odontectomy instructions. **Methods:** The type of research used is pre-experiment research with Post Test Only With Control Group Design. Sampling using Accidental Sampling technique obtained as many as 30 people. The variables in the study were interactive website media and compliance. Hypothesis testing using mann whitney U. **Results:** The results showed a difference in the level of compliance after being given education through interactive website media between the intervention group (80%) and the control group (53.35%). Mann Whitney U analysis showed that there was an effect on the provision of education with interactive website media on the level of patient compliance with the implementation of post odontectomy instructions p value = 0.049 (p < 0.05). **Conclusion** Interactive website media can improve patient compliance with instructions given at post odontectomy. Odontectomy patients become more aware of the importance of carrying out postoperative instructions to prevent complications

## INTRODUCTION

Dental and oral health is an important part of health development efforts because if not addressed it can have a negative impact on the health, well-being, and quality of life of individuals in general. In Indonesia, dental and oral health is still an unresolved health problem. Behavior or attitudes that ignore dental and oral hygiene are the cause of dental health problems. This is also based on a lack of knowledge about the importance of maintaining dental and oral health (Sihombing, 2019).

The results of the Basic Health Research in 2018 showed that the prevalence of dental and oral health problems in Indonesia is still very high. The prevalence of dental and oral health problems in the community is 57.6% and only 10.2% have accessed dental health services. One of the types of actions given to overcome dental and oral health problems in health care facilities is oral surgery with a percentage of 0.3%, while the percentage in West Java is 0.29%.

Research conducted by Fauzi Akbar (2023) at RSGM UNPAD stated that the most frequently performed oral surgery is odontectomy or tooth extraction, especially impacted wisdom teeth and third molars. The prevalence of impacted molars in the outpatient and central surgical installation of RSGM UNPAD in 2017-2019 was 1,323 patients. Another study conducted by Septina (2021) at the Brawijaya Teaching Hospital with a sample of 160 patients, 60.6% experienced impaction of the third molar.

Important factors that determine the success of odontectomy can be seen from three aspects, namely preoperative, duration and postoperative have success indicators. One of the indicators of postoperative success is good wound healing. Wound healing after odontectomy requires a cooperative attitude from the patient to comply with the instructions of the dentist before and after odontectomy. (Liliyana, 2022).

\*Corresponding author.

E-mail addresses: [lalawardiyo@gmail.com](mailto:lalawardiyo@gmail.com)

Post-odontectomy instructions given to patients play a very important role in reducing post-procedure complications and accelerating the wound healing process. Instructions from the dentist must be carried out obediently to get good results. Compliance is a person's behavior or effort to maintain health and efforts to heal when sick (Liliyana, 2022).

Compliance is influenced by three factors, namely predisposing factors, which are factors that influence individual behavior and will encourage compliance. Predisposing factors include attitudes, knowledge, and beliefs of an individual. Supporting or driving factors (enabling factors) are factors that motivate groups/individuals to take action. Supporting factors are usually a physical environment such as facilities and infrastructure. Reinforcing factors are factors of attitudes and support from the surrounding environment, namely family (Liliyana, 2022).

The results of a study conducted by Laili (2019) at a private clinic in Yogyakarta showed that 5% of patients who underwent odontectomy did not comply with the instructions given by the dentist and the most common complication experienced by patients was edema. Another study conducted by Puspitasari dkk (2019) at RSGM X Bandung showed that post-odontectomy complications experienced on the seventh control day after odontectomy occurred in 83 cases with details of trismus 1.62%, swelling 4.22%, paresthesia 0.32%, dry socket 1.94%, bleeding 1.62%, pain 17.2% and mandibular fracture 0%.

The usual instructions given after an odontectomy are given verbally by a dentist or dental and oral therapist. However, patients often do not understand the post-operative care that must be carried out, which can interfere with the healing process and cause complications. Therefore, an effort is needed to improve patient understanding of post-odontectomy care. One way that can be done is by providing education using media. The media for providing education has developed greatly along with technological advances. Searches for health information obtained were only done from printed sources or on certain health sites, now developing rapidly on the internet media. The results of research by We Are Social, a company that conducts studies on the use of digital social and mobile phones worldwide, state that internet users in Indonesia currently number 204.7 million people. This certainly makes it easier for users to access more information and is flexible in one hand (Nasution, 2023).

The internet media that is often used by the community is the Website. "Website or abbreviated web, can be interpreted as a collection of pages consisting of several pages containing information in the form of digital data, either in the form of text, images, videos, audio, and other animations provided through an internet connection flow" (Abdullah et al., 2016).

The results of previous research conducted by Tambunan & Siagian (2022) showed that interactive website-based media can increase students' interest in learning. Ratnasari (2015) also showed that interactive website-based learning media can improve students' understanding. This is also in line with research conducted by Herawati (2022) the results of the study showed that the use of interactive learning media can increase students' knowledge about dental and oral health.

The use of website-based educational media can help increase interest and motivation to learn, improve understanding of difficult concepts, and improve practical skills. In addition, interactive website-based educational media can also help improve accessibility and efficiency in the learning process. Therefore, the use of interactive website educational media can be an effective alternative (Nurmadiyah, 2016).

## **METHOD**

This study is a pre-experimental study, with a Post Test Only With Control Group Design. The research sample was patients who underwent surgery for the first time. The sampling technique used accidental sampling with a sample size of 30 people. The research subjects in this design were divided into two groups, namely the experimental group (intervention group) and the control group. The initial stage of the study was to measure the level of patient knowledge before odontectomy in the control group and the intervention group. The second stage provided education through the website media in the intervention group after odontectomy. The third stage measured the level of patient compliance using a checklist sheet on the seventh day after odontectomy in the intervention group and the control group. Hypothesis testing in this study used Mann-Whitney U. for the effect of providing education with interactive website media on the level of patient compliance in implementing post-odontectomy instructions. This study has received ethical clearance from the KEPK Poltekkes Kemenkes Bandung team with No. 04/KEPK/EC/III/2023.

## RESULT

Based on the data listed in Table 1, it can be observed that before the counseling was carried out, out of a total of 54 samples, there were 37 people (68.5%) who were in the good knowledge category, 14 people (25.9%) in the sufficient knowledge category, and 3 people (5.6%) were in the Enough of knowledge category. After counseling with e-books was carried out, all 54-sample people (100%) were in the good knowledge category, none were in the sufficient knowledge or poor knowledge category.

This study analyzes the interactive website media and materials used that have been tested for feasibility by media experts and material experts, using the presentation formula for the feasibility test of media and materials. The feasibility category is based on the following criteria: 1) <21% = very unfeasible, 2) 21-40% = Unfeasible, 3) 41-60% = quite feasible, 4) 61-80% = feasible and 5) 81-100% = very feasible. The assessment of the results of the feasibility test by 3 material experts and interactive website media experts in this study received a score of 91%, meaning it is very feasible to use. The interactive website for post-odontectomy instructions contains four features that can help dentists and dental therapists in providing an understanding of post-odontectomy instructions to patients after the procedure.

The first feature is a quiz that can be filled out by patients to find out how far they understand post-odontectomy instructions. The second feature contains a material map consisting of four materials about odontectomy, the first material is the definition of odontectomy, the second material is about conditions that usually occur after odontectomy, the third material is about activities that should be avoided after odontectomy and the last material is things that should be done. The third feature contains information videos about post-odontectomy instructions that can be watched by patients to increase their knowledge. The last feature is an online consultation service that can connect patients with website owners, patients can receive advice and input from this feature, several questions frequently asked by patients will appear on the website along with answers to these questions so that patients who have the same questions can access the information through the website.

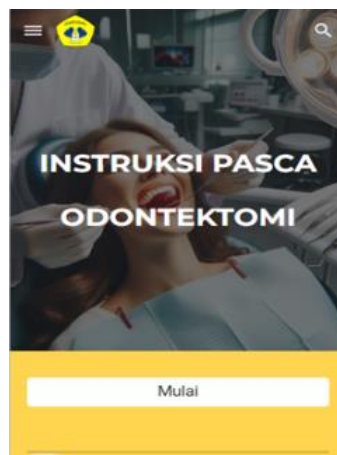


Figure 1. Main menu view



Figure 2. Educational material map features



**Figure 3.** Contact me feature (online consultation)

The characteristics of respondents in this study were categorized based on age, gender and education level. New patients who visited and would undergo odontectomy treatment at the oral surgery polyclinic were the inclusion criteria for patients who were used as respondents in this study.

**Table 1.** Frequency distribution of respondent characteristics

Perlakuan	Mean	Std. Deviation
<b>Age</b>		
15 - 24	10	33,4
25 - 34	15	50
35 - 44	3	10
45 - 54	1	3,3
65+	1	3,3
<b>Gender</b>		
Male	9	30
Female	21	70
<b>Education</b>		
Secondary Education	8	26,7
Higher education	22	73,3

Table 1 shows the characteristics of respondents at RSGM Maranatha based on age, the majority are in the age range of 25-34 years with a percentage of 50%. Female respondents are the majority with the number of respondents with a percentage of 70%. And in the last education, the majority are in higher education (diploma, bachelor's, master's, doctorate) with a percentage of 73.3%.

**Table 2.** Level of Patient Knowledge About Post-Odontectomy Instructions

Knowledge	Intervention Group		Control Group	
	F	%	F	%
Enough	4	26,7	5	33,3
Moderate	4	26,7	4	26,7
Good	7	46,6	6	40
Total	15	100	15	100

Table 2 shows that the majority of knowledge in the intervention group in the good category is 7 respondents (46.6%), and the majority of knowledge data in the control group is 6 respondents (40%).

**Table 3.** Level of Patient Compliance in Implementing Post-Odontectomy Instructions

Compliance	Intervention Group		Control Group	
	F	%	F	%
Not Compliant	0	0	0	0
Less Compliant	3	20	7	46,7
Compliant	12	80	8	53,3
Total	15	100	15	100

Table 3 shows the highest level of compliance category in the intervention group with 12 respondents (80%) and in the control group 8 respondents (53.3%).

**Table 3.** The Effect of Providing Education Using Interactive Website Media on the Level of Patient Compliance in Implementing Post-Odontectomy Instructions

Group	Mean	Std. Deviation	Nilai p
Intervention	83.7500	6.59748	0,049
Control	78.3333	8.06872	

Table 4 shows the effect of providing education with interactive website media on the level of patient compliance in implementing post-odontectomy instructions. The test results showed a significant difference between the intervention group and the control group on the level of patient compliance in post-odontectomy instructions with a p value = 0.049 (p value <0.05).

## DISCUSSION

An interactive website is a website that is able to display several multimedia with the latest technology to make it more interactive. The appearance of the website will follow the development of the times, the appearance of the website now has better navigation and visual objects to make it look interactive (Renaldo, 2022). In this study, website users gave good reviews because respondents responded that using an interactive website had benefits and attracted users' interest in finding out information, especially about post-odontectomy instructions.

The use of the website is also very practical because it can be used anytime. This is in line with the opinion Hasnaa & Sahronih (2022) that interactive websites can increase interest in learning and can increase the knowledge of its users. Patients who already know information about treatment in advance tend to be cooperative in treatment because patients already know the instructions.

Patient knowledge before odontectomy in this study was generally in the good category, before odontectomy, patients were allowed to consult with an oral surgeon before treatment. This is a supporting factor for patients to comply with post-odontectomy instructions because patients have been exposed to information about odontectomy before the procedure. The higher the patient's level of knowledge, the more likely the patient is to be in the compliant category. This statement is in accordance with the opinion of Adhani et al (2024) that there is a correlation between the level of patient knowledge and the level of patient compliance after tooth extraction in the oral surgery dental clinic. The high level of knowledge possessed by patients will support patients to be able to treat wounds properly (Hidayah, 2022).

Patient compliance with post-odontectomy instructions affects post-extraction wound healing. There is a relationship between patient compliance with post-extraction instructions and post-extraction complications. The more patient compliance with instructions, the lower the incidence of complications. (Laili, 2019). However, sometimes the instructions given are lacking because sometimes there are some instructions that are not given or instructions that are different for some patients (Adhani et al., 2024).

In this study, the results of the hypothesis test showed a significant difference in the level of patient compliance with post-odontectomy instructions (p value <0.05). In this study, patients who were given education through an interactive website showed a compliant category compared to patients who were only given education verbally. Interactive websites make it easier for patients to understand instructions, can be accessed anytime and anywhere. Websites can increase knowledge about post-odontectomy care. The results of the hypothesis test calculation are included in the category of significant differences, but the range is not too far. The majority of the last education was higher education and of course this also affects

patient compliance. This statement agrees with Liliyana (2022) which states that interest, compliance, changes in attitude and healthy living behavior of a person are influenced by their level of education. A higher level of education will make it easier for a person to receive information and have healthy behavior and lifestyle in their daily lives.

Research conducted by Zhang et al, (2021) in Beijing stated that patient compliance with instructions and treatment can be influenced by information from the internet, one of which is from the website. The study was declared significant with the results of the Bartlett's Test of Sphericity 0.001 (<0.005). Patients who seek information through the website tend to have good knowledge about the treatment to be carried out, this certainly has a positive impact on the patient. Therefore, valid health information is needed with trusted sources so that patients comply with treatment (Shojaeibaghini, 2023).

Along with the development of health information technology, society certainly needs accurate, precise and easily accessible information. One of the online media via the internet is a website. Websites have great potential to carry out health promotion and other health interventions, and of course it will be easy to reach the target community (Sembada et al, 2022). The use of online media as a means for health education certainly has advantages and disadvantages. The advantages of online media are the rapid dissemination of information and the form of content presented varies such as text, photos, audio, video (Leonita & Jalinus, 2018).

The use of interactive website media about post-odontectomy instructions has been proven to have an effect on patient compliance with post-odontectomy instructions. This is in accordance with the results of the study because the majority of the intervention group was in the compliant category. The target's opinion also stated that the use of interactive websites is useful in providing information on post-odontectomy instructions, several respondents also provided suggestions to continue to be developed and make some improvements to make it more attractive, so that later the website can be used in the long term to help provide information to post-odontectomy patients in health care facilities.

## CONCLUSION

Providing education with interactive website media has an effect on the level of patient compliance in implementing post-odontectomy instructions. The suggestions submitted by the interactive website can be further developed by improving the appearance of the website to make it more attractive and providing several features such as frequently asked questions.

## REFERENCES

- Adhani, R., Fitriani, M. S., Nurrahman, T., & Sari, G. D. (2024). *Laporan Penelitian Korelasi instruksi dokter gigi , pengetahuan dan pengalaman pasien terhadap tingkat kepatuhan pasien pasca ekstraksi gigi : studi cross-sectional*. 8(1), 31–40. <https://doi.org/10.24198/pjdrs.v8i1.50682>
- Fauzi Akbar, M., Hadikrishna, I., Riawan, L., & Ambar Lita, Y. (2023). Impacted Lower Third Molar Profile at Dental Hospital of Padjadjaran University. *Indonesian Dental Association Journal of Indonesian Dental Association*, 6183, 91–98. <https://doi.org/10.32793/jida.v5i2.902>
- Hasnaa, S. A., & Sahronih, S. (2022). Pengaruh Media Pembelajaran Interaktif Berbasis Website Google Sites Terhadap Hasil Belajar Siswa Sekolah Dasar. *PERISKOP : Jurnal Sains Dan Ilmu Pendidikan*, 3(1), 21–27. <https://doi.org/10.58660/periskop.v3i1.31>
- Herawati, A., Sari, A., Santoso, D., Brahmastha, F., Sitorus, G., & Setiawaty, S. (2022). Edukasi Kesehatan Gigi dan Mulut melalui Media Pembelajaran Berbasis Interaktif pada Siswa SDN Mekarjaya 11 Kota Depok Tahun 2022. *Jurnal Pengabdian Masyarakat*, 01(04), 111–118.
- Hidayah, H. (2022). *Hubungan Tingkat Pengetahuan Pasien Tentang Perawatan Luka Pasca Pencabutan Gigi Geraham 3 dengan Keberhasilan Perawatan Luka Pasien di Poli Bedah Minor RSGM UNPAD*. Poltekkes Kemenkes Bandung.
- Kementerian Kesehatan RI. (2018). Laporan Nasional Risdas2018. <http://repository.bkpk.kemkes.go.id/3514/1/Laporan%20Risdas%202018%20Nasional.pdf>.
- Laili, N. F. (2019). *Kepatuhan Pasien Pada Intruksi Paska Odontektomi di Klinik Gigi Swasta Yogyakarta*. Poltekkes Kemenkes Yogyakarta.
- Leonita, E., & Jalinus, N. (2018). The Role of Social Media in Health Promotion Efforts: A Literature Review (Peran Media Sosial Dalam Upaya Promosi Kesehatan: Tinjauan Literatur). *Invotek: Jurnal Inovasi Vokasional Dan Teknologi*, 18(2), 25–34.
- Liliyana, afra sinta. (2022). *Pengaruh Tingkat Pendidikan Terhadap Kepatuhan Intruksi Diet pada Pasien*

- Pasca Odontektomi di Rumah Sakit Islam Sultan Agung Semarang dan Rumah sakit Bhayangkara Semarang*. Universitas Islam Sultan Agung.
- Nasution, R. P. O., Listiyawati, L. L., & ... (2023). Gambaran Penggunaan Media Sosial Dalam Promosi Kesehatan Gigi Dan Mulut Terhadap Pengetahuan Karies Gigi Pada Mahasiswa Universitas Mulawarman. *Mulawarman Dental ...*, 3(2), 79–89.
- Nurmadiyah, N. (2016). Media Pendidikan. *Al-Afkar: Jurnal Keislaman & Peradaban*, 5. <https://doi.org/10.28944/afkar.v5i1.109>
- Puspitasari, N. V. A., Sumaji, B., & Pranata, N. (2019). Gambaran Komplikasi Post Odontektomi Gigi Impaksi Molar Ketiga Rahang Bawah Tahun 2018 di RSGM X Bandung. *SONDE (Sound of Dentistry)*, 4(2), 12–23. <https://doi.org/10.28932/sod.v4i2.1913>
- Ratnasari, A. (2015). Pengembangan Media Pembelajaran Interaktif Keselamatan Dan Kesehatan Kerja (K3) Pada Program Studi Ketenagalistrikan Di Sekolah Menengah Kejuruan. In *Universitas Negeri Yogyakarta*.
- Renaldo, A. (2022). Perancangan Website Interaktif Mengenai Gedung Joang 45 Jakarta. *Snikj*, 1(1), 3–6. <https://doi.org/10.52969/semnasikj.v1i1.30>
- Sembada, S. D., Pratomo, H., Fauziah, I., Amani, S. A., Nazhofah, Q., & Kurniawati, R. (2022). Pemanfaatan Media Online Sebagai Sarana Edukasi Kesehatan Pada Remaja : Tinjauan Literatur. *PREPOTIF: Jurnal Kesehatan Masyarakat*, 6(1), 564–574. <https://doi.org/10.31004/prepotif.v6i1.3110>
- Septina, F., Atika Apriliani, W., & Baga, I. (2021). Prevalensi Impaksi Molar Ke Tiga Rahang Bawah Di Rumah Sakit Pendidikan Universitas Brawijaya Tahun 2018. *E-Prodenta Journal of Dentistry*, 5(2), 450–460. <https://doi.org/10.21776/ub.eprodenta.2021.005.02.1>
- Shojaeibaghini, M., & Shojaeibaghini, S. (2023). The Impact of Internet Health Information on Patient Compliance: A Systematic Review and Meta-analysis. *Journal of Health Literacy*, 8(3), 79–89. <https://doi.org/10.22038/jhl.2023.67687.1351>
- Sihombing, K. P. (2019). Gambaran Pengetahuan Cara Menyikat Gigi Siswa-Siswi Kelas V Sd Negeri 050633 Mojosari Kecamatan Kuala Kabupaten Langkat Sebelum Dansesudah Diberikan Penyuluhan Metode Demonstrasi. *Jurnal Ilmiah PANNMED (Pharmacist, Analyst, Nurse, Nutrition, Midwifery, Environment, Dentist)*, 13(3), 146–150. <https://doi.org/10.36911/pannmed.v13i3.581>
- Tambunan, M. A., & Siagian, P. (2022). Humantech Jurnal Ilmiah Multi Disiplin Indonesia Pengembangan Media Pembelajaran Interaktif Berbasis Website (Google Sites) Pada Materi Fungsi Di Sma Negeri 15 Medan. *Jurnal Ilmiah Multi Disiplin Indonesia*, 2(10), 1520–1533.
- Zhang, Z., Yang, H., He, J., Lu, X., & Zhang, R. (2021). The Impact of Treatment-Related Internet Health Information Seeking on Patient Compliance. *Telemedicine and E-Health*, 27(5), 513–524. <https://doi.org/10.1089/tmj.2020.0081>