

## QUALITATIVE ANALYSIS OF DENTISTS' BEHAVIOR IN COMPLETING ODONTOGRAM FORMS IN THE OUTPATIENT DEPARTMENT OF RSIGM SULTAN AGUNG SEMARANG

Shafira Raudya Aidina<sup>1</sup>, Chriswardani Suryawati<sup>2\*</sup>, Farid Agushybana<sup>3</sup>

<sup>1,2,3</sup> Magister Kesehatan Masyarakat, Fakultas Kesehatan Masyarakat, Universitas Diponegoro, Indonesia

Email: ashafiraud@gmail.com, chriswardani@lecturer.undip.ac.id, agushybana@lecturer.undip.ac.id

### ABSTRACT

*One important part in the implementation of providing health services to patients in hospitals is medical records. The purpose of this study was to determine the relationship between dentist behavior and odontogram completeness, to analyze odontogram filling behavior from the aspect of the relationship between performance expectations, business expectations, social influence, and facilitating conditions, to improve dentist behavior towards filling odontogram completeness, and analyzed the relationship between intervention and completeness of odontogram filling. The type of research used is a qualitative research method. In order to improve the completeness of filling out the odontogram in Electronic Medical Record, it is necessary to consider the various factors that have been identified in this study.*

**KEYWORDS** *Performance Expectations, Effort Expectations, Social Influence, Facilitating Conditions, Odontogram*



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### INTRODUCTION

One important aspect of providing healthcare services to patients in hospitals is medical records. This relates to the content of medical records that reflect all information concerning patients as the basis for determining further actions in service efforts or other medical procedures (Senafekesh et al., 2014). Every hospital

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institution is required to record all services provided to patients in a structured manner related to medical services (Regina Marques Beserra et al., 2022).

Medical records are divided into two categories: manual and electronic or Electronic Medical Records (EMR). EMR is the electronic version of manual medical records, transferring handwritten notes or forms on paper into electronic format (Yusuf et al., 2019). One part of EMR is the dental chart. The problem that often arises in completing electronic medical records is that the filling process is often incomplete, and the diagnosis written by general practitioners or dentists is not specific enough (Regina Marques Beserra et al., 2022). This issue often occurs in the completion of odontograms, resulting in dentists being unable to write complete diagnoses (Soraya et al., 2019).

An odontogram is data attached to dental medical records containing information about the number, shape, arrangement, fillings, dental prosthetics, and so on. Odontograms must be made meticulously so that the condition of the teeth and the type of action to be taken can be distinguished and determined precisely. Odontogram data can also serve as a benchmark for whether an area has succeeded in promoting dental and oral health in the surrounding community (Santosa et al., 2014). Dentists are obliged to create medical records and complete odontograms on the first visit. The implementation of this requirement can assist other colleagues in performing treatments, aid in legal, disciplinary, and ethical problem resolution, and serve identification purposes if patients encounter accidents (Indrijani, 2015).

Several experts have created theories and studies regarding the acceptance of information technology in an organization. This study uses the Unified Theory of Acceptance and Use of Technology (UTAUT) model developed by Venkatesh et al. (Venkatesh et al., 2003). This theory can assess the likelihood of successful introduction of new technology and help understand the behavioral factors of users of a new system from both technological and management aspects, such as performance expectancy. This variable explains the performance of a system to be evaluated and includes indicators such as benefits, effectiveness, and efficiency. It was found that this variable is one of the important variables related to the performance of the EMR system (Jayaseelan et al., 2020). Furthermore, there are effort expectancy, social influence, and facilitating conditions, including training, socialization, and others. The UTAUT model emphasizes that technological aspects such as performance expectancy and effort expectancy, and management aspects such as social influence and facilitating conditions theoretically and empirically influence behavioral intention to use a system/technology. Meanwhile, behavioral intention and facilitating conditions determine the use of the system or technology (Bintoro et al., 2022).

Analyzing secondary data from the E-Assembling Implementation of EMR in 2023, it was found that the completeness of odontogram data in medical records was 53%. The number of outpatient visits to RSIGM reaches approximately 150 patients per month and continues to increase every month. Considering the importance of complete odontogram data in electronic medical records for dentists, but in the initial survey, many dentists did not complete odontogram data in electronic medical records. This is certainly related to the behavior of dentists themselves as users of a system in completing patient odontogram data. User system

usage behavior is influenced by the belief of an individual who believes that using a system will help them gain performance benefits in their work (Nurrudin & Sentot Imam Suprpto, 2022). If the completion of odontograms in electronic medical records can be utilized effectively, it is hoped that it will facilitate healthcare services to become more efficient (Septiany, 2020).

Based on the background described above, this research analyzes the behavior of dentists regarding the completeness of odontogram completion using a modified UTAUT acceptance model.

## **RESEARCH METHOD**

### **The type of research**

The type of research used in this study is qualitative research. Qualitative research in this study is used to analyze the behavior of dentists towards the completeness of filling out odontograms in the outpatient department of RSIGM Sultan Agung using the UTAUT acceptance model, which is about how an individual's behavior is influenced by two aspects: technological and managerial aspects. The technological aspect consists of performance expectancy and effort expectancy. The managerial aspect consists of social influence and facilitating conditions.

### **Research Subjects**

Subject selection in this study uses the purpose sampling method, where purpose sampling is a method of sampling based on specific consideration objectives. The subjects in this study are divided into main informants and triangulation informants. The principles used in selecting informants are adequacy, appropriateness, willingness, and availability to conduct research. The informants involved express opinions according to the matters being researched and do not provide information based on personal opinions.

The main informants consist of general dentists and specialist dentists practicing in the outpatient department of RSIGM Sultan Agung, totaling 4 individuals. Triangulation informants in this study consist of the head of the outpatient department, the manager of medical services, and the head of the medical record unit, totaling 3 individuals.

### **Data Collection Method**

Data collection is conducted using a qualitative approach where the researcher conducts observations and in-depth interviews to deeply understand the situation, define the problems together as detailed as possible through data excavation in interviews. Data collection is also reinforced by observations and documentation conducted in November 2023.

### **Data Analysis Method**

Qualitative data processing is done using interactive analysis according to Miles and Hubberman. This analysis consists of data transcription, data reduction, data presentation, and conclusion drawing. Data transcription begins with presenting data obtained from interviews comprehensively. Data reduction is carried out

to select essential elements and focus on important aspects, examining patterns and interview themes.

The technique used in this study is source triangulation as a test of data credibility. Testing the credibility of interview results is done by comparing statements made by main informants with those made by triangulation informants. Data presentation is done in the form of brief descriptions, and the conclusion drawn in this study is new findings that have never existed before.

## RESULT AND DISCUSSION

### Overview of Sultan Agung Islamic Dental and Oral Hospital (RSIGM) Semarang

RSIGM SA was established in 2012 when it still occupied the old building of RSI Sultan Agung Semarang. On September 12, 2017, the new building of RSIGM SA was inaugurated by the Vice Governor of Central Java. Sultan Agung Islamic Dental and Oral Hospital has operational permission from the Central Java government with permit number SK 445/14151/2019, classified as a type B special hospital.

Sultan Agung Islamic Dental and Oral Hospital Education (RSIGM SA), which functions as the primary Educational Hospital as well as a facility for the implementation of professional education for students of the Faculty of Dentistry UNIS-SULA. The establishment of RSIGM SA was built as a dental and oral health service for the community in order to realize efforts to provide dental and oral health services in promotive, preventive, curative, and rehabilitative efforts. Outpatient services at RSGM Sultan Agung.

Sultan Agung Islamic Dental and Oral Hospital has implemented the use of electronic medical records (EMR) in all units of the Outpatient Installation. This implementation includes the medical record unit, integration clinic, dental specialist center, pharmacy, radiology, laboratory, and cashier. At the beginning of its implementation, the hospital management conducted socialization through online messaging and issued circulars to all employees of the Outpatient Installation, as well as providing technical usage instructions in the form of video tutorials as facilities for EMR users to be able to learn independently.

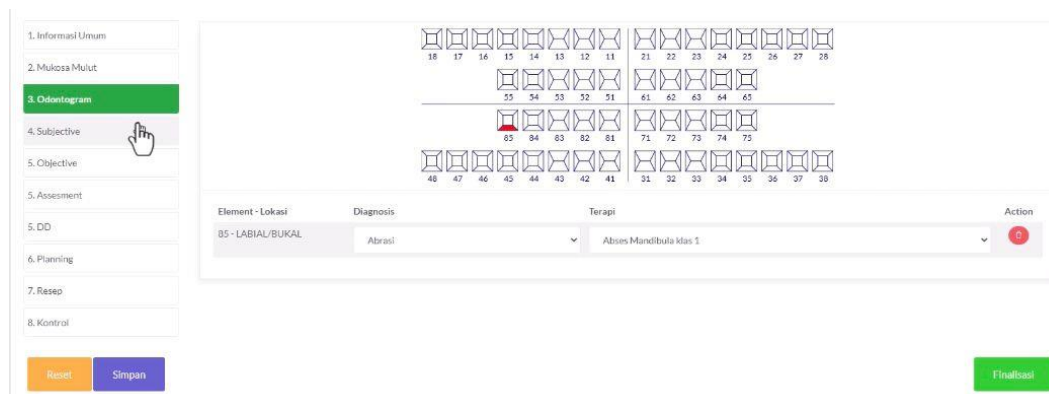


Figure 1. Filling of odontograms in electronic medical record systems

**Characteristics of Research Informants**

The informants used are general dentists and specialists who are on duty at the outpatient poly and perform services to patients, document the results of examinations using electronic medical records, heads of outpatient poly, service managers and heads of medical record units. The main informant in this study was a dentist who practiced in an outpatient poly and used RME to document the results of patient examinations. Triangulated informants include the head of the outpatient poly, the service manager and the head of the medical records unit. The characteristics of the main informants can be seen in tables 1 and 2:

**Table 1. Characteristics of Primary Informants**

Unique Informant Code	Age (Year)	Gender	Education	Work Experience
IU 1	29	Female	Master's Degree	2
IU 2	28	Female	Master's Degree	2
IU 3	27	Female	Dental Professional	2
IU 4	30	Female	Specialist	3

**Table 2. Characteristics of Triangulation Informants**

Unique Informant Code	Age (Year)	Gender	Education	Work Experience
IT 1	32	Female	Specialist	3
IT 2	29	Male	Bachelor's Degree	5
IT 3	27	Male	Dental Professional	2

Based on Table 1, it can be concluded that the number of primary informants consists of 3 individuals with an age range of 27-29 years. The educational background of the informants consists of a master's degree (S2) and a bachelor's degree (S1). The average work experience of primary informants is 2 years. Based on Table 2, it is concluded that the number of triangulation informants consists of 3 individuals with an age range of 27-32 years. The educational background of the triangulation informants consists of specialists (S2) and bachelor's degree (S1). The work experience of triangulation informants ranges from 2 to 5 years.

**Analyzing Performance Expectancy Factors in Completing Odontogram**

Performance expectancy assessment is generated by perceptions of usefulness, job fit, relative advantage, and outcome expectancy. Filling out the odontogram in the outpatient department of RSIGM Sultan Agung, all primary informants stated that filling out the odontogram in the EMR provides many benefits by shortening the filling time, thus accelerating service time. Another advantage is easy storage and access to patient odontograms. However, for some doctors, they stated the opposite, that filling out the odontogram in electronic medical records consists of various options or columns that require a lot of time to fill out. Another benefit

emphasized by triangulation informants, namely medical service managers, outpatient installation heads, and medical record unit heads, is that the use of odontograms in EMR shortens service work time and is easy to store.

This is in line with Vania's research (2022) that odontogram users in EMR will be motivated to adopt the system because of the system's usefulness/functionality for their work, such as allowing someone to complete tasks faster and improving performance. Although sometimes some users find the system difficult to use, users will adapt and try to learn it because they need the system.

### **Analyzing Effort Expectancy Factors in Completing Odontogram**

The majority of informants stated that filling out the odontogram in electronic medical records (EMR) is easy to operate. Effort expectancy is the perceived ease of use of information technology systems by users (Venkatesh et al., 2003). This was confirmed by the head of the outpatient installation stating that filling out the odontogram in EMR provides ease in filling compared to manual systems and all assessment elements in patient medical records have been accommodated, making data entry more effective. Consistent with the research by (Amin et al. 2021), which stated that electronic medical records are very easy to use, especially facilitating the documentation process, searching for patient data and history, thus saving time and being more effective. Although some older doctors consider electronic systems to be cumbersome to fill out due to limitations in using technology. Things to consider include changing the display of the electronic medical records menu to be simpler and more systematic to facilitate user understanding in operating them.

### **Analyzing Social Influence Factors in Completing Odontogram**

Social influence aspect relates to external pressure from important people in one's life, such as colleagues and supervisors in the workplace (Pinerdi et al., 2020). The majority of informants stated that filling out the odontogram in EMR is supported by colleagues, leaders, and hospital management who always provide support. The director provides support and supervision, and managers below him support the implementation of EMR usage. However, there are no rewards or penalties for dentists who do not fill out EMR.

### **Analyzing Facilitating Conditions Factors in Completing Odontogram**

At RSIGM Sultan Agung, a digitization team has been formed consisting of several unit heads to oversee and monitor the use of EMR, including filling out odontograms. Training is provided with video tutorials on how to fill out EMR created by the IT team. Some dentist respondents stated that they were still confused if the guidance material was given through video. At the beginning of the EMR implementation, there was resistance from some doctors because they were not familiar with the system. Errors often occur during filling, either in the network or system, thus hindering dentists or EMR users in their services.

Based on the brainstorming results, the solution to problems in using EMR includes the need for coordination and assistance by nurses in each outpatient clinic room in filling, giving praise or sanctions to users to increase motivation in filling

out EMR, conducting monitoring and evaluation every month, and promptly addressing and handling any user complaints.

## CONCLUSION

Based on the research results and discussion, respondents' perceptions of filling out odontograms in electronic medical records (EMR) at RSIGM Sultan Agung Semarang regarding the aspect of job expectancy indicate that filling out odontograms in electronic medical records helps facilitate the filling process, thus speeding up work. The effort expectancy aspect of the odontogram filling system in electronic medical records is easy to use and understandable for respondents who are accustomed to computerization. The social influence aspect on the implementation of electronic medical records, most respondents stated that the supportive social environment and leaders provide encouragement for the electronic medical records system. Facilitating conditions support users in filling out odontograms in electronic medical records. There is a need for follow-up to conduct periodic training or socialization to increase the motivation of dentists in filling out EMR. In addition, there is a need for continuous monitoring and evaluation of dentists and an increase in the network capacity of the RSIGM information technology system to prevent system downtime or errors.

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