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## **Obstacles of Patient Safety Culture Implementation to Prevent and Control of Healthcare-Associated Infections (Hais) During Covid-19 Pandemic: A Phenomenological Study**

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**Abstract. Background:** The implementation of patient safety is an effective strategy in preventing and managing Healthcare-Associated Infections (HAIs). **Objective:** This study aimed to explore the obstacles in implementing the patient safety culture by dental co-assistant (co-ass) on prevention and control of HAIs in the covid-19 pandemic. **Method:** This study used a qualitative method with a phenomenological study approach. The sample in this study was 16 key informants consisting of 10 dental co-assistant, five dental nurses, and one hospital director. The sampling technique used the purposive sampling technique. **Results:** The results of this study indicate that there were five obstacles in implementing the patient safety culture to prevent and control HAIs, including 1) the rules were not strict in the implementation of patient safety culture; 2) poor attitude by the dental co-assistant (co-ass); 3) the facilities are not feasible to support the implementation of patient safety culture; 4) inadequate patient safety culture guidelines, and 5) lack of supervision in the implementation of patient safety culture. **Conclusion:** The results of this study provide important information related to obstacles faced by dental co-assistant in the implementation of patient safety culture to prevent and control HAIs during the covid 19 pandemic. The dental co-assistant should focus on the implementation of patient safety culture to suppress the occurrence of HAIs.

**Keyword:** dental co-assistant (co-ass), patient safety culture, healthcare-infection associated, qualitative study

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## INTRODUCTION

Dental and oral services are at risk of exposure to patient body fluids. The dental co-assistant (co-ass) is a student attending the education profession as a dentist, assigned to handle the routine dental and oral care (1).

Generally, a dental co-assistant should be professional to patients and other medical staff during their clinical practice. (2). Besides, other tasks become a graduation requirement at the level of the profession, such as making a paper about the case, starting from the definition, prevention will be presented, they are necessary to learn and accomplish the tasks at the same time. A dental co-assistant will be accompanied by a senior doctor in their role.

This is stipulated in the Regulation of the Minister of Health number 1419/Menkes/Per/X/2005 concerning the practice implementation of a doctor or dentist. This regulation states that a doctor or dentist may instruct the dental co-assistant (co-ass) to handle the patients according to their competence. In practice, a dental co-assistant (co-ass) often experiences the splash of microorganisms in the blood and saliva (3).

HAIs (Healthcare-Associated Infections) are a big problem. Those are infections acquired and developing in hospitalized patients (4). World Health Organization reported that 8.7% of patients admitted to hospital had nosocomial infections (5).

HAIs are the transfer of infectious agents between patients, dentists, and health workers in a dental health service environment. Infection can be caused by accidents such as punctured sharp instruments, unsterilized hands, as well as through the mouth and respiratory tract (6). Treatments in dental practice put them at high risk, especially against dangerous infectious diseases caused by bacteria and viruses. HAIs in dental practice can be transmitted through dental tools, especially tools for pulling teeth or cleaning the tartar. And also, those are transmitted through

communicable diseases, such as HIV/AIDS, Hepatitis B, Hepatitis C, and hepatitis D (7). So the dental co-assistant (co-ass) must pay attention to patient safety in medical practice

## OBJECTIVE

This study aimed to explore the obstacles in implementing the patient safety culture by dental co-assistant (co-ass) on prevention and control of HAIs in the covid-19 pandemic.

## METHOD

### Research Design dan setting

This research is a qualitative study with a phenomenology approach to explore the obstacles in implementing the patient safety culture by dental co-assistant (co-ass) on the prevention and control of HAIs during covid-19 pandemic. This research was conducted at Hospital X, Jakarta, Indonesia. Each participant in this study was explained about the purpose of this study and asked to sign an informed consent which contained consent to record the conversation during the interview process and direct observation.

### Informant

This study was conducted by involving 16 key informants consisting of ten dental co-assistant, five dental nurses, and one hospital director using the purposive sampling technique. The inclusion criteria of the dental co-assistant are 1) Physically and mentally healthy; 2) Age 21 - 23 years; 3) Willing to be a respondent; 4) Participated in patient safety culture training. The inclusion criteria of the dental nurse are; 1) On duty; 2) Age 35-40 years; 3) Participated in patient safety culture training; 4) Having work experience of at least one year. The inclusion criteria of the director are; 1) Dentist; 2) Physically and mentally healthy; 3) Knowing the behavior of dental co-assistant; 4) Participated in patient safety culture training.

The exclusion criteria of the dental co-assistant are; 1) Not in place when the research proceeds; 2) Not treating the patient.

The exclusion criteria of the dental nurse are; 1) Not in place when the research proceeds; 2) not helping the dentist. The exclusion criteria of the director are; 1) Unhealthy physically and mentally; 2) Not Dentist; 3) New Director

**The data collection procedure**

The method used in the data collection process in this study was through in-depth interviews using open-ended questions based on the interview guide to explore the obstacles faced by dental co-assistant in preventing HAIs. The interview process was conducted in a closed room at the hospital for 60-90 minutes. All interview results will be recorded and then transcribed in textual form.

The observation process aims to observe the habits of dental co-assistant in carrying out their dental practice when treating patients in implementing the patient safety culture to prevent and control HAIs. The dental co-assistants were in observation from the first treating patients until completion. This observation process was carried out for 60 - 90 minutes, with a close observation technique, and observed by an informant, which means that this observation is not known by the dental co-assistant in carrying out their dental practice.

The document review was conducted to examine the Standard Operating Procedures (SOPs) with the established regulations and enforced in every part of the hospital and to know whether it runs following the specified provisions.

**DATA ANALYSIS**

The data results of this study were transcribed from a recorded form into a narrative. After the data was collected, the researcher checked it back and reduced the unnecessary data to conclude a key theme and sub-key theme. Content analysis was to identify, analyze and report the topics obtained. The parallel technique was conducted by two researchers to reach a research agreement. The final step of this data

analysis is to create or categorize themes based on the perceptions of each key informant.

**Table 1. Description of the informant selection and informant number of each group**

Key Informants	Total of Sample	Inclusion Criteria	Exclusion Criteria
Dental Co-Assistant	10	<ul style="list-style-type: none"> <li>- Physically and mentally healthy;</li> <li>- Age 21 - 23 years;</li> <li>- Willing to be a respondent;</li> <li>- Participated in patient safety culture training</li> </ul>	<ul style="list-style-type: none"> <li>- Not in place when the research proceeds;</li> <li>- Not treating the patient</li> </ul>
Dental Nurse	5	<ul style="list-style-type: none"> <li>- On duty;</li> <li>- Age 35-40 years;</li> <li>- Participated in patient safety culture training;</li> <li>- Having work experience of at least one year.</li> </ul>	<ul style="list-style-type: none"> <li>- Not in place when the research proceeds;</li> <li>- Not helping the dentist</li> </ul>
Director	1	<ul style="list-style-type: none"> <li>- Dentist;</li> <li>- Physically and mentally healthy;</li> <li>- Knowing the behavior of dental co-assistant;</li> <li>- Participated in patient safety culture training</li> </ul>	<ul style="list-style-type: none"> <li>- Unhealthy physically and mentally;</li> <li>- Not Dentist;</li> <li>- New Director</li> </ul>

**RESULT**  
**Demographic Data**

A total of 16 informants were selected based on inclusion criteria for the in-depth interviews. 50% of them are female, and 50% are male. The majority of informants in this study were aged 21-23 years, and they are dental co-assistant, while the nurses are 35-40 years old. The majority of informants in this study had completed their undergraduate education. Their work experience was an average of 3-5 years.

## **Obstacles in implementing the patient safety culture**

The research result explains the obstacles in implementing the patient safety culture, which is presented systematically based on the hospital director views, dental co-assistant, and dental nurse. Five relevant key themes describe the obstacles faced by dentists in preventing and controlling HAIs during the COVID-19 pandemic. Obstacles often faced, including; 1) the rules were not strict in the implementation of patient safety culture; 2) poor attitude by the dental co-assistant (co-ass); 3) the facilities are not feasible to support the implementation of patient safety culture; 4) inadequate patient safety culture guidelines, and 5) lack of supervision in the implementation of patient safety culture.

### ***The rules were not strict in the implementation of patient safety culture***

Rules are crucial in implementing the patient safety culture to prevent HAIs in their dental practice, regulated in the SOPs. The hospital Director said that the SOPs related to the implementation of the dental practice were available, but there were no strict sanctions for health workers violating or treating without following appropriate standard procedures.

The nurses have informed the rules related to the use of PPE for dental co-assistant (co-ass) in practice. In addition, the directives have also been socialized to all health workers but some of them are ignoring the rules regarding the implementation of patient safety culture.

The observation results found that the director, nurses, and dental co-assistant (co-ass) have understood the SOPs, the management of patient safety culture, and the dangers of HAIs in the Dental and Oral Hospital environment. But there are still dental co-assistant when treating the patient, ignoring the SOPs of patient safety culture, and the strict sanctions have not been applied when violating.

*“There have been several SOPs that have been made and implemented, but sanctions related to violations of patient safety culture have not been implemented optimally” (director, female, 40 years old)*

*“All rules and directives related to the use of PPE and the implementation of patient safety culture have been informed, but violations are still found in dental co-assistant” (Nurse 1, 36 years old, female)*

### ***Poor attitude by the dental co-assistant (co-ass)***

Poor attitude by the dental co-assistant (co-ass) in practice, when training and counseling are held regarding patient safety culture, they did not pay close attention, and most of them did not take part due to the duties in the clerkship at each stage. Some of them took part in the training, but most were playing with their cell phone and also chatting with colleagues.

The results of the observational study found, according to the director, dental nurses, and dental co-assistant, that the training and counseling of patient safety have been conducted but during its implementation, some of the dental co-assistant was absent and some took part in the training, but when it was in progress, they were busy with cell phones and chatting with colleagues, less focused on the material, so that ignoring the rules and the management of patient safety culture in preventing HAIs.

*“In the past, there was never training and counseling on patient safety culture, but now it has been carried out, and the SOPs related to patient safety has also been notified, but it was not attended by all the dental co-assistant and staff, otherwise the those who attended was playing with his cell phone, chatting with colleagues and pay less attention to the counseling and training” (director, female, 40 years old)*

*“We have attended counseling and training regarding the management of patient safety culture, but we admit that, the implementation of patient safety culture in patients sometimes ignore “(Dental co-assistant (co-ass), Female, 21 Years old).*

### ***The facilities are not feasible to support the implementation of patient safety culture***

Facilities and infrastructure play a significant role in preventing and controlling patient safety culture. The interview results with the nurse found that inadequate facilities and infrastructure became an obstacle in the implementation of patient safety culture, including the dental practice.

*“There are several dental treatment room that are commonly used by dental co-assistant, are not standardized in implementing the patient safety culture “(Nurse 1, 36 years old, female)*

*“Sometimes seeing the meeting room is crowded and the duty hours clash with the patient handling practice hours and it make them lazy to join the training so that sometimes the understanding of patient safety culture is not well understood.”(Dental co-assistant (co-ass), Male, 21 Years old)*

The results of the observational study found that the space for counseling and training on patient safety culture was not too large so that it cannot accommodate many participants, and there are still treatment rooms that do not follow the current covid-19 standards. And from previous research to our research, the meeting place has not changed.

### ***Lack of supervision in the implementation of patient safety culture***

Supervision in implementing the rules is necessary to see how much the impact is and how much compliance with these regulations, especially the implementation of patient safety in hospitals.

The interview with the director found the existing sanctions against violators of the

patient safety culture. However, she acknowledges the lack of discipline of each element and the lack of supervision and evaluation conducted by the management to the patient safety culture violators.

*“There are sanctions according to SOPs for patient safety violators at the Dental and Oral Hospital“(director, female, 40 years old).*

*“Sometimes I like to monitor the dental co-assistant regarding the use of PPE during practice but not too often”.( Nurse 1, 36 years old, female).*

The results of the observational study found found the fact about the lack of supervision and evaluation of patient safety culture at the Dental and Oral Hospital. It may be constrained from human resources that have not been established the special team by the hospital management for supervision and evaluation of patient safety culture violators.

### ***Inadequate patient safety culture guidelines***

The implementation of a patient safety culture is already available but only placed in a specific location so that it is not visible to all dental co-assistant. Additional information conveyed by the nurse that the guideline is attached only in particular places so that sometimes not visible.

*“There are already guidelines regarding the management of patient safety culture, but only a few are placed in particular places “(director, female, 40 years old)*

*“The guidelines are only attached in a particular place and sometimes not visible, whereas according to dental co-assistant, no one ever saw and read it, and some have never seen and read it at all “(Nurse 1, 36 years old, female).*

The results of observation found that the guidelines attached in the corner of the room

so it was hard to be reached by medical personnel on duty in the room.

No	Theme	Sub- Theme
1	The rules were not strict in the implementation of the patient safety culture	<ul style="list-style-type: none"> <li>- Lack of support from various parties in implementing patient safety culture</li> <li>- Lack of commitment from all teams</li> </ul>
2	Poor attitude by the dental co-assistant (co-ass)	<ul style="list-style-type: none"> <li>- An attitude that is not concerned about infection (Infection control concern)</li> <li>- Negative attitude and not focus on following the implementation of patient safety culture</li> </ul>
3	The facilities are not feasible to support the implementation of patient safety culture	<ul style="list-style-type: none"> <li>- Unfavorable environment in the implementation of patient safety culture</li> <li>- Difficulty accessing information related to patient safety culture</li> </ul>
4	Lack of supervision in the implementation of patient safety culture	<ul style="list-style-type: none"> <li>- Human resources are inadequate</li> <li>- Unable to manage time in carrying out the evaluation and supervision</li> </ul>
5	Inadequate patient safety culture guidelines	<ul style="list-style-type: none"> <li>- Lack of coordination and communication regarding where to put the guidelines</li> <li>- Lack of evaluation with related parties</li> </ul>

## DISCUSSION

Regarding the discussion about obstacles in implementing the patient safety culture, there are a few things to know, including the regulations that were not strict. According to the director of hospital, several Standard Operational Procedure have been made and implemented, including creating

the sanctions, but its implementation is not as it should be. This is caused by the lack of support from various parties in implementing the patient safety culture and the lack of commitment from all teams in implementing the patient safety culture.

It is consistent with previous studies that the patient safety culture implementation should be carried out and supported by all elements, both the dentist and all related staff in the hospital (8). In addition, strict regulations and clear commitments by all parties are necessary in implementing the patient safety culture (9).

The negative attitude towards the patient safety culture implementation about infection is an obstacle in the patient safety culture implementation (10). The results of this study found that some dental co-assistant did not care about the patient safety implementation, because the important thing for them. They graduate to become dentists regardless of the culture of patient safety, seen when there is counseling, and there are rules regarding patient safety culture, they seem indifferent, and tend to violate the SOPs and applicable regulation. According to the dental co-assistant, they have attended counseling and training on patient safety cultural procedures, but they admit that in its implementation still ignoring it.

Such behavior is dangerous for patients and the dental co-assistants themselves because of the risk of HAIs. In addition, the target to apply the patient safety culture is difficult to achieve. Previous research found that a bad attitude can be an obstacle in the patient safety culture implementation (9). In addition, other studies also state that safety culture is a significant factor in advancing safe patient care (11). These results have implications for service quality for all health care workers in hospitals, and if the leaders prioritize a safety culture, the risk to patients may be improved by staff turnover and increased productivity. It can be a better patient safety system to

provide reliable and safe care (12). To enhance the cultural values of patient safety in the hospital, it takes a sense of self-awareness to be applied or take appropriate action to avoid errors.

Another problem associated with the difficulty of implementing patient safety culture is inadequate infrastructure, where the room is inappropriate in practice based on standards, and the difficulty of accessing information related to patient safety culture. In addition, other research states that providing infrastructure is crucial in supporting the patient safety culture. If the facilities and infrastructure are not noticed by management, the patient safety culture will not be optimal (9).

In addition, there is a guideline at the hospital regarding patient safety culture, but it is not performing well because maybe it is not placed in an easily visible location to all elements. It is in line with previous research that discussed the patient safety culture guidelines at the Usakti Oral Dental Hospital said that the guidelines already existed. However, delivery was not conveyed to all elements because it was not placed in all parts of the hospital. It was only placed in one location so that many staff especially dental co-assistant did not understand the patient safety guidelines (13).

There are other obstacles faced by hospital management in implementing patient safety culture. The obstacle faced is the lack of supervision and evaluation in implementing the patient safety culture. It is not good because the sanctions have been made. However, if lack of supervision and evaluation, the patient safety culture at the Hospital will not be performing well. It is consistent with previous research, which says if the management wants to implement a culture of patient safety in hospitals is expected to have a team that will oversee and evaluate all the constraints and rules that have been made concerning the safety culture patient (14)

Another obstacle identified is a gap between nurses and senior dentists in the patient safety culture implementation. The suggestions from a nurse in making and implementing SOPs regarding patient safety culture are not considered.

It is also in line with previous research that the gap between doctors and nurses was one of the problems, in many case, the doctors do not consider the input from nurses that affects the condition of the patient, such as increasing the risk of infection and failure in implementing SOPs (15-16)

## CONCLUSION

The implementation of patient safety culture is to know the level of compliance of dental co-assistant to HAIs to optimize the implementation of patient safety culture at the covid- 19 pandemic by involving dental co-assistant as the object of qualitative research, as well as obtain important information from respondents as a baseline to develop a protocol or prevention of HAIs models for dental co-assistant in carrying out the dental practice. The habit of dental co-assistant in practicing at the Usakti Dental and Oral Hospital are still many who ignore the patient safety culture. Such as handwashing habits, use of PPE (Personal Protective Equipment), as well as the sterilization of instruments and tools that have not performed well and correctly.

In applying the culture of patient safety in the hospital environment in the dental practice of dental co-assistant, there were obstacles in implementing the patient safety culture to prevent and control HAIs, including 1) the rules were not strict in the implementation of the patient safety culture; 2) poor attitude by the dental co-assistant (co-ass); 3) the facilities are not feasible to support the implementation of patient safety culture; 4) inadequate patient safety culture guidelines, and 5) lack of supervision in the implementation of patient safety culture. The existing obstacles should be improved and

look for other solutions so that the patient safety culture can be achieved well.

### Recommendation

- Controlling and Monitoring HAIs prevention and patient safety culture should be conducted regularly.
- Review the rules regularly to ensure consistency in the patient safety culture implementation at the Oral and Dental Hospital.
- In this covid 19 pandemic, it is recommended that every room should use air exchange circulation and each dental unit use portable suction so that the aerosol that comes out when handling patients can be absorbed by suction and does not spread out.
- In this covid 19 pandemic, advice from researchers for the training of dental co-assistant can use a phantom (sculpture) that uses natural teeth and does not use original patients so that the covid virus does not spread easily

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