

Original Research

## Patient Discomfort Experience During ETT Insertion in Intensive Care Unit Husada Hospital Jakarta, Indonesia



Ni Putu Ayu J. Sastamidhyani<sup>1\*</sup>, Ni Luh Widani<sup>2</sup>, & Agustinus Bandur<sup>3</sup>

<sup>1</sup>ITEKES Bali, Denpasar, Indonesia

<sup>2</sup>STIK Sint Carolus, Jakarta, Indonesia

<sup>3</sup>Bina Nusantara University, Jakarta, Indonesia

Article Info	Abstract
Article history: Received: 25 October 2022 Accepted: 29 November 2022	<i>Introduction:</i> Organ dysfunction may lead to critical disease. The critical disease has put many patients to be monitored intensively during medical treatment to restore their body function. Most ventilator usage is to support recovery from respiratory system problems. A ventilator is connected to an Endo Tracheal Tube inserted into the patient's mouth. This study aims to explore in depth the meaning of patient experience dealing with endotracheal tube insertion during hospitalization in intensive care unit.
Keywords: discomfort, endotracheal tube, experience	<i>Methods:</i> This study used a qualitative research design with an interpretative phenomenological approach. This study used purposive sampling, with total 10 participants with inclusion criteria: patient that has endotracheal tube experience more than 2 x 24 hours, 30-70 years of age, conscious, has good memory while in intensive care unit, able to communicate well and are willing to become participants by signing the participant's informed consent form. The data collection strategy used in-depth interview techniques with semi-structured interview guidelines. Researchers conducted data analysis using NVivo. <i>Results:</i> There are five themes in this study, namely: pain, feeling thirsty, disoriented, feeling anxiety, and hard to communicate verbally. <i>Conclusion:</i> Discomfort experienced in patients while utilizing endotracheal tubes and ventilators affects both physically, psychologically, socially, and spiritually. It takes a lot of courage to survive during those hard times. Patients adapt by praying, showing an obedient attitude, keeping calm, and trying to find out their self-comfort position.

\*Corresponding Author:

e-mail: [sastami19@gmail.com](mailto:sastami19@gmail.com)



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## INTRODUCTION

The critical disease is a disease of organ dysfunction or disorder. Critical care statistics in 2014 showed there were 5 million patients admitted to ICU suffering a critical disease that needs medicine, invasive procedure, and ventilator [1].

ICU treatment through airway management is an important component that needs particular skill, especially by the nurse who spend 24 hours doing bedside nursing. During that time, at any level of consciousness of the patient, the nurse educates the patient about the purpose, maintenance, and impact of endotracheal tube (ETT) insertion.

According to Granja, of 464 ICU respondents, about 81 % of them explain that ETT insertion is the most stressful situation [2]. While Samuelson explains that stressful situation because of ETT has made them feel short of breath, feeling uncomfortable in their whole body, and hard to communicate [3]. Patak et al., also describe that nurse attitude and response meanwhile patient try to communicate with them is a big concern to the patient [4], [5]. Some of the way, such as an alphabet board, mini whiteboard, the paper was an alternative tool that gave a patient chance to write their needs. During those communication, they state that gestures meaningful for patients and nurses. They learn and meet the patient's needs through writing.

Based on the problem above, the study aimed to explore patients' uncomfortable feelings while using EET. The patient's feeling would give understanding how to take care of

the patient with ETT to the intensive care unit nurse.

## METHODS

This study used a qualitative research design with descriptive phenomenological approach [6]. This study used a purposive sampling technique. Patient with ETT experience more than 2 x 24 hours, 30-70 years old, conscious, has good memory while in intensive care unit, able to communicate well, and willing to become participants were recruited after signing the participant's informed consent form. Exclusion criteria were patients and families that refuse to participate, patients with edema laryngeal and hoarse voices continuing after discharge from hospital. The sample of this study consisted of 12 participants. The core instrument in this research was the researcher himself. Supporting instruments were paper and electronic media that recorded the participants' experiences. The data collection strategy used in-depth interview techniques with face-to-face semi-structured interview guidelines [7]. The questions asked during the interview were: (1) Can you explain your memory about endotracheal tube insertion during hospitalization in ICU? (2) Can you please tell me what do you feel during that moment? (3) Can you tell me what kind of experience you often endure? (4) Can you tell me which experiences make you uncomfortable? (5) Can you please tell me how you deal with the discomfort? (6) How do you express your discomfort to the nurse? (7) Can you explain how the nurse responds to your request?

In data analysis, the researcher transcribed words from interviews that had been recorded and coded manually by the researcher. After coding the data, the researcher analyzed the data using Interpretative Phenomenological Analysis [6], [8].

Processing started when the researcher had finished collecting data. All questions were arranged in the same cluster. Unsupporting, the same cluster data were reduced. The researcher started descriptive coding by importing transcript into NVivo 10, compiling the emerging theme and sub-theme. Main theme was parent nodes, and the subtheme was child nodes. Every time a researcher marked an expression of a participant into one theme/ parent nodes were confirmed as "coded." Nodes extraction that contains parent nodes helped the researcher to visualize data NVivo 10 in bar charts and charts that bring forward to show participant expression directly. Next step researcher analyzed the results base on critical thinking since data visualization had been provided.

To increase the descriptive validity, the researcher did a credibility test by recording every participant's words comprehensively, without cutting and telling the original stories. Researcher also did a member check with the researcher team to understand and analyze all the expressions in the cluster by making this interpretation, validity will be better. Researcher also reviewed data from the nurse as supporting participants and did data triangulation. The researcher also discusses the interview transcript with each participant to validate the interview.

Meanwhile, the researcher guarantees that collected data can be confirmed for the dependability test. It might be possible to get similar findings when replicating this research. Researcher also did a conformability test guided by objectivity that represents a participant. The findings have reflected participants' experiences. The researcher did a transferability test through feedback on the database that is taken from member checks, and data triangulation will generate findings [7].

### ***Ethical Considerations***

This research has been approved by the Research Ethics Commission of the nursing program Sint Carolus School of Health Sciences with the number 19/SC.09.VIII/KE/2014, following 7 WHO 2011 standards, namely: social values, scientific values, equal distribution of burdens and benefits, risks, persuasion, confidentiality and consent [9].

The aims and benefits of the research are informed to participants. Participants were allowed to withdraw. Their data would be protected and anonymized. Finally, the participants voluntarily read and signed the consent document [10].

### **RESULTS**

This research was conducted on 12 respondents who were conscious during ETT insertion. The participants' ages were relatively equal, with an average of three respondents in each age category, except 41-50 (1) and 51-60 (2) years old. More than forty percent of the respondents were in

senior high school. Three-fourths patients were married, and all of the participants used ETT size 7 Fr.

Five themes showed up of the participant about discomfort experienced during ETT insertion. Each of these themes can be seen in a scheme that shows the relation between themes of parent and child nodes sorted by using NVivo 10.

### ***Theme 1: Feeling Pain During ETT Insertion***

The sub-theme of this theme was the form of feeling pain during ETT insertion. The state of feeling pain was the participant's attitude during ETT insertion. Those feeling affect the degree of discomfort, especially in the neck area. So the meaning of feeling pain during ETT insertion was the pain that happened around the participant's neck area, which was felt at different levels, mostly disturbing their comfort level. Participants stated that their feeling about pain is difficult to describe and all those memories during ETT are painful. The participant's statement can be seen from the excerpt of the statement below:

*"because when the long tube was inserted into my mouth, I felt something huge inside and discomfort because it stays all the time. I don't know how to describe it, but ..uh...I feel awful and pain in my throat."*

*"I feel hampered because of the tube. I feel obstructed in my mouth and throat. I try to sense the tube by using my tongue. I feel pain in my tongue. The tube give pressure to it. The tube is big.*

*The tube makes my mouth open all the time..hissh.."*

*"after ETT insertion, my lips were both covered by some plaster. I feel pain inside and outside..mm and I can not drink water too.."*

### ***Theme 2: Having Disorientation During ETT Insertion***

The form of disorientation is the participant realizes that ETT insertion has been done without their permission. Those feelings made them confused and, at the same time, frustrated too. So the meaning of disorientation during ETT insertion is that descriptions relate to the person, time, and place around participants at those times, affecting their comfort level. Participants stated that disorientation made them have no choice in what was happening. This meaning can be seen from the part of the participant's statement, namely:

*"what am I doing here, where am I, and why am I on the bed, restless? I look around and can not see what is behind me, but the sound is disturbing. I really want to see my family beside me."*

*"what day is today? How is everything? A nurse talked to me but said nothing about the day, time, or how long I have been here.. it's annoying.."*

*"I see a room, two small machines. They put something in my mouth, and I don't know why...no one tells me.. I am desperate for not knowing where I am now.."*

### **Theme 3: Feeling Thirsty During ETT**

#### **Insertion**

The sub-theme of this theme is the form of feeling thirsty during ETT insertion. The state of feeling thirsty is the feeling need water badly and unsolved during ETT insertion. Those feeling made them wonder why no one cares about their needs and an opinion that their recovery could go slower than expected without water. So the meaning of feeling thirsty during ETT insertion is basic needs fulfillment not met by the nurse. Participants stated they think about it all the time. This meaning can be seen from the part of the participant's statement below:

*"I don't understand why they forbid me to drink... I just don't get it. I try to tell the nurse and point my throat, but they ignore me. I am very...very thirsty, and I often cough..disquiet."*

*"I think I run out of saliva..., and I need water because I feel thirsty again and again.."*

*"I saw the nurse pouring water into the tube in my nose, but I felt warm only, but nothing could be tasted during that time. I can only imagine the water running through my throat and ...I am still thirsty. I heard her say that I am not allowed to drink right now."*

### **Theme 4: Anxiety Increasing During**

#### **ETT Insertion**

The sub-theme of this theme is the form of anxiety that increases during ETT insertion. The form of anxiety is the feeling that emerged

during ETT insertion. All the nurses suggest staying calm and being patient, but participants think about many things about their condition. They need more information about the progress but do not understand the word used by the doctor or nurses. So the meaning of anxiety increasing during ETT insertion is very annoying and provoking them to be more aggressive without informing anything. This meaning can be seen from the part of the participant's statement, namely:

*"Communicating is very important, and you realize it when you have a tube in your mouth. I need food and water, but how can I survive? Because they gave a bottle of water every few hours. I am very worried I will spend many days here...unrest."*

*"I believe I can breathe well... so I want to take the tube out from my mouth... Every time they do oral hygiene and reposition the tube, I feel like I am dying... the pain in the throat and the plaster is frustrating..."*

*"stay in bed and can not breathe normally make me always think about death. What will happen to my family? I see a room and two small machines. They put something in my mouth, and I don't know why...no one tells me.. I am desperate for not knowing where I am now.."*

**Theme 5: Unable to Talk During ETT Insertion**

The sub-theme of this theme is unable to talk during ETT insertion. The form of unable to speak is the patient communication barrier during ETT insertion. Participants realize that 24 hours without uttering a word is torture. They need to explain what is in their mind to other people, especially the nurse. They also spend many times observing what the nurse does so they know when to attract the nurse attention. So the meaning of the inability to talk during ETT insertion is to point out ETT as a communication barrier for all participants. This meaning can be seen from the part of the participant's statement, namely:

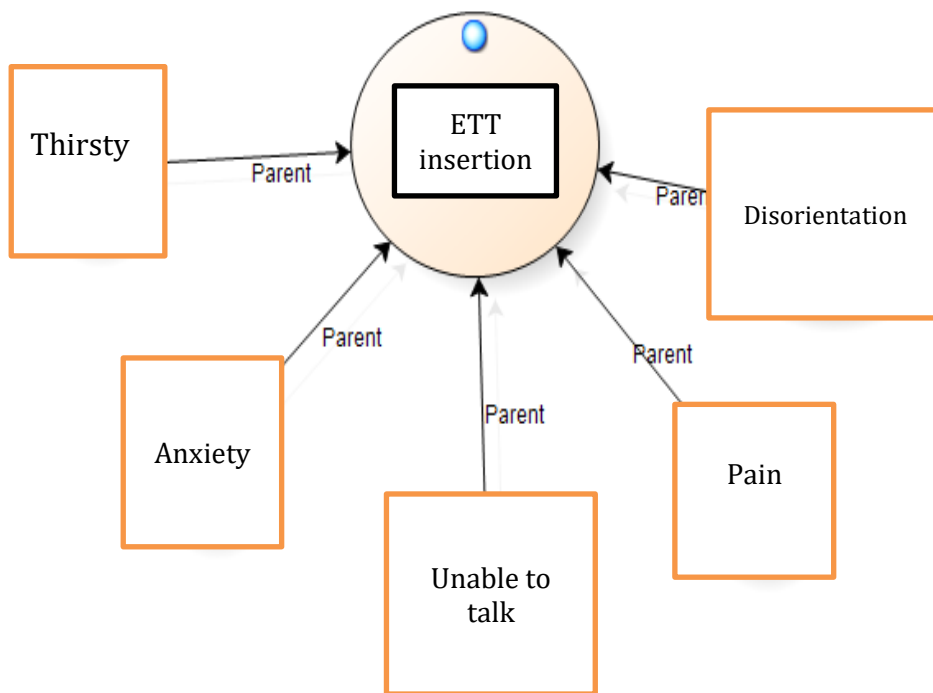
*"I think I talked clearly and used my gesture, but the nurse didn't understand what I wanted. Every time I want to talk, a cough comes, and I keep repeating to talk. I heard no sound, and I let my eyes talk to my mind. It's tiring."*

*"disaffection.., is what I feel when I can not communicate with others around me. What I want to say is only that I want to drink and get out of this bed..that's all."*

*"according to me, it's useless if I keep trying to talk.. since the nurse continue to tell me that during the tube insertion no sound will be heard if I talk...so I use my hand to waving at the nurse...they usually come by and comforting me."*

**Table 1**  
Characteristics of Respondents (n = 12)

	<b>Demographic data</b>	<b>Participant</b>	<b>Total</b>	<b>Percentage</b>
<b>Age</b>	21-30	P1, P6, P7	3	25.00
	31-40	P3, P5, P9	3	25.00
	41-50	P2	1	8.33
	51-60	P8, P12	2	16.67
	60 to above	P4, P10, P11	3	25.00
<b>Education</b>	Elementary school	P10, P11	2	16.67
	Junior high school	P4	1	8
	Senior high school	P1, P2, P3, P5, P6	5	41.66
	University	P7, P8, P9, P12	4	33.33
<b>Marital status</b>	Not Married	P3, P4, P5	3	25.00
	Married	P1, P2, P6, P7, P8, P9, P10, P11, P12	9	75.00
<b>ETT size</b>	7 Fr	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12	12	100
	7.5 Fr	0	0	0.00



**Fig. 1.** Scheme of ETT insertion

## DISCUSSION

The result of this study indicated that participants always feel discomfort because of ETT insertion during hospitalization in the intensive care unit. Those feeling affected the degree of discomfort, especially in the neck area. Intubating after two days has made them realize ETT helped them breathe but also made them feel discomfort. Based on their observation sheet, all of them were inserted 7 Fr size of ETT, and all were lubricated. Estebe et al., [11] recommended that ETT lubrication effectively minimizes throat pain during intubation and after ETT has been inserted. Tosum [12] was also convinced that 7 Fr size ETT lubricated when extubated still has the potential to feel discomfort for many patients.

The most crucial thing in ETT insertion are nurse must prevent traumatic intubation and unplanned extubation through collaboration with all medical team. The collaboration strategy was also emphasized by Divatia et al. [13], who mentioned that muscle relaxant fastens induction helps to make intubation more smooth.

Participants expressed unsatisfied to listen other people talking and responding to their needs. They used infusion therapy, and activities became restricted. Some participants experienced physical fixation or restraint that was put on their extremities. Additionally, they experienced trembling hands during the writing process. Commonly they started communication with the nurse by shaking bed rails slowly or tapping the

oximetry probe into the bed rails. This condition was also observed by the nurse as participant supporters. The nurse found that the patient wanted to communicate and looked restless, head turned right and left, banging the place, sleeping, swiping their body, and trying to tilt and fix position. Patak et al. [4] revealed on 92 respondents, 100% stated that they had difficulty communicating and starting communication using body parts that are free of equipment, such as hands for contact.

The condition of decreased consciousness occurs when participants are attached to an ETT and a ventilator, which gives a perception between conscious and unconscious. In expressing the experience of reduced consciousness, P1 and P3 needed a long time to realize the nurse's information about their presence. The severity of the clinical condition underlying the airway obstruction in these two participants made them subject to long-term sedation. P1, 68 years old, experienced a state of forgetting the ICU moments. P1, when conscious, was very restless and refused to take the ventilator. P1 got pulmonary edema with saturation (Sat O<sub>2</sub>) < 90% and heart rhythm disturbances, so P1 received drip sedation 0.5 cc-1 cc/hour. Participants experienced fixation of both upper and lower extremities because they were uncooperative.

The results of data triangulation with supporting participants (ICU nurses), as long as all ETTs were installed, Participants often signaled for a drink. The results of this study are in accordance with Rotondi's [14] analysis of 150 patients in 4 different ICUs (medical, surgical, trauma, and neurosurgery) who used

ventilators for more than 48 hours 46% felt thirsty. Leur et al. [15], in 123 ICU (Medical) patients and 48 ICU (Surgical) patients, found 66 respondents mentioned discomfort due to ETT procedures, pain, difficulty communicating, and thirsty.

Patients felt anxiety because they wondered how long they would use EET. Participants felt that their breathing was better, but the device was not removed immediately, so their perception was that they were hanging on a ventilator. Based on the participant's expression, the nurse realizes anxiety caused by ETT exists. Nurses tried to define source noise in the environment around the patient. It is an essential patient role in the family, what course and benefits installed equipment, information moderate illness experienced, primarily if the thing is written repeatedly by the patient. Nurse continuously makes an effort to give understanding and be ready beside the patient. Body language nurse covers touch and grips. Twibell & Mahmoodi [16] investigated subjective perceptions and physical variables during the weaning process. Results showed 68 respondents who were successfully weaned from a ventilator faced personal perceptions of dyspnea, anxiety, fatigue, and anger. Increasing hemodynamic status and adequate airway made the patient perceive that he was ready for weaning and immediately required extubation.

#### **LIMITATION**

The study limitation is small sample size due to a small number of patient can remember.



Another limitation, the study use qualitative method. Further study with big sample size and mixed method study is recommended to dig deeply patient's experience using ETT.

### **IMPLICATION FOR NURSING PRACTICE**

The finding showed a number of implication for nurse and nursing student. First, patient needs more nurse attention during using ETT because they could not speak normally. Communication of body language might need to be learned. Second, nursing student have to understand patient in this situation, and curricula for communicating with patient has communicable issues is important issue. In addition, hospital policy would facilitate alarm or remote on the bed that could help patient to call nurse and proper nurse situation position would help handle the situation.

### **CONCLUSION**

Intubation experience is a problematic experience for the patient struggling at ICU. Patients feel pain, thirst, difficulty communicating verbally, disoriented, and anxiety. Nurse have a significant challenge in facing this problem. How they can understand what the patient needs, how they can communicate well, and how they can make the patient understand their life situation. Further study needs to explore those parts.

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