# BUKTI DAN RIWAYAT KORESPONDENSI JURNAL INTERNASIONAL BEREPUTASI TERAKREDITASI SCOPUS Q4

Judul Artikel	<ul> <li>Bridging Innovation to Prevent Ventilator-Associated Pneumonia: A Descriptive Qualitative Study among Critical Nurses</li> </ul>
Jurnal	: Jurnal Keperawatan Padjadjaran
Penulis	:
	1. Yulis Setiya Dewi
	2. Arina Qona'ah
	3. Hidayat Arifin
	4. Rifky Octavia Pradipta
	5. Rosita
	6. Lizy Sonia Benjamin

No	Perihal	Tanggal	Halaman
1	Bukti submit pada OJS	10 Desember 2022	2
2.	Bukti Review round 1	12 Desember 2022	3
3.	Bukti hasil review 1	12 Desember 2022	4-5
4.	Bukti hasil review 2	13 Desember 2022	6-9
5.	Bukti hasil perbaika	16 Desember 2022	10-21
6.	Bukti Daftar Author di OJS		22
7.	Bukti Accepted	27 Desember 2022	23

# Lampiran 1

# Bukti Submit pada OJS

923 / Dewi et	/ Bridging Innovation to Prevent Ventilator-Associated Pneumonia: A Descriptive Qualitative Study among Critical Care Nurses	.ibrary
Workflow	ublication	
Status: Publish		
	This version has been published and can not be edited.	
Title & Abst	Bahasa Indonesia En	nglish
Contributor	Prefix	
Metadata	Examples: A, The	
References		
Galleys	Title	
	Abstract	
	$B I x^2 x_2 d^{p}$	
	<b>Background:</b> Ventilator-Associated Pneumonia (VAP) is still a concern for individuals who are dependent on a ventilator. It is envisaged that the growth of technology-based innovations would lead to the creation of remedies for the prevention of VAP.	
	<b>Purpose:</b> The purpose of this study was to learn more about ICU nursesâ€ <sup>™</sup> perspectives on nursing innovations to avoid VAP in patients who are on ventilators.	

# **Bukti Review round 1**

Invision	Dublication				
VORKTIOW	Publication				
Submission	Review Copyed	liting Production			
Round 1					
Reviewe	r's Attachments				Q Search
6221-	1 Article Text, 1923-6158	-1-RV - 12-12-21.docx	December 12, 2021	Full Paper details)	(without author
6228-	1 Article Text, SY 1923-61	58-1-RV.docx	December 13, 2021	Full Paper details)	(without author
Revision	s			Q Search	Upload File
▶ 🕅 624	Article Text, Revised	Manuscript.docx	December 16, 2021	Full Paper details)	(without author
			16, 2021	details)	

#### hasil review 1



File Heme loost		G <sub>C</sub> <del>⊽</del> 1923-F	Full Paper (with	hout author detai	ils)-6228-1-5-20211213 Reviewe	r comm •	Saved 🗸 🖉 🔎	YU	.IS SETIYA DE	wi 😗 🖉	- 0	$\times$
rue nome Insert	Draw Design L	avout Reference	ces Mailin	as Review	View Help				PCo	mments 🖉 Editin	g v 년 Shar	re ×
Abc Spelling and	Grammar ~ (A))			t⊐ New Comm	rent 🗘 Next	E.	Simple Markup	<b>.</b>				
Editor Thesaurus	A <sup>''</sup> Read	Chask		X⊐ Delete ~	Show Comments ~	Track	Show Markup Y				t Llida	
Word Count	Aloud	Accessibility ~	v	🛱 Previous		Changes ¥	Reviewing Pane	~ /	čcept 🕒	v v	Ink Y	
Proofing	Speech	Accessibility			Comments		Tracking	۲ <u>۵</u>	Changes	Compare	Ink	~
L	with the he	In of the NV/V/O 1	2 program //	022 Internation		· 스· · · · ·			Comm	ients	$\sim$	×
-	Coloizzi w		iz program (c	of the interview	findings (1) Esmiliarization w	ith.					t New	
m		is employed in th			(2) formulation of moonings	(4)				9		
1	the transcri	pt, (2) identificatio	on or significa	ant statements,	(3) formulation of meanings,	(4)						
	clustering	or themes, (5) a	evelopment	or detailed de	scription, (6) production of t	ne			U USE	R	0	
- -	tundamenta	al structure, and (	7) seeking ve	erification of the	e fundamental structure were t	ne			Hov Bah	v did authors conduct c asa or English?	uestion?	
÷	stages invo	Ived. (Morrow et a	al., 2015). In	ie researchers u	used the Standards for Report	ng			If Ba	ahasa, explain translatio	n process to	
- -	Qualitative	Research to impr	ove the quali	ity and transpar	ency of the study results and t	ne			Ren	lv.		
	reporting th	iat went along wit	th them (SRC	QR) (O'Brien et a	al., 2014).	4			Tep	·y		
1	RESULTS								U USE	R	0	
- 9	Demograp	hic Study							goo	d	-	
1	From	n 30 critical care	nurse partici	ipants, it is know	wn that the average age is 31	.8			Rep	ly		
	years with	the majority of fer	male (n:,.	%). The worl	k status of nurses is roughly t	he 🖵						
2	same betw	een government	t servants ar	nd non-civil se	rvants. Almost half of the to	tal 🖓			USE	R	0	
-	participants	s have education	of diploma ir	n nursing level	and work in non-COVID-19 IC	CU			plea	se add it		
- 0	rooms. On	average, participa	ants worked a	as nurses for 8.	8 years and as critical nurses	for			Dece	110EF 13, 2021, 7.24 PM		
	5.5 years (	Table 1).							Rep	ly		•
Page 5 of 19 4668 words	Table 1 Pa Text Predictions: On 🕅 Ar	articinante Charac ccessibility: Investigate	storietice (n =	30)				D Fo	us 🕅			82%
AutoSave Off		ç¦c ⊽ 1923-F	Full Paper (with	hout author detai	ils)-6228-1-5-20211213 Reviewe	comm +	<b>C</b> 1 <b>O</b>					
Abc challing	: Draw Design L	ayout Reference	ces Mailin	gs <u>Review</u>	View Help		saved V >>	YU		mments	ー O g ~ ピ Sha	× re ×
Spelling and	Grammar ~ $(\Delta v)$	ayout Referenc	ces Mailin	gs <u>Review</u> t⊐ New Comm	View Help nent 🖓 Next		Saved V 2	YU		mments	- □ g • 🕜 Shar	× re v
Editor	Grammar ~ A)) Read	ayout Referend	ces Mailin Language	gs <u>Review</u>	View Help nent 🗘 Next 💭 Show Comments 🗸	Track	Simple Markup	YU		mments Compare Protect	- □ g • 🕑 Shar I Hide	× re v
Editor Thesaurus	Grammar ~ (A)) Read Aloud	Ayout Reference Check Accessibility ~	ces Mailin Language	gs <u>Review</u> ↓ New Comm ↓ Delete ↓ ↓ Previous	View Help hent $\overrightarrow{V}$ Next Show Comments $\checkmark$	Track Changes V	Saved V D Simple Markup Show Markup V Reviewing Pane	YU YU	JS SETIVA DE	mments C Editin Compare Protect	g v 🖆 Shar t Hide Ink v	× re v
Editor Word Count Proofing	Grammar * (A)) Read Aloud Speech	Check Accessibility ~	Ces Mailing Language	gs <u>Review</u> C New Comm Delete ~ Previous	View Help Mext Show Comments ~ Comments 	Track Changes ¥	Saved V D Simple Markup Show Markup V Reviewing Pane Tracking	YU A IS	LS SETIVA DE	mments Compare Compare	- O g ▼ LA Shat t Hide Ink ▼ ink	× re v
Editor Proofing	Grammar * A()) Read Aloud Speech with the he	Ayout Reference Check Accessibility × Accessibility 1 · · · · · · · · · 2 Ip of the NVIVO 1	Ces Mailin Language 2 program (0	gs Review New Comm Delete ~ Previous SR Internation	View Help Mext Show Comments Comments Comments Comments Comments Comments	Track Changes V	Saved ∨ ⇒ Simple Markup ⇒ Show Markup × ⇒ Reviewing Pane Tracking 	YU S	LS SETIVA DE Co Ccept Changes	mments Celitin Compare Compare	- O g • C Sha Hide Ink • Ink	× re v
Speiing and     Speiing and     Thesaurus     Thesaur	Grammar * Avi) Read Aloud Speech with the he Colaizzi wa	Ayout Reference Check Accessibility × Accessibility Ip of the NVIVO 1 as employed in th	Anguage Ang	gs <u>Review</u> ↓ New Comm ↓ Delete ↓ ↓ Previous QSR Internation of the interview	View Help Next Show Comments Comments Comments All, The approach developed findings. (1) Familiarization w	Track Changes ~	Saved  Simple Markup  Show Markup  Reviewing Pane Tracking	PU A Is	Changes	mments Ceditin Compare Compare	- O g v C Sha Hide Ink v Ink V € New	× re v v
Speining and Editor	Grammar * Av) Read Speech with the he Colaizzi wa the transori	Accessibility Check Accessibility 1	Ange Mailing Language 2 program (C ne analysis o on of significa	gs <u>Review</u> Common C	View Help Next Show Comments Comments Comments All, The approach developed findings. (1) Familiarization w (3) formulation of meanings,	Track Changes ~	Simple Markup Show Markup Reviewing Pane Tracking	YU S	Comm	mments Compare Compare Compare	- g ♥ G Shat Hide Ink ♥ Ink ♥ New	
Speining and Editor	Grammar * A() Read Speech with the he Colaizzi wa the transcri clustering	ayout Reference Check Accessibility Accessibility I Accessibility I Accessibil	A mailing Language 2 program (C ne analysis o on of significa levelopment	gs <u>Review</u> Composition of the interview ant statements, of detailed de	View Help Next Show Comments Comments Comments Comments Comments Comments Comments Comments Comments (1) Familiarization w (3) formulation of meanings, scription, (6) production of t	Track Changes ~	Simple Markup Show Markup Reviewing Pane Tracking	YU S	LS SETIVA DE Competition Changes Comm	mments Compare Compare Compare Protec Protec Protec Protec Protec	- g ▼ t Hide Ink × Ink New	×
Speining and     Speining and     Thesaurus     Size Word Count     Proofing	Grammar * A() Read About Speech with the he Colaizzi wa the transcri clustering fundament	ayout Referent Check Accessibility Accessibility I	ces Mailin Language 2 program (C ne analysis o oon of significa levelopment 7) seeking vo	gs <u>Review</u> Common Co	View Help Next Show Comments Comm	Track Changes ~ by ith (4) he	Simple Markup Show Markup Reviewing Pane Tracking	A R	Comm Comm Comm	mments Compare Compare Compare Protec Protec Protec Protec Protec Protec Protec Protec Protec Protec Protec Protec Protec	g V C Sha g V C Sha t Hide Ink V Ink	× re v ×
Speining and     Speining and     Thesaurus     Sword Count     Proofing     I	Grammar * A() Read Aloud Speech with the he Colaizzi wa the transcri clustering fundament stages invo	ayout Referent Check Accessibility Accessibility I Accessibility I Accessibili	Language Language 2 program (C ne analysis o oon of significa levelopment 7) seeking vo al., 2015). Th	gs Review Delete - Previous Review Previous QSR Internation of the interview ant statements, of detailed de erification of the me researchers u	View Help Next Show Comments Comm	Track Changes ~	Simple Markup Show Markup Reviewing Pane Tracking		Ccept Common Changes	mments Compare Compare Compare Protec Compare Protec P	g v C Shar Hide Ink v Ink v C New	
Speining and     Speining and     Thesaurus     Sword Count     Proofing     I	Grammar * A() Read Aloud Speech with the he Colaizzi wa the transcri clustering fundament stages invo Qualitative	ayout Referent Check Accessibility Accessibility Accessibility I Accessibility I Accessibility	Language Language 2 program (C ne analysis o on of significa levelopment 7) seeking vo al., 2015). Th	gs Review C New Comm C Delete ~ Previous A Previous A	View Help Next Show Comments Comm	Track Changes ~	Simple Markup Show Markup Tracking		Ccept Common Changes	mments Compare Compare Compare Compare Compare Protec Compare Protec Compare Protec Compare Protec Compare Protec Compare	g v C Shar Hide Ink v Ink v C ····	× re v
Speining and     Speining and     Thesaurus     Size Vord Count     Proofing     Thesaurus	Grammar * Av) Read About Speech with the he Colaizzi wa the transcri clustering fundament stages invo Qualitative reporting th	ayout Referent Check Accessibility 1	Language Language 12 program (0 ne analysis o on of significa levelopment 7) seeking vo al., 2015). Th rove the quali th them (SRC	gs Review C New Comm C Delete ~ Previous A Previous A A A A A A A A A A A A A A A A A A A	View Help Next Show Comments Comm	Track Changes ~	Simple Markup Show Markup Reviewing Pane Tracking		Comm Comm Comm Comm Comm	mments Compare Compare Compare Compare Compare Protec Compare Protec Protec Protec Compare Protec Compare Protec Compare R Compare Compare Compare Compare Compare R Compare Compare Compo	- O g v C Sha t Hide Ink v ink t New ℓ	X re V X
Speining and     Speining and     Thesaurus     Word Count     Proofing     I	Grammar * Ar) Read About Speech with the he Colaizzi wa the transcri clustering fundament stages invo Qualitative reporting th <b>RESULTS</b>	ayout Referent Check Accessibility - Accessibility - 1 2 Ip of the NVIVO 1 as employed in th ipt, (2) identification of themes, (5) d al structure, and ( ilved. (Morrow et al Research to impro- nat went along with	Language Language 12 program (C ne analysis o on of significa levelopment 7) seeking vo al., 2015). Th rove the quali th them (SRC	gs Review C New Comm C Delete Previous A Previous A A A A A A A A A A A A A A A A A A	View Help Next Show Comments Comments Comments Comments Comments Comments Comments (3) formulation of meanings, scription, (6) production of t e fundamental structure were t used the Standards for Reporti ency of the study results and t al., 2014).	Track Changes +	Simple Markup Show Markup Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec P	g v C Shar Hide Ink v Ink K New C L L L L	× re ×
Speining and     Speining and     Thesaurus     Word Count     Proofing     '	Grammar * Apple Grammar * Apple Read About Speech Colaizzi wa the transcri clustering fundament stages invo Qualitative reporting th <b>RESULTS</b> Demogram	Ayout Referent Check Accessibility 1	Language Language 12 program (C ne analysis o on of significa levelopment 7) seeking vo al., 2015). Th rove the quali th them (SRC	gs Review C New Comm C Delete Previous A C Delete Previous A C Delete Previous A C Delete Previous A C Delete A C Delet	View Help Next Show Comments Comments Comments Comments Comments (3) formulation of meanings, scription, (6) production of t a fundamental structure were t used the Standards for Reporti ency of the study results and t al., 2014).	Track Changes ~ by ith (4) he he ng he	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec P	g v C Shar Hide Ink v Ink K New C nese themes	× v
Speining and     Speining and     Thesaurus     Word Count     Proofing     I	Grammar *	ayout Referent Check Accessibility 1	ces Mailin Language 12 program (0 ne analysis o on of significa levelopment 7) seeking vo al., 2015). Th rove the quali th them (SRC	gs Review ↓ New Comm ↓ Delete ↓ ↓ Previous ↓ Previous ↓ Previous ↓ Additional ↓ Previous ↓ Additional ↓ Previous ↓ Delete ↓ ↓ Previous ↓ Delete ↓ ↓ Previous ↓ Delete ↓ ↓ Previous ↓ Delete ↓ ↓ Previous ↓ Previous ↓ Delete ↓ ↓	View Help Next Show Comments Comments Comments Comments Comments Comments Comments Comments Comments Comments (3) formulation of meanings, (3) formulation of meanings, (3) formulation of meanings, (3) formulation of meanings, (3) formulation of meanings, (4) production of the scription, (6) production of the scription, (7) production of the scription, (7) production of the scription, (7) production of the scription, (8) production, (8) production	Track Changes ~	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec P	g v C Shar Hide Ink v ink V New V nese themes	
Speining and     Speining and     Thesaurus     Word Count     Proofing     I	Grammar * Applied About Speech with the he Colaizzi wa the transcri clustering fundament stages invo Qualitative reporting th <b>RESULTS</b> Demograp Fror years with	ayout Referent Check Accessibility 1	ces Mailin Language 12 program (0 ne analysis o on of significat levelopment 7) seeking vo al., 2015). Th rove the quali th them (SRC nurse partici male (n	gs Review ↓ New Comm ↓ Delete ↓ ↓ Previous ↓ Previous ↓ Previous ↓ Anternation of the interview ant statements, of detailed de erification of the he researchers L ity and transpar QR) (O'Brien et µpants, it is know 	View Help Next Show Comments Comments Comments Comments Comments Comments Comments Comments Comments Comments (3) formulation of meanings, (3) formulation of meanings, (4) formulation of meanings, (5) production of the scription, (6) production of the scription, (7) production of the scription, (6) production of the scription, (7) production of the scription, (8) production of the scription, (9) production, (9) production, (9	Track Changes ~	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec P	g v C Shar Hide Ink v ink V V New U ···· nese themes	
Speining and     Speining and     Thesaurus     Solution     Vord Count     Proofing	Grammar * Applied and applied	ayout Referent Check Accessibility Accessibility 1	ces Mailin Language 12 program (0 ne analysis o on of signification levelopment 7) seeking vo al., 2015). Th rove the quali th them (SRC nurse partici male (n:	gs Review Previous Previous ACR Internation of the interview ant statements, of detailed de erification of the ne researchers u ity and transpar DR) (O'Brien et a ipants, it is know %). The worl nd non-civil set	View Help Next Show Comments Comments Comments Comments Comments Comments Comments Comments Comments (3) formulation of meanings, is scription, (6) production of t of undamental structure were t used the Standards for Reporti ency of the study results and t al., 2014). With the average age is 3° k status of nurses is roughly to ryants. Almost half of the to	Track Changes ~	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec Compare Protec	g v C Shar Hide Ink v ink V New C ···· nese themes c ···· c ···· c ····	
Speining and     Speining and     Thesaurus     Thesa	Grammar * Applied and a speech	ayout Referent Check Accessibility Accessibility 1	ces Mailin Language 2 program (0 ne analysis o on of signification 2 program (1 ne analysis o on of signification 2 program (1 ne analysis o on of signification 2 program (1 ne analysis o no of signification 2 program (1 ne analysis o 1 program (1 ne analysis o no of signification 2 program (1 ne analysis o 1 p	gs Review P New Comm Delete · P Previous CSR Internation of the interview ant statements, of detailed de erification of the ne researchers u ity and transpar DR) (O'Brien et a ipants, it is know %). The worl nd non-civil see n pursing layed	View Help Next Show Comments Comments Comments Comments Comments Comments Comments Comments Comments Comments Comments (3) formulation of meanings, is scription, (6) production of t of the Standards for Reporti ency of the Standards for Reporti ency of the Standards for Reporti ency of the study results and t al., 2014). With the average age is 3° k status of nurses is roughly to rvants. Almost half of the to and work in pon-COVID-19 If	Track Changes ~ by ith 4) he he c 	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec Compare Protec	g v C Shar Hide Ink v New C ···· hese themes dy prior into nursing	
Speining and     Speining and     Thesaurus     Solution     Vord Count     Proofing	Grammar * Abud Speech with the he Colaizzi wa the transcri clustering of fundament stages invo Qualitative reporting th <b>RESULTS</b> Demograp From years with same betw participants rooms On	ayout Referent Check Accessibility Accessibility 1	ces Mailin Language (2 program (0 ne analysis o on of significa levelopment 7) seeking ve al., 2015). Th rove the quali th them (SRC) nurse partici male (n: s servants an of diploma in ants worked d	gs Review Previous Previous ACR Internation of the interview ant statements, of detailed de errification of the he researchers L ity and transpar DR) (O'Brien et a ipants, it is know %). The worl nd non-civil see n nursing level as nurses for 8.	View Help Next Show Comments Comm	Track Changes ~ by tith (4) he he ng he L8 he L8 tal Cuutor	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec Compare Protec	g v C Shar Hide Ink v Hide Ink v New New New New New New New New	
Speining and     Speining and     Thesaurus     Thesa	Grammar * Abud Speech with the he Colaizzi wa the transcri clustering fundament stages invo Qualitative reporting th <b>RESULTS</b> Demograp From years with same betw participants rooms. On 55 years (	ayout Referent Check Accessibility Accessibility 1	ces Mailin Language Language (2 program (0 ne analysis o on of significa levelopment 7) seeking ve al., 2015). Th rove the quali th them (SRC) nurse partici male (n:, s servants ar of diploma in ants worked a	gs Review P New Comm Delete · P Previous CSR Internation of the interview ant statements, of detailed de erification of the he researchers L ity and transpar DR) (O'Brien et %). The worl nd non-civil see n nursing level as nurses for 8.	View Help Next Show Comments Comm	Track Changes ~ by tith (4) he he L8 he L8 he Cu tal Cu tor	Simple Markup  Show Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec Compare Protec	g v C Shar Hide Ink v Hide Ink v New New New New New New New New	
Speining and     Speining and     Speining     Thesaurus     Speining     Vord Count     Proofing	Grammar * Abud Speech with the he Colaizzi wa the transcri clustering of fundament stages invo Qualitative reporting th <b>RESULTS</b> Demograp From years with same betw participants rooms. On 5.5 years (1	ayout Referent Check Accessibility Accessibility 1	ces Mailin Language 12 program ( ne analysis o on of significa levelopment 7) seeking ve al., 2015). Th rove the quali th them (SRC nurse partici male (n:, t servants ar of diploma in ants worked a	gs Review Previous Previous Previous Review Previous Review Previous Review R	View Help Next Show Comments Comm	Track Changes ~ by ith (4) he he ng he C La La La La La La La La La La La La La	Simple Markup  Simple Markup  Reviewing Pane Tracking		Comm Comm Comm Comm Comm Comm Comm Comm	mments Compare Compare Compare Protec Compare Protec Compare Protec	g v C Shat Hide Ink v Hide Ink v New New New New New New New New	

#### Hasil review 2





🍯 AutoSave 💽 Off) 🚼 🥍 -	🕐 🖺 🕆 🖕 🗢 1923-Full Paper (without author details)-6221-1-5-20211212, reviewer Comme • Saved 🗸	P YUI	LIS SETIYA DEWI 😗 🖉 — 🗇 🗙				
File Home Insert Draw	Design Layout References Mailings <b>Review</b> View Help		Comments				
Spelling and Grammar ~	Ai)       Image: Check Aloud Accessibility       Image: Check Changes       Image: Check Check Changes       Image: Check Check Changes       Image: Check Check Check Changes       Image: Check Che	kup v up v A ane v IS	Compare Compare Compare Compare Compare Notest				
	suscentible to VAP. For this reason, a multistive approach was taken to evolve the		t≓_ New				
	innovations needed by nurses in the ICU to prevent VAP in patients on ventilators.	•	Subscription of the sentence you can just use ETT				
	METHODS		Reply				
	Study design						
	This study used a descriptive qualitative design. This approach aims to explain all		🚳 ASUS-X441U 🖉 …				
- 0	conditions and circumstances as they currently exist, including what is still occurring or		So what for this design practically used in this current study?				
	being carried out at the time of the research. It is not intended to be comprehensive (Polit December 12, 2021, 849 AM						
	& Beck, 2012).		Reply				
	Settings and Participants						
-	The study was conducted in the intensive Care Unit (ICU), Government and		ASUS-X441U / ···· Describe clearly how each of researcher				
- 00	Educational Hospital in Surabaya, indonesia. The data was taken from July to August		work on the interview process.				
	2021. The subjects were obtained using showball sampling, we partnered with Nurse		Reply				
	the ICU, working more than one year and having the clinical privilege to treat patients with						
Page 1 of 20 4674 words Text Predictions	s: On 🛛 🎇 Accessibility: Investigate	[ <b>D</b> ] Foo	cus 🛄 📕 🕞 – — 📕 + — — + 82%				
autoSave () off) 📙 🤌 -	💍 l̃ b ⊂ g c = 1923-Full Paper (without author details)-6221-1-5-20211212, reviewer Comme • Saved ∽	, Р YUI					
File Home Insert Draw	Design Layout References Mailings Review View Help		Comments & Reviewing ~ B Share ~				
Editor Spelling and Grammar ~ Editor Inesaurus Word Count Proofing	AV)       Image: Speech Accessibility       Image: Speech Acce	kup v up v A ane v Fs	Changes Compare Ink V				
L			Comments v ×				
	interview with them. The interview procedure was overseen by four researchers, because of the COVID-19 Pandemic in Indonesia, and because the highest incidence was		t New				
	expected in the middle of 2021, we conducted our interviews via an online meeting using		Reply				

		of the COVID-19 Pandemic in Indonesia, and because the highest incidence was				t⊐ New	
		expected in the middle of 2021, we conducted our interviews via an online meeting using				Reply	
		the Zoom Application. The researchers were health-care professionals with competence			_		
		in critical nursing and medical surgical nursing departments, as well as previous			AX	ASUS-X441U 🖉 …	
		experience doing qualitative research in these fields. Men and women worked together				Repetition with the ethical consideration part. Better to merge.	
		on the study project. There was no personal link between any of the study participants				December 12, 2021, 8:49 AM	
		and any member of the research team.				Reply	
		In order to participate in the study, we conviced informed concern from all	_				н
		in order to participate in the study, we required informed consent from an	~		AX	ASUS-X441U 🖉 …	
		participants prior to conducting the interviewer session. Furthermore, we requested				What does it means?	
		permission to record the Zoom conference without video and simply audio, which was				Reply	
		granted. All of the recorded interviews were preserved in the zoom could and only the					
		researcher was able to analyze them in order to maintain confidentiality. A clinical nurse			AX	ASUS-X441U 0	
		who worked in an intensive care unit provided inspiration for the interview questions, and				So the theme not cultivated from the	
		the researcher used that inspiration to develop the study's theme. The information was	$\square$			Interview results:	
		gathered through an interview with four specialists before it was sent to participants (one				Reply	*
age	e 1 of 20 4674 words	Text Predictions: On 🛛 🎇 Accessibility: Investigate		[b] Focu	us 🛙	□ □ + +	82%

~

	📙 🖓 – 🖑 🖻 👻 🆕 🗢 🛛 1923-Full Paper (without author details)-6221-1-5-20211212, reviewer Comme • Saved 🗸 🔗 🖉	YULIS SETIYA DEWI 😗 🖉 — 🗇	$\times$
File Home Insert	Draw Design Layout References Mailings <mark>Review</mark> View Help	Comments Reviewing -	e v
big Spelling and Gra Editor III Thesaurus III Thesaurus III Thesaurus Proofing	mmar * A)) Read Check Aloud Accessibility * Speech Accessibility	Accept Compare Protect Ink	~
L	· · · · · · · · · · · · · · · · · · ·	Comments ~	×
	In order to participate in the study, we required informed consent from all $\square$	_ ţ⊐ New	
-	participants prior to conducting the interviewer session. Furthermore, we requested	interview results?	
	permission to record the Zoom conference without video and simply audio, which was	Reply	
1	granted. All of the recorded interviews were preserved in the zoom could and only the		
	researcher was able to analyze them in order to maintain confidentiality. A clinical nurse	🐼 ASUS-X441U 🖉 …	
-	who worked in an intensive care unit provided inspiration for the interview questions, and	It is "interview guideline" development? put "interview question guideline was	
3	the researcher used that inspiration to develop the study's theme. The information was	developed through some steps	
m	gainered through an interview with four specialists before it was sent to participants (one	Reply	
	intensive care, and two nursing managers in the hospitals). We conducted interviews with		
- - -	three critical nurses in order to determine the validity and reliability of the substance of	ASUS-X441U	
	the questions. Following that, we noted which questions were difficult for participants to	Which researcher? It mentioned 4 researchers previously.	
	grasp and updated them accordingly.	December 12, 2021, 8:49 AM	
2	Furthermore, the researcher provided an explanation of the research aims. For $\hfill > 1$	Reply	
	example, "How did you learn about VAP?" and "Can you tell me, what is your goal for		
- - 0	innovation to avoid VAP?" were among the questions asked during the interview process.	▼ ASUS-X4410	
Page 5 of 20 4674 words	Text Predictions: On 🖗 Accessibility: Investigate	[b] Focus	82%
AutoSave Off	∽ Č P → ↔ ↔ = 1923-Full Paper (without author details)-6221-1-5-20211212, reviewer Comme • Saved ∨ P → P → P → P → P → P → P → P → P → P →	YULIS SETIYA DEWI (YS 2 - 0	×
Abc Spalling and Gr	Draw Design Layout References Mailings Review View Help		e
Editor Thesaurus	Read Glady Language Delete - Delete - Delete - Tool Of the Show Markup - Tool		
Tiza Word Count	Aloud Accessibility * Charges Frevious	Accept Compare Front Inte	
Proofing	Speech         Accessibility         Comments         Tracking           · · · · · ×         · · · · · · · · · · · · · · · · · · ·	S Changes Compare Ink	~
-	three critical nurses in order to determine the validity and reliability of the substance of	Comments ~	×
	the questions. Following that, we noted which questions were difficult for participants to	t <sup>™</sup> New	
	grasp and updated them accordingly.	So, how about other three researchers?	•
-	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For	So, how about other three researchers? What they do during zoom interview? or each of researcher conduct senarate	1
	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For  example, "How did you learn about VAP?" and "Can you tell me, what is your goal for	ASUS-X4410 For a searchers? What they do during zoom interview? or each of researcher conduct separate interview?	Î
	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process.	ASUS-X4410 For a constraint of the constraint of	•
	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For  example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of	ASUS-X441U Constraints of the searchers? What they do during zoom interview? or each of researcher conduct separate interview? December 12, 2021, 8:49 AM Reply	•
- μ 	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For  example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants.	ASUS-X441U	•
	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. Following the completion of the interview procedure, the researcher performed the	ASUS-X441U C So, how about other three researchers? What they do during zoom interview? or each of researcher conduct separate interview? December 12, 2021, 849 AM Reply SASUS-X441U C What kind of triangulation method anniled in ywr study?	1
· u · · · · · · · · · · · · · · · · · ·	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For  example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. Following the completion of the interview procedure, the researcher performed the interview in its entirely. The researcher then re-confirmed with the participants any	ASUS-X441U     So, how about other three researchers?     What they do during zoom interview?     or each of researcher conduct separate     interview?     December 12, 2021, 849 AM     Reply     ASUS-X441U     What kind of triangulation method     applied in your study?     Rank	•
- <b>B B C B</b> -	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. Following the completion of the interview procedure, the researcher performed the interview in its entirety. The researcher then re-confirmed with the participants any information that was still unclear and instructed them on how to obtain the proper Information.	ASUS-X41U So, how about other three researchers? What they do during zoom interview? or each of researcher conduct separate interview? December 12, 2021, 849 AM Reply ASUS-X441U What kind of triangulation method applied in your study? Reply	
· · · · · · · · · · · · · · · · · · ·	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. Following the completion of the interview procedure, the researcher performed the interview in its entirety. The researcher then re-confirmed with the participants any information that was still unclear and instructed them on how to obtain the proper information. [The interview was triangulated in order to improve the quality of the data.	ASUS-X4410	·
· u · · · · · · · · · · · · · · · · · ·	grasp and updated them accordingly. Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. Following the completion of the interview procedure, the researcher performed the interview in its entirety. The researcher then re-confirmed with the participants any information that was still unclear and instructed them on how to obtain the proper information. [The interview was triangulated in order to improve the quality of the data. (Heath, 2015), When the data set achieved saturation, the process of recruiting new	ASUS-X441U     ASUS-X441U     So, how about other three researchers?     What they do during zoom interview?     or each of researcher conduct separate     interview?     December 12, 2021, 849 AM     Reply     ASUS-X441U     What kind of triangulation method     applied in your study?     Reply     ASUS-X441U     AI researcher analyse the results     Inoptieng rod gone 1 hu cone or when kind	Î
· σ · · · · · · · · · · · · · · · · · ·	grasp and updated them accordingly.  Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process.  "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants.  Following the completion of the interview procedure, the researcher performed the interview in its entirety. The researcher then re-confirmed with the participants any information that was still unclear and instructed them on how to obtain the proper information. [The interview was triangulated in order to improve the quality of the data.  (Heath, 2015); When the data set achieved saturation, the process of recruiting new participants came to an end.	ASUS-X441U      ASUS-X441U	
·σ ···································	grasp and updated them accordingly.  Furthermore, the researcher provided an explanation of the research aims. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation to avoid VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. Following the completion of the interview procedure, the researcher performed the interview in its entirety. The researcher then re-confirmed with the participants any information that was still unclear and instructed them on how to obtain the proper information. [The interview was triangulated in order to improve the quality of the data. (Heath, 2015); When the data set achieved saturation, the process of recruiting new participants came to an end. Data Analysis It was presented to be Missinged Word 365 to complete the transactions and	ASUS-X441U     So, how about other three researchers?     What they do during zoom interview?     or each of researcher conduct separate     interview?     December 12, 2021, 849 AM     Reply     ASUS-X441U     What kind of triangulation method     applied in your study?     Reply     ASUS-X441U     C     Harder or done 1 by one or what kind     of mechanism?	

MutoSave Off	<b>1</b> 5 ~ 7	U 🔓 🗸 🖞	ç <del>⊽</del> 1923-F	Full Paper (wit	hout author deta	ails)-6221-1-5-202	211212, reviewer	Comme • Sav	ved 🗸	Q	YULIS SE	tiya dewi	YS	13 -	Ō	$\times$
File Home Insert	t Draw D	Design La	yout Reference	es Mailin	igs Review	View Help					F	Commer	nts 🔗	Reviewing	~ ピ Sha	ire ×
Editor	Grammar 👻	Av)) Read Aloud Speech	Check Accessibility ~ Accessibility	Language	t⊐ New Comm X⊐ Delete → I Previous	nent 🕅 Next	Comments 👻	Track Changes ~	Simple Mark Show Marku Reviewing Pa Tracking	nup v p v ane v	Accept Cha	Res v	Compare Compare	Protect	Hide Ink ~	~
E	· · · · · · · · 2	3	1 • • • + • • • 2		3 • • • 1 • • • 4	5 .	6	<u>م </u>			C	omme	ote		~	~
	I	Developmer	nt tools to avoid i	infection, wh	ich is supporte	d by three cate	gories: 1) Easy f	to			A C(	Jiiiiiei	11.5		×	
		use, implem	ent, and mainten	ance, 2) Cor	nnectedness, a	nd 3) Real-time	and digital-base	ed							Ç. New	
	ä	apps.														
	1	Easy to use,	implement, and	l maintenanc	99						4	ASUS-	X441U		0	
		In de	veloping nursing	innovations	s to prevent V	AP, innovations	that are easy f	to				Check g	guideline fo er 12. 2021. 8	or writing qu :49 AM	otation	
1		use. install.	and maintain are	e the focus o	f attention for n	nurses. This is b	ecause if there	is								
		a rotation or	shift change of	nurses nurs	es can use the	se innovations	This is containe	h				керіу				J
		in the follow	ing statement												<i>A</i>	
-		"of or	aurent	in continue a	wet he simple	to upo aimalo t	a avaauda					What is	the impor	tant?	6	
	- I - J	and s	imple to set up a	and maintain	." (P4)	to use, simple t	o execute,					Poph				
		"Hope	efully, this inven	tion will be	of assistance	and will make t	the task of					керту				
-		nurse	s easier. Howev is in this room ar	er, it snould e able to util	ize simple to u lize such a prog	ise. Because no gram" (P10).	ot all of the						YAA1U		1	
m												What s	hould be?	The concrete	2	
		Connectedn	ess									recomr results	nendation	based on yo	our	
-		We f	ound that nurse	s with innov	ation can help	o nurses work i	n controlling an	ıd				lt		a her and the first of a		
4	I	preventing \	AP in patients	who are on	ventilators. Exi	isting innovation	ns must be easi	ly				Reply				
- 01°E		accossible a	ind can be conne	octod with th	o nureo'e dovie	o This makes r	monitorina oseio								10:21 84	
Mostly clear				Q		-	· 🐴 😐	9 P	Ŭ Ö				^	ବ ଦ) <b>ଆ</b>	8/7/2023	3

Bukti Perbaikan

# Bridging Innovation to Prevent Ventilator-Associated Pneumonia: A Descriptive Qualitative Study among Critical Nurses

# ABSTRACT

**Background**: Ventilator-Associated Pneumonia (VAP) is still a concern for individuals who are dependent on a ventilator. It is envisaged that the growth of technology-based innovations would lead to the creation of remedies for the prevention of VAP.

**Purpose**: The purpose of this study was to learn more about ICU nurses' perspectives on nursing innovations to avoid VAP in patients who are on ventilators.

**Methods**: Throughout July and August of 2021, a descriptive qualitative research study was conducted. Through the use of the snowball sampling approach, a total of 30 critical care nurses were recruited. During the interview procedure, each participant had around 40 minutes of time for an in-depth interview using a semi-structured format. In order to analyze the findings of the interviews, the technique proposed by Colaizzi was used.

**Results:** We emerged four themes as follows 1) Development tools to prevent infection, 2) Tension cuff monitor innovation, 3) Improving nurse's skills and knowledge in using technology, and 4) Nurse's burden in technology use.

**Conclusion**: Nurses may benefit from considering VAP management as part of a technology-based innovation strategy. Nurses have praised the invention for measuring and monitoring the ETT cuff as a source of optimism for future advancement.

Keywords: innovation; Ventilator-Associated Pneumonia; nurses; critical care; ventilator

# **INTRODUCTION**

The increased risk of nosocomial infection is one of the issues confronted by patients treated in the intensive care unit (ICU) (Kózka et al., 2020), and one of them is Ventilator-Associated Pneumonia (VAP) in the lower respiratory tract. Because of the increasing morbidity caused by VAP, it is necessary to make comprehensive measures to address the problem. There are a variety of variables that contribute to VAP, including poor infection management and the transfer of microorganisms from the exterior environment to the internal environment (Bacterial

Translocation) (Vance et al., 2010). VAP occurs in 5–40% of patients on invasive mechanical ventilation for more than two days (Atashi V Mahjobipoor H, Yazdannik A.Atashi, Vajihe, 2018). High mortality is the most serious danger of patient death, with VAP reaching 70 percent in some cases (Torres et al., 2017) and the incidence of VAP in the ICU is about 5-15% of total patients (Klompas et al., 2014). Proper VAP prophylaxis can shorten the length of a patient's hospital stay, cut treatment costs, and improve patient satisfaction (Samra et al., 2017).

Nurses have a crucial role in determining the overall quality of health-care services (Koch et al., 2020). The abilities of nurses in nursing care, as well as preventative actions, are extremely essential variables in reducing the likelihood of problems. It is necessary to provide complicated observation and therapy, as well as high-intensity intervention and constant monitoring in the intensive care unit (Vance et al., 2010). The goal of today's nursing care is to reduce the likelihood of problems such as bacterial translocation and micro aspiration in the airways.

Nursing innovations in the prevention of VAP in patients who are on ventilators need to be a concern (Osti et al., 2017). The majority of causes of VAP occur due to environmental factors, nosocomial infections, and nurses (Divatia et al., 2020). In addition, given the sheer number of nurses' duties, the success of the Endotracheal Tube (ETT) is rarely performed well. It also causes VAP. For this reason, nursing innovations to detect the causes of VAP need to be developed. However, the innovation to prevent VAP that easy to monitor is not yet to develop in Indonesia. Thus, in this study, we explored nurses' perceptions of the incidence of VAP in patients who had an ETT inserted bridging the innovation. We focused on the ETT because it is directly connected to the patient's respiratory tract and is highly susceptible to VAP. For this reason, a qualitative approach was taken to explore the innovations needed by nurses in the ICU to prevent VAP among patients with ventilators.

#### **METHODS**

#### Study design

This study used a descriptive qualitative design. This approach aims to explain all conditions and circumstances as they currently exist, including what is still occurring or being carried out at the time of the research (Polit & Beck, 2012).

#### Settings and Participants

The study was conducted in the Intensive Care Unit (ICU), Government and Educational Hospital in Surabaya, Indonesia. The data was taken from July to August 2021. The subjects were obtained using snowball sampling. We partnered with Nurse Unit Manager (NUM) to gather the participants with the inclusion criteria were nurses in the ICU, working more than one year and having the clinical privilege to treat patients with ventilators from the hospital. Thirty participants were recruited using purposive sampling technique.

# **Ethical Consideration**

We gained ethical permission from the Haji Surabaya Hospital Ethics Committee (No. 073/16/KOM.ETIK/2021) and the Universitas Airlangga Hospital Ethics Committee (No. 154/KEP/2021) of the Health Commission of Indonesia. Participants were asked to provide written agreement before to taking part in the study, and they were not obliged to do so under duress. They had the option to withdraw from the research without providing a reason, with no ramifications for their health care, and they also had the option to refuse to answer any of the questions. The researchers also made every effort to safeguard their anonymity during the whole interview session. All of the data was deidentified throughout the transcription process, with individuals being identified by a number such as P1, P2, and so on, rather than their names.

## **Data Collection**

To gather information from critical nurses, four researchers performed an in-depth interview. Three interviewers performed for each seven participants and one reviewer performed for nine participants. Because of the COVID-19 Pandemic in Indonesia, and because the highest incidence was expected in the middle of 2021, we conducted our interviews via an online meeting using the Zoom Application. The researchers were health-care professionals with competence in critical nursing and medical surgical nursing departments, as well as previous experience doing qualitative research in these fields. There was no personal link between any of the study participants and any member of the research team.

In order to participate in the study, we requested permission to record the Zoom conference without video and simply audio, which was granted. All of the recorded interviews were preserved in the zoom could and only the researcher was able to access them in order to maintain confidentiality. A clinical nurse who worked in an intensive care unit provided insight for the interview questions, and the researcher used that insight to develop the interview guidelines. The information was gathered through an interview with four expert (one expert in the critical nursing department, one medical doctor with a specialization in intensive care, and two nursing managers in the hospitals) before it was sent to participants. We conducted interviews with three critical nurses in order to determine the validity and reliability of the substance of the questions. Following that, we noted which questions were difficult for participants to grasp and updated them accordingly.

Furthermore, the each researchers provided an explanation of the research aims to participants. For example, "How did you learn about VAP?" and "Can you tell me, what is your goal for innovation tools to prevent VAP?" were among the questions asked during the interview process. "Please tell us about your burden to employ innovation?" was another question. A total of around 40 minutes was spent interviewing each of the participants. The interview was conducted using Bahasa language. Following the completion of the interview procedure, the all researchers performed the interview in its entirety using online. The researcher then re-confirmed with the participants any information that was still unclear and instructed them on how to obtain the proper information. The interview was triangulated in order to improve the quality of the data using interview investigator triangulation (Heath, 2015). When the data set achieved saturation, the process of recruiting new participants came to an end.

#### Data Analysis

It was necessary to use Microsoft Word 365 to complete the transcribing and verbatim operations. Following that, the researchers coded and evaluated their findings with the help of the NVIVO 12 program (QSR International). A group discussion forum amongst the four researchers was organized in order to bring the perceptions of the four researchers closer together. As a result, they will have the same viewpoint and will be able to decide the theme of the investigation. The approach developed by Colaizzi was employed in the analysis of the interview findings. (1) Familiarization with the transcript, (2) identification of significant statements, (3) formulation of meanings, (4) clustering of themes, (5) development of detailed description, (6) production of the fundamental structure, and (7) seeking verification of the fundamental structure were the stages involved. (Morrow et al., 2015). The researchers used the Standards for Reporting Qualitative Research to improve the quality and transparency of the study results and the reporting that went along with them (SRQR) (O'Brien et al., 2014). Trustworthiness used credibility, transferability, confirmability, and dependability (Korstjens & Moser, 2018; Lincoln & Guba, 1985).

#### RESULTS

#### **Demographic Study**

From 30 critical care nurse participants, it is known that the average age is 31.8 years with the majority of female (80%). The work status of nurses is roughly the same between government servants and non-civil servants. Almost half (46.6%) of the total participants have education of diploma in nursing level and work in non-COVID-19 ICU rooms. On average, participants worked as nurses for 8.8 years and as critical nurses for 5.5 years (Table 1).

Table 1. Participants	Characteristics (	(n = 30)	).
-----------------------	-------------------	----------	----

Characteristics	n (%)
Participants age (mean)	31.8 years
Gender	
Male	6 (20)
Female	24 (80)
Job status	
Civil servant	14 (46.6)
Non civil servant	16 (54.4)
Education Level	
Diploma in Nursing	14(46.6)
Bachelor/Professional in Nursing	15 (50)
Master in Nursing	1(43.3)
Workplace	
ICU Non-COVID-19	28(93.3)
ICU COVID-19	2(6.6)
Length of works	

Characteristics	n (%)
As nurses	8.8 years
As critical nurses	5.5 years

# **Constructed Themes**

From this study, we got four major themes that describe innovations in patients with ventilators to prevent VAP. The four are 1) Development tools to prevent infection, 2) Tension cuff monitor innovation, 3) Improving nurse's skills and knowledge in using technology, and 4) Nurse's burden in technology use (Table 2).

Table 2.	Themes	distri	butions
----------	--------	--------	---------

Codes	Categories	Themes
- Easy to maintenance	Easy to use, implement, and	Development tools to
- Use friendly	maintenance	prevent infection
- Easy to install		
- Accessible	Connectedness	
- Connected from device		
- Updated data	Real-time and digital-based apps	
- Smartphone		
- App-based android or IOS		
- Realtime access		
- Accurate		
- Smarter Alarm Systems		
- Cuff ETT	Part of ETT	Tension cuff monitor
- Air Tension		innovation
- Patient choking	Bacterial translocation and micro	
- ETT position moved	aspiration	
- New experience	New insight in nursing innovation	Improving nurse's skill
- Helpful		and knowledge in using
- Enhanced Diagnostic		technology
Devices		
- Electronic Records		
- Application use	Training	
- Guidance		
- Information exposure	Inability and limitation to use the	Nurse's burden in
- Out of date	apps	technology use
- Tools	Equipment	
- Smartphone		

### Theme 1: Development tools to prevent infection

According to the findings of this study, nurses have high expectations for technology advancements in nursing interventions to prevent VAP. We get the theme of Development tools to

avoid infection, which is supported by three categories: 1) Easy to use, implement, and maintenance, 2) Connectedness, and 3) Real-time and digital-based apps.

#### *Easy to use, implement, and maintenance*

In developing nursing innovations to prevent VAP, innovations that are easy to use, install, and maintain are the focus of attention for nurses. This is because if there is a rotation or shift change of nurses, nurses can use these innovations. This is contained in the following statement:

*"of course... current inventions must be simple to use, simple to execute, and simple to set up and maintain." (P4)* 

"Hopefully, this invention will be of assistance and will make the task of nurses easier. However, it should be simple to use. Because not all of the nurses in this room are able to utilize such a program" (P10).

### Connectedness

We found that nurses with innovation can help nurses work in controlling and preventing VAP in patients who are on ventilators. Existing innovations must be easily accessible and can be connected with the nurse's devise. This makes monitoring easier. The statement can be seen below:

"I've been a nurse in the ICU for a long time, but haven't found any innovations that can help us work. Especially for infection control in patients who are on a ventilator, it is difficult. And if there is an application that can connect to my smartphone or ICU room smartphone, it will certainly be very helpful. So all health workers such as doctors and nurses can make their work easier..." (P14).

## *Real-time and digital-based apps*

Application-based innovations on Android and smartphones are currently attracting a lot of attention. Not only people outside. Nurses who work in the room also expect existing innovations to make the work of nurses easier. Innovation can be used to help secure data, can be applied to smartphones, based on Android or IOS, which can provide information or alarms as well as disturbances to patients and most importantly the innovation must be accurate. This can be seen in the following sentences:

*"if there is an application that can monitor or prevent VAP that can be accessed with a smartphone at any time it will definitely make our work in the ICU easier..." (P22)* 

"most importantly, it must be accurate... it's useless to have innovation but it's not accurate... or the results are unclear. And if it can be accessed from anywhere and anytime, it will definitely make the job easier..." (P4).

# Theme 2: Tension cuff monitor and innovation

The nurse mentioned that there were frequent problems related to the ETT cuff. So that innovation is needed to carry out periodic and real-time monitoring. This theme is composed of two categories: 1) part of the ETT and 2) bacterial translocation and aspiration.

### Part of Endo-Tracheal Tube

The nurse said that the ETT installed in the patient often experienced problems such as changing positions, and the ETT tension which was often not monitored. This is in the following sentence:

"In my opinion, what is often overlooked is the ETT cuff issue... even though it is very important. If the pressure is reduced, the ETT tube can move (up or down). But sometimes this is often forgotten..." (P9).

"Sometimes I forget that... often I miss checking the pressure in the ETT cuff. If there is an innovation that can help check it can be very helpful..." (P13).

## Bacterial translocation and micro aspiration

In this study, we found that according to nurses VAP could occur due to bacterial translocation and micro aspiration of fluids from the mouth. It can be characterized as the patient is choking and the ETT position changes due to reduced ETT cuff tension. This can be seen in the following sentences:

"In terms of cleanliness from nurses, we always maintain personal hygiene before patients such as washing hands and using PPE. We always take care of this to reduce nosocomial infections. But it seems, the VAP can occur due to the lack of ETT pressure. If the tension in the ETT cuff is not strong enough, then bacteria can enter from the mouth and go down (throat). The patient may also choke... Maybe that should be a concern too..." (P10).

# Theme 3: Improving nurse's skill and knowledge in using technology

The improvement of nurses' skills and knowledge in the use of technology can be increased by very informative and helpful innovations. This theme is supported by two categories, namely 1) New insight in nursing innovation, and 2) Training,

# New insight in nursing innovation

With new innovations in nursing interventions, it can help and provide new insights for nurses and provide new innovative experiences. Of course this can help and facilitate the work to prevent the occurrence of VAP. Not only that, existing innovations can also assist in establishing a diagnosis in the VAS and can assist in medical records. This statement can be seen below:

"It will definitely be a new experience for us... because previously there were no innovations used to prevent infection. If there is, it will definitely help our work and have a positive impact on patients" (P17).

"If the innovation can help establish a diagnosis related to infection, it would be great. And it can also be medical records related to infection data in the patient's progress record. And maybe the innovation or the device can be installed in the ETT hose maybe... because usually the ETT cuff often lacks tension" (P4)

Training

Training related to the use of innovations to be developed is very much needed. It aims to improve the ability of nurses to use and operate these innovations. This statement can be seen in the sentence below:

"But before that (innovation), we also need to be guided, given information regarding how to use it. So we can have the same understanding to use the application. Moreover, there are not only nurses in the ICU... there are doctors and nurses. So training for doctors and nurses is also important..." (P25).

#### Theme 4: Nurse's burden in technology use

In this study, we found that nurses have their own burdens when it comes to using technology-based innovations. This theme consists of two themes, namely 1) Inability and limitations to use the apps and 2) Equipment.

#### Inability and limitation to use the apps

The limitations and inability of nurses in using internal applications as innovations for the development of innovations in the prevention of VAP can be seen from the dissemination of information that is less and out of date in the use of technology. This can be seen in the following sentence:

"the burden is clear if you have to use innovation or application. I'm old... can't use a smartphone anymore. If other people say, I'm out of date. Unlike the young children. But I can learn... slowly... can't be fast like other people" (P28)

*"When it comes to applications on smartphones, I'm already dizzy... I'm old... I don't understand. But if possible, the innovation must be easy to use" (P4)* 

## Equipment

Nurses are worried about the equipment that will be used such as smartphones for the development of VAP prevention innovations. This can be seen in the following sentences:

"I'm confused.. my handphone is old... is it possible? If that's the case, then I think about it. what should I do? If I have to change my handphone, I have to spend more money. Not to mention I'm confused and can't use it" (P30).

## DISCUSSION

According to the findings of this study, nurses must be more creative in their interventions. This study found that preparations must be made before innovation can be implemented in order to prevent VAP in patients on ventilators. The themes identified included development of infection-prevention tools, tension cuff monitor innovation, improving nurse skills and knowledge, and reducing the burden on nurses when using technological advances.

The first theme identified by this research is the development of technologies to help people avoid becoming infected. Technology-based improvements that can undoubtedly ease the job of nurses in a variety of areas, from monitoring and assessment to the prevention of VAP, are now being developed (Huter et al., 2020; Powell-Cope et al., 2008). However, the most important thing to remember is that the innovations that must be made must be precise and able to be assessed precisely. A user-friendly, easy to install, and maintain program would also be a very useful factor in this case (Huter et al., 2020). In prior research, it has been found that nursing innovation interventions improve the efficiency of nurses' work while also reducing the responsibilities placed on nurses' shoulders (Kerr et al., 2020; Kong, 2009). But it is also possible to lower the frequency of infection in a continual manner for both nurses and patients thanks to technologies that are focused on infection control. A major concern should be that the innovations generated are in accordance with the needs and are suitable, and that they assist patients, nurses, and other health-care professionals.

The nurses who spoke about EBP in the condition of patients with ETT were the next topic discovered in this study, according to the findings. Micro aspiration and translocation from the mouth into the respiratory system have both been implicated in the development of VAP (Akbiyik et al., 2021; Fromentin et al., 2021). Due to the low voltage of the ETT cuff, this is the case. As a result, it is necessary to develop an innovative method of monitoring the ETT cuff. According to previous study, the occurrence of VAP is not only caused by environmental and hygienic factors, but also as a result of nurses' failure to regulate and maintain the cleanliness of patients who have ETT implanted (Divatia et al., 2020; Haque et al., 2018). This is why the creation of this intervention may serve as a recommendation in the future, making it easier for nurses to regulate ETT cuff pressure and avoid VAP while also serving as a reminder to them in the present.

Furthermore, technology-based innovations can provide new insights for nurses, increase knowledge, and skills in providing nursing interventions. The results of previous studies indicate that with technology-based innovations as well as being innovative and application, it can increase the knowledge and skills of nurses (Asurakkody & Shin, 2018; Barchielli et al., 2021). However, with training related to the use of innovative technology that will be developed, nurses need to be given to equalize perceptions and abilities in using these applications. This needs to be done because the health workers who will use the application are not only nurses, but also multidisciplinary health sciences.

However, nurses also conveyed the perceived burden of using technology-based innovation. This is due to the diversity of knowledge, abilities, and facilities owned by nurses. Previous research has stated that nurses with an older age will experience limitations in following technological innovations in the implementation of nursing care (Pepito & Locsin, 2019). For this reason, training, information dissemination, and introduction of innovations are needed. Thus, generalization of knowledge can be achieved.

#### Strength and Limitation

This study provides information related to the development of technology-based innovations in handling VAP. Not only that, the research presents EBP-based information submitted by nurses for the development of technology-based innovations. However, the diversity

of research areas can be done to obtain more comprehensive information and it is necessary to consider the innovation needs of nurses working in rural areas.

## CONCLUSION

It is possible that the development of technology-based improvements in nursing interventions to treat VAP in patients on ventilators will be taken into account in the future. Input that is based on Evidence-Based Practice supplied by nurses for the development of improvements in monitoring Cuff ETT pressure to avoid VAP utilizing apps-based applications is a valuable contribution to the field. The findings of this study may be useful to nurses and other stakeholders in the development of novel innovation using technology to overcoming VAP difficulties in the future. It also become the suggestion and information for hospital and nursing manager to develop innovation to prevent VAP among patients with VAP.

## **Consent for publication**

Not Applicable.

## Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

# **Competing interests**

None

# Funding

Ministry of Education, Culture, Research, and Technology of Republic Indonesia, No. 275/UN3/2021.

# REFERENCES

- Akbiyik, A., Hepçivici, Z., Eşer, I., Uyar, M., & Çetin, P. (2021). The effect of oropharyngeal aspiration before position change on reducing the incidence of ventilator- associated pneumonia. *European Journal of Clinical Microbiology & Infectious Diseases*, 40(3), 615– 622. https://doi.org/10.1007/s10096-019-03789-4
- Asurakkody, T. A., & Shin, S. Y. (2018). Innovative Behavior in Nursing Context: A Concept Analysis. *Asian Nursing Research*, 12(4), 237–244. https://doi.org/10.1016/j.anr.2018.11.003
- Atashi V Mahjobipoor H, Yazdannik A. Atashi, Vajihe, Y. H. (2018). The barriers to the prevention of ventilator-associated pneumonia from the perspective of critical care nurses: a qualitative descriptive study. *Journal of Clinical Nurse*, 27((5-6)). https://doi.org/10.1111/jocn.14216.6

- Barchielli, C., Marullo, C., Bonciani, M., & Vainieri, M. (2021). Nurses and the acceptance of innovations in technology-intensive contexts: the need for tailored management strategies. *BMC Health Services Research*, 21(1), 639. https://doi.org/10.1186/s12913-021-06628-5
- Divatia, J. V., Pulinilkunnathil, J. G., & Myatra, S. N. (2020). Nosocomial Infections and Ventilator-Associated Pneumonia in Cancer Patients. In *Oncologic Critical Care* (pp. 1419– 1439). Springer International Publishing. https://doi.org/10.1007/978-3-319-74588-6 125
- Fromentin, M., Ricard, J.-D., & Roux, D. (2021). Respiratory microbiome in mechanically ventilated patients: a narrative review. *Intensive Care Medicine*, 47(3), 292–306. https://doi.org/10.1007/s00134-020-06338-2
- Haque, M., Sartelli, M., McKimm, J., & Abu Bakar, M. Bin. (2018). Health care-associated infections – an overview. *Infection and Drug Resistance*, Volume 11, 2321–2333. https://doi.org/10.2147/IDR.S177247
- Heath, L. (2015). Triangulation: Methodology. In International Encyclopedia of the Social & Behavioral Sciences (pp. 639–644). Elsevier. https://doi.org/10.1016/B978-0-08-097086-8.44059-6
- Huter, K., Krick, T., Domhoff, D., Seibert, K., Wolf-Ostermann, K., & Rothgang, H. (2020). Effectiveness of Digital Technologies to Support Nursing Care: Results of a Scoping Review. *Journal of Multidisciplinary Healthcare, Volume 13*, 1905–1926. https://doi.org/10.2147/JMDH.S286193
- Kerr, D., Ratcliff, J., Tabb, L., & Walter, R. (2020). Undergraduate nursing student perceptions of directed self-guidance in a learning laboratory: An educational strategy to enhance confidence and workplace readiness. *Nurse Education in Practice*, 42, 102669. https://doi.org/10.1016/j.nepr.2019.102669
- Klompas, M., Branson, R., Eichenwald, E. C., Greene, L. R., Howell, M. D., Lee, G., Magill, S. S., Maragakis, L. L., Priebe, G. P., Speck, K., Yokoe, D. S., & Berenholtz, S. M. (2014).
   Strategies to Prevent Ventilator-Associated Pneumonia in Acute Care Hospitals: 2014 Update. *Infection Control & Hospital Epidemiology*, 35(8), 915–936. https://doi.org/10.1086/677144
- Koch, P., Zilezinski, M., Schulte, K., Strametz, R., Nienhaus, A., & Raspe, M. (2020). How perceived quality of care and job satisfaction are associated with intention to leave the profession in young nurses and physicians. *International Journal of Environmental Research* and Public Health, 17(8), 1–12. https://doi.org/10.3390/ijerph17082714
- Kong, J. (2009). Effect of Digital Problem-Based Learning Cases on Student Learning Outcomes in Ophthalmology Courses. Archives of Ophthalmology, 127(9), 1211. https://doi.org/10.1001/archophthalmol.2009.110
- Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120–124. https://doi.org/10.1080/13814788.2017.1375092

- Kózka, M., Sega, A., Wojnar-Gruszka, K., Tarnawska, A., & Gniadek, A. (2020). Risk factors of pneumonia associated with mechanical ventilation. *International Journal of Environmental Research and Public Health*, 17(2), 1–7. https://doi.org/10.3390/ijerph17020656
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. SAGE Publications. https://books.google.co.id/books?id=EDTwzAEACAAJ
- Morrow, R., Rodriguez, A., & King, N. (2015). Colaizzi's descriptive phenomenological method. In *The Psychologist* (Vol. 28, Issue 8).
- O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for Reporting Qualitative Research. *Academic Medicine*, 89(9), 1245–1251. https://doi.org/10.1097/ACM.00000000000388
- Osti, C., Wosti, D., Pandey, B., & Zhao, Q. (2017). Ventilator-Associated Pneumonia and Role of Nurses in Its Prevention. *JNMA; Journal of the Nepal Medical Association*, *56*(208), 461–468. http://www.ncbi.nlm.nih.gov/pubmed/29453481
- Pepito, J. A., & Locsin, R. (2019). Can nurses remain relevant in a technologically advanced future? *International Journal of Nursing Sciences*, 6(1), 106–110. https://doi.org/10.1016/j.ijnss.2018.09.013
- Polit, D. F., & Beck, C. T. (2012). Nursing Research, Generating and Assessing Evidence for Nursing Practice. Wolters Kluwer Health.
- Powell-Cope, G., Nelson, A. L., & Patterson, E. S. (2008). Patient Care Technology and Safety. In Patient Safety and Quality: An Evidence-Based Handbook for Nurses. http://www.ncbi.nlm.nih.gov/pubmed/21328784
- Samra, S. R., Sherif, D. M., & Elokda, S. A. (2017). Impact of VAP bundle adherence among ventilated critically ill patients and its effectiveness in adult ICU. *Egyptian Journal of Chest Diseases and Tuberculosis*, 66(1), 81–86. https://doi.org/10.1016/j.ejcdt.2016.08.010
- Torres, A., Niederman, M. S., Chastre, J., Ewig, S., Fernandez-Vandellos, P., Hanberger, H., Kollef, M., Bassi, G. L., Luna, C. M., Martin-Loeches, I., Paiva, J. A., Read, R. C., Rigau, D., Timsit, J. F., Welte, T., & Wunderink, R. (2017). International ERS/ESICM/ESCMID/ALAT guidelines for the management of hospital-acquired pneumonia and ventilator-associated pneumonia. *European Respiratory Journal*, 50(3). https://doi.org/10.1183/13993003.00582-2017
- Vance, G., Koczen-Doyle, D., McGee-Mccullough, D., Kuzma, A. M., & Butler-Lebair, M. (2010). Nursing care in the intensive care unit setting: The role of the nurse in the ICU. In *Critical Care Study Guide: Text and Review: Second Edition* (pp. 225–238). https://doi.org/10.1007/978-0-387-77452-7 13

# Daftar Authors di OJS

atus: Published					
	This version	has been published and can not be edited	d.		
Fitle & Abstract					
Contributors	List of Contributors				
datadata	Name	E-mail	Role	Primary Contact	In Browse Lists
vietadata	Yulis Setiya Dewi	yulis.sd@fkp.unair.ac.id	Author	S	œ
References	Arina Qona'ah	arina-	Author		≅
Salleys		qonaan@tkp.unair.ac.id			
	Hidayat Arifin	hidayat.arifin@unpad.ac.id	Author		ſ⊈
	Rifky Octavia Pradipta	rifkypradipta95@gmail.com	Author		Ø
	Rosita Rosita	rosita-2020@fkp.unair.ac.id	Author		ſ <b>⊻</b>
	Lizy Sonia Benjamin	lizysonia17@gmail.com	Author		♥

# 7. Lampiran 7 Bukti Accpted

#### Tuesday, December 27, 2022 at 21:34:02 Indonesia

Subject:	[JKP] Editor Decision
Date:	Thursday, 23 December 2021
From:	Prof Alison Hutton, BNg., MNg., Ph.D
To:	Yulis Setiya Dewi
CC:	Hidayat Arifin, Arina Qona'ah, Rifky Octavia Pradipta, Rosita Rosita, Lizy Sonia Benjamin
Attachments	s: 1923-6221-1-RV.docx, 1923-6228-1-RV.docx

Yulis Setiya Dewi:

We have reached a decision regarding your submission to Jurnal Keperawatan Padjadjaran, "Bridging Innovation to Prevent Ventilator-Associated Pneumonia: A Descriptive Qualitative Study among Critical Nurses".

Our decision is: Accepted

Prof Alison Hutton, BNg., MNg., Ph.D (Scopus ID: 7006826181; h-index: 15); (WoS ResearcherID:W-6489-2018); School of Nursing and Midwifery, University of Newcastle Phone +61 2 49215264 alison.hutton@newcastle.edu.au

Alison Hutton

Jurnal Keperawatan Padjajaran http://jkp.fkep.unpad.ac.id