Attitude, Practice And Experience Of Family Witnessed Resuscitation Among Critical Care Nurses In Malaysia

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Abstract

Background: The issue over family witnessed resuscitation (FWR) in the critical care units is a debatable topic worldwide in the past two decades. Resuscitation can be visually interrupted, stressful and traumatic, even to the most experienced clinical staff in the critical care units. The option to offer family members opportunity to remain with patients during resuscitation efforts has sparked controversy among medical and nursing staff.

Purpose: This study aims to determine the attitude, practice and experience of critical care nurses about the presence of family members during resuscitation.

Methods: A self-administered questionnaire was distributed to 112 registered nurses in a private hospital in Penang, Malaysia targeting nurses working in critical care units. Before initiation of data collection, informed consent was obtained from the nurses and approval from the hospital authority and university research ethics committee to conduct the study. Data collection was conducted for a duration of 2 weeks until the desired samples met. The recruited nurses were preempted before the data collection process started.

Results: Findings showed majority of the nurses in critical care units with lesser working experience were against FWR. The results revealed 88.4% (n=99) of the participants chose not to allow FWR. The critical care nurses in lower job grade were against FWR. In term of the invasive procedure 95.5% (n=107) nurses allowed FWR in invasive procedure of blood taking. FWR was absolutely avoided in invasive procedure of central venous line and chest tube insertion. Majority of the participants (63.4%, n=71) agreed the department policy will make the decision to allow FWR.

Conclusion: This study found the concept of allowing FWR is not well accepted among the critical care nurses especially those with less work experiences.

Keywords: Family witness resuscitation, attitude, perception, work experience, critical care nurses

Introduction

The process of dying in an individual is distinctive, certain person have a very gradual decline or conversely expire rapidly. It involves the cessation of physical, psychological, social and spiritual life. Family members were equally shocked, pain, helpless or stunned by the sudden loss either in sudden death or anticipated death. However, the grief in sudden death will be greater, the capacity to manage is diminished (Mureau-Haines et al, 2017). As nurses, there is no absolute certainty to ensure that each of patient's dying process will go smoothly without any problems. Family witnessed resuscitation (FWR) during resuscitation procedure was supported in the west and the acceptance rate of FWR was reported to be around 77% in the US (Lederman & Wacht, 2014). Conversely, FWR was still not common in Asian country, as the reported acceptance rate is around 20% in Singapore and 10% in Hong Kong (Lam et al., 2007; Ong et al., 2004) and the awareness of promoting FWR in health organization in Taiwan was less than 23% (Lai et al., 2017). FWR in the resuscitation room is controversial debate in worldwide in the past two decades. Before 2004, the study of FWR practice was restricted to Western countries in the United States and Europe. In recent years, the healthcare professionals of the non-Western countries became aware of the importance of this practice and conducted studies to assess the attitudes of their staff and patients' families towards the practice of FWR (Leung & Chow, 2012). These studies showed that the majority of the health care staff in Singapore, South Africa and Turkey did not accept the practice of FWR (Leung and Chow, 2012). While in Hong Kong, the practice of FWR is still a relatively new concept and an uncommon practice (Leung and Chow, 2012). In the large number of research studies conducted overseas, there are both positive and negative opinions from health-care staff and family members with regard to FWR practice. Resuscitation is considered a common procedure in adult critical care units. There is considerable evidence that nursing staff are not in favor of FWR practice especially in resuscitation process (Hayajneh, 2013). Conversely, this trend is increasingly seeing that family members have the right to see and touch their relative while they are still alive (Sheng & Zuhailah Abdul Ghani, 2014). Nurses are duty bound to compassionately recognize and respond to the needs of people in their last hours of life, ensuring confidentiality and dignity is maintained (Johnson, 2016). The staff handles patients who are near death in Critical Care Units often faced in tragic circumstances. The care of family member is equally as concerned as

that the expiring patient, as the result of the family's grieving process significantly impact with the care provided especially to the patient required cardiopulmonary resuscitation (CPR) during this time (Hayajneh, 2013). To recognize the practice of FWR is depending on the willingness and attitude of healthcare staff to promote the principle of respect for autonomy and its appropriateness time for patient and family to be in the resuscitation room (Al Mutair, 2017). In the author's organization, it has been the common practice for the medical team to exclude patients' family members from the clinical area when a patient is under life-sustaining resuscitation. The healthcare staff usually worry that family members may interfere and disrupt the resuscitation process and make it more difficult to cease resuscitation. If this process not handle appropriately, it will challenge for all concerned and being paramount in determining the family members' acceptance of death and ability to get through with the situation. The present study was designed to provide an insight into staff attitudes and experience in FWR and to identify factors that facilitate and hinder the practice.

Methods

This is a cross-sectional study on attitudes, practice and experience among nurses working in the Critical Care Units. The research was conducted in a 400 bedded tertiary acute care hospital. The critical care units included Accident and Emergency Department (A&E), adult Intensive Care Unit (ICU), Coronary Rehabilitation Ward (CRW) and Coronary Care Units (CCU). The study conducted for a duration of 2 weeks from July 20, 2022 to August 2, 2022.

The purposive sampling technique was used in this study. The sampling frame was determined after the proposal was cleared by Open University Malaysia Research and Ethics committee on July 15, 2022 (No. 841009075444). Sample size was calculated using scientific formula of Krejcie and Morgan, (1970). Out of the population of 150 nurses in all critical care units at the hospital, actual sample size was 108, adding 20% attribution rate, total sample size determined was 138. The nursing staff in Critical Care Units who were directly involved in the clinical care of patients in A&E, ICU, CRW and CCU (i.e., matrons, sisters, staff nurses, assistant nurses and nursing aids) of the hospital were included. Student nurses and other personnel indirectly involved in the care of patients, such as the radiological staff, laboratory technicians, ward clerk and cleaning staff were excluded. The data collection was through self-administered questionnaire to assess on attitude and perception on FWR. The questionnaire was adapted from Sheng et al. (2010) and Sheng and Zuhailah Abdul Ghani (2014) studies with modification and the permission was given through the email by the authors concerned. The questionnaires were prepared in English only as nurses were comfortable with the language and able to answer them. The questionnaire items were vetted and validated by expert in critical care (i.e. anaesthesiologist) based on rubric from. Simon and White (1998) to make

the questionnaire more relevant to current practice in the hospital. The entire questionnaire contains three sections: the first section demographic data (6 items), section two the attitudes of staff towards allowing family presence (13 items), while the third section ask about the past experiences and attitudes of nursing staff when dealing with relatives of patient requests to be allowed to witness the resuscitation (5 items). A pilot study was conducted on 10 nursing staff to test the validity and the effectiveness of the questionnaire (Polit & Beck, 2017). These participants were randomly selected and not included in the study sample. From the pilot study, feedback on items that beyond comprehensible were either excluded or revised. After respondents were selected, a brief explanation about the research was given via email. The researcher created Google Form link and disseminated via email or social media such as own department WhatsApp group. The participants were reminded not to share information while completing the questionnaire. Permission to conduct research was obtained from hospital director and respective ward or unit manager on this research. Nurses who agree to participate had completed informed consent form. Participants were assured of their anonymous identity and confidentiality of the data. All completed questionnaires were retrieved by the researcher and checked for completeness. All the data was compiled systematically for further analysis.

Results

Out of 138 questionnaires distributed, 24 (17.4%) were not returned and 2 (1.4%) of the questionnaires were incomplete. Response rate was 81.2%. Eventually the final sample collected was 112 participants. Majority of the participants who took part in this study were female 81.3% (n=91) while male occupied another 18.8% (n=21), most of them were aged between 20-29 years old which representing 58% (n=65) of the total sample size. Most of the participants were from A&E department which contributed 46.6% (n=52) of the total sample and follow by ICU 33% (n=37) and CCU/CRW 20.5% (n=23). Out of the 112 participants who participated in the study 32.1% (n=36) of the participant has working experience of 2-5 years followed by 31.3% (n=35) of the participant who has work experience of 6 months-2 years, 19.6% (n=22) who has work experience of more than 10 years and 17% (n=19) who has work experience of 6-10 years. 61.6% (n=69) of the participants are diploma holder, while 22.3% (n=25) of the participant holds post basic/ advanced diploma, and a total of 16.1% (n=18) of the participant holds qualification of bachelor's degree. Among the participants who participated in this study, 82.1% (n=92) were staff nurse, 10.7% (n=12) were Matron/Sister/Head, and 7.2% (n=8) were assistant nurse (Table 1).

Table 1: Demographic characteristics of study samples

	Frequency	Percentage (%)	p

Gender			
Male	21	18.8	0.707
Female	91	81.3	
Age			
20 - 29	65	58.0	
30 – 39	31	27.7	0.013
40 – 49	10	8.9	
>50	6	5.4	
Department			
A & E	52	46.4	
ICU	37	33.0	0.930
CCU/CRW	23	20.5	
Working experience			
6 months – 2 years	35	31.3	0.002
2 - 5 years	36	32.1	
6 – 10 years	19	17.0	
>10 years	22	19.6	
Educational level			
Diploma	69	61.6	0.007
Post basic/Advanced Diploma	25	22.3	
Bachelor degree	18	16.1	
Job grade			
Assistant nurse	8	7.2	
Staff nurse	92	82.1	0.003
Matron/sister//head	12	10.7	

Note: A & E: Accident & Emergency; ICU: Intensive care unit; CCU: Coronary care unit; CRW: Coronary rehabilitation unit; FWD: Family witness resuscitation

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Based on the results tabulated (Table 2), 88.4% (n=99) of the participants who participated in the study choose not to allow FWR while 11.6% (n=13) allow Family Witness Resuscitation (FWR) to be happened. There was a significant difference between these two groups of nurses who agree and disagree with FWR practice ($p<0.05$).

Table 2: Family witness resuscitation (FWR) in comparison to test proportion (n:112)

	Frequency	**Percentage**	**Estimate**	**95% CI**		**p**
				Lower	**Upper**	
Allow FWR						
Yes	13	11.6	0.116	0.063	0.190	0.000
No	99	88.4				

Note: FWR: Family witness resuscitation; CI: Confidence interval (Clopper-Pearson); Test proportion: 0.50; One-sample binomial test.

Results presented on nurses' attitude toward FWR- Relative's right when and what invasive procedures be allowed in FWR (Table 3). 50% (n=58) of the participants do not know if the relatives have a right to FWR, while 33.9% (n=38) of the participants think that relatives have no rights to FWR, and 16.1% (n=18) of the participants agree that relatives have rights to FWR. When it comes to should relatives present during a resuscitation, 72.3% (n=81) of the participants allow relatives to present only after all the invasive procedures has been done, while 19.6% (n=22) never allow relatives to be present in a resuscitation, and 8% (n=9) agreed to let relatives to be present during the whole resuscitation. In term of the invasive procedure nurses allowed in FWR, 95.5% (n=107) allow relative in invasive procedure of blood taking while 4.5% (n=5) not allowed in invasive procedure of blood taking. Only 0.9% (n=1) of the participant allowed relatives in invasive procedure of intubation while 99.1% (n=111) of the participants not allowed relative to witness intubation. For Foley catheter insertion, 91.1% (n=102) of the participants do not allow relatives to witness the invasive procedure while 8.9% (n=10) allowed relatives to witness. 100% of the participants disagree to let relatives to witness CVL (central venous line) insertion as well as chest tube insertion. For close manual reduction of fracture, 92.9% (n=104) of the participants will not allowed relatives to witness this invasive procedure while 7.1% (n=8) of the participants agree to let relatives to witness close manual reduction of fracture. Finally, 89.3% (n=100) of the participants would not allow relatives to witness CPR while 10.7% (n=12) would allow family to witness CPR. The statistical analysis with Chi square or Fisher's exact tests revealed statistically significant difference between groups on 'relatives allowed in invasive procedure-blood taking' (p=0.004), 'relatives allowed in invasive procedure-intubation' (p=0.036), 'relatives allowed in invasive procedure-foley catheter' (p=0.049), 'relatives allowed in invasive procedure-CVL insertion (p=0.000), and 'relatives allowed in invasive procedure-CPR (p=0.003). The rest showed no showed no statistically significant difference between groups who agree and disagree on respective procedure.

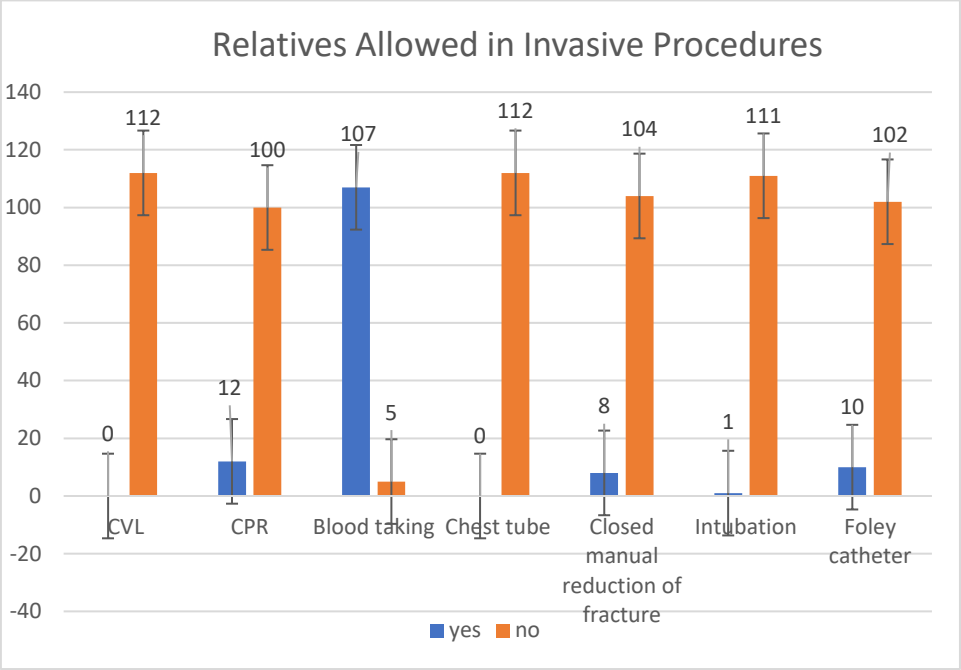
Table 3: Nurses' attitude toward Family Witness Resuscitation (FWR)-Relative's right, when and what invasive procedures be allowed in FWR

	Frequency	Percentage	df	χ2	p
Relatives have a right to FWR					
Yes	18	16.1	1	3.048	0.081
No	38	33.9			
Do not know	58	50.0			
When should relatives be present?					
Never	22	19.6	-	-*	0.126
After all invasive procedures	81	72.3			
During the whole resuscitation	9	8.0			

Relatives allowed in invasive procedure-blood taking			-	-*	0.004
Yes	107	95.5			
No	5	4.5			
Relatives allowed in invasive procedure-intubation			-	-*	0.036
Yes	1	0.9			
No	111	99.1			
Relatives allowed in invasive procedure-foley catheter			-	-*	0.049
Yes	10	8.9			
No	102	91.1			
Relatives allowed in invasive procedure-CVL insertion			-	-*	0.000
Yes	0	0			
No	112	100			
Relatives allowed in invasive procedure-chest tube			-	-*	0.755
Yes	0	0			
No	112	100			
Relatives allowed in invasive procedure-close manual reduction of fracture			-	-*	1.000
Yes	8	7.1			
No	104	92.9			
Relatives allowed in invasive procedure-CPR			-	-*	0.003
Yes	12	10.7			
No	100	89.3			

Note: FWR: Family witness resuscitation; df: degree of freedom; χ2: Chi square test; *: Fisher's exact test

Further elaboration on the comparison among the invasive procedures (Figure 1), the blood taking procedure was the most acceptable invasive procedure during FWR (95.5%). Whereas for invasive procedure which was not allowed most during FWR was CVL insertion (100%), chest tube insertion (100%), follows by intubation (99.1%), closed manual reduction of fracture (92.9%), Foley catheter insertion (91.1%) and lastly CPR (89.3%).



Note: FWR: Family witness resuscitation

Figure 1: Invasive procedures where relative are allowed during FWR

On nurses' attitude toward FWR- reason against FWR, who make decision to allow FWR and nurses' emotional support in FWR (Table 4). 54.5% (n=61) of the participants against allowing FWR mainly because of the traumatic experience that might bring to relatives. 87.5% (n=98) of the participants against FWR because of medico-legal issues, 76.8% (n=86) against because of breach of policy, 84.8% of the participants against FWR because of interference with resuscitation process, 75% (n=84) against because of overcrowding, 86.6% (n=97) of participants against because of stress to staff, and 46.4% of participants against because of prolong futile resuscitation. Based on statistical analysis with Chi square test or Fisher's exact test. The results demonstrated there was a statistically significant difference between group who agree and disagree with 'reason against allowing FWR-traumatic experience' (p=0.034), 'reason against allowing FWR-breach of policy' (p=0.011), and 'reason against allowing FWR-prolong futile resuscitation' (p=0.007). For the ideal number of relatives during resuscitation, 70.5% (n=79) of the participants choose to not allow any relatives in resuscitation, 25.9% (n=29) of the participants agreed to allowed one family member to witness resuscitation while 3.6% (4) of the participants agreed to have 2-3 relatives to witness resuscitation. In terms of who should make the decision to allow FWR, majority of the participants 63.4% (n=71) choose department policy to make the decision to allow FWR, followed by 56.3% (n=63) of the participants agreed that the decision to allow FWR should be decided by the medical team, 50.9% (n=57) of the participants think that senior doctors should be the person to make decision on FWR while only 18.8% (n=21) of the participants think that nursing officer should be the person to make decision on FWR. There are also 43.8% (n=49) who has no idea on who should make the decision to

allow FWR. Other than that, 97.3% (n=109) of the participants agreed that nurses should provide emotional support during a resuscitation towards the family. Based on statistical analysis with Chi square test or Fisher's exact test on ideal number of relatives during resuscitation, who make decision to allow FWR, participant decision on allowing FWR and emotional support provided by nurses during FWR (Table 4). The results found there was a statistically significant difference between group who agree and disagree on 'ideal number of relatives during resuscitation' (p=0.000), 'make the decision to allow FWR-department policy' (p=0.029) and 'participant decision to allow FWR (p=0.002). The rest were statistically non-significant.

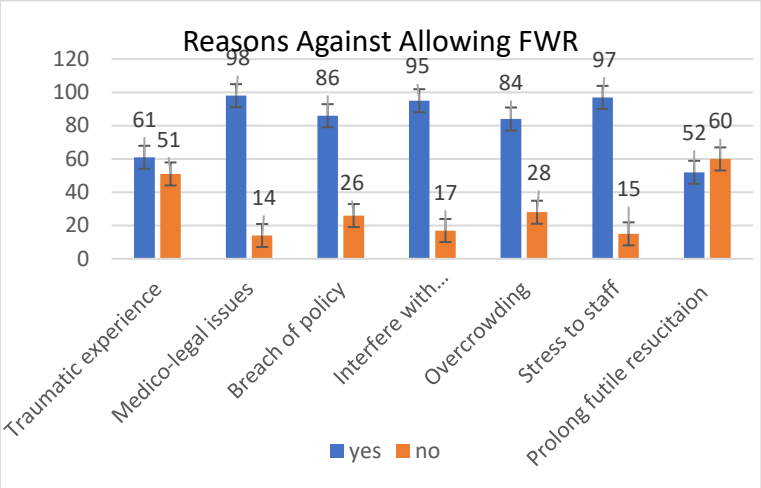
Table 4: Nurses' attitude toward Family Witness Resuscitation (FWR)-reasons against FWR, who make decision to allow FWR and nurses' emotional support in FWR

	Frequency	Percentage	df	χ2	p
Reason against allowing FWR-traumatic experience			1	4.498	0.034
Yes	61	54.5			
No	51	45.5			
Reason against allowing FWR-medico-legal issues			-	-*	0.665
Yes	98	87.5			
No	14	12.5			
Reason against allowing FWR-breach of policy			-	-*	0.011
Yes	86	76.8			
No	26	23.2			
Reason against allowing FWR-interfere with resuscitation process			-	-*	0.414
Yes	95	84.8			
No	17	15.2			
Reason against allowing FWR-overcrowding			-	-*	0.086
Yes	84	75.0			
No	28	25.0			
Reason against allowing FWR-stress to staff			-	-*	0.378
Yes	97	86.6			
No	15	13.4			
Reason against allowing FWR-prolong futile resuscitation			1	7.198	0.007
Yes	52	46.4			
No	60	53.6			
Ideal number of relatives during resuscitation			-	26.655	0.000

None	79	70.5			
1	29	25.9			
2-3	4	3.6			
Make the decision to allow FWR-senior doctor			-	0.005	0.945
Yes	57	50.9			
No	55	49.1			
Make the decision to allow FWR-nursing officer			-	-*	1.000
Yes	21	18.8			
No	91	81.3			
Make the decision to allow FWR-medical team decision			1	0.012	0.911
Yes	63	56.3			
No	49	43.8			
Make the decision to allow FWR-department policy			-	-*	0.029
Yes	71	63.4			
No	41	36.6			
Make the decision to allow FWR-don't know					
Yes	49	43.8	1	9.516	0.002
No	63	56.3			
Should nurses provide emotional support during CPR			-	-*	1.000
Yes	109	97.3			
No	3	2.7			

Note: FWR: Family witness resuscitation; df: degree of freedom; χ2: Chi square test; *: Fisher's exact test

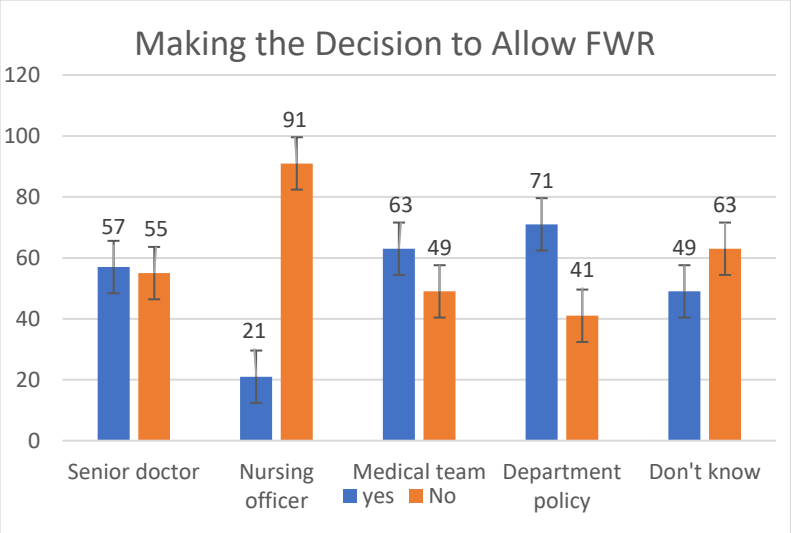
On further elaboration on the reasons against allowing FWR, medico-legal issues seem to be the top reason, follows by stress to staff, interference with resuscitation, breach of policy, overcrowding, and traumatic experience. Prolong futile resuscitation seems not to be a good reason against allowing FWR (Figure 2). The ideal number of relatives during resuscitation was none, as 70.5% (n=79) of participants agreed no one should be allowed compared with 1 relative (25.9%) and 2-3 relatives (3.6%).



Note: FWR: Family witness resuscitation

Figure 2: Reasons against allowing FWR

In making decision to allow FWR, the results (Figure 3) showed participants viewed department policy top the list in making decision allowing FWR (63.4%), follows by medical team (56.3%), and senior doctor (50.9%), while nursing officer is the least viewed by participants to make such decision (18.8%).



Note: FWR: Family witness resuscitation

Figure 3: Making the decision to allow FWR

Based on the responses from the participants (Table 5), 83.9% (n=94) of the participants believe that FWR has advantages of enable last rites, followed by 39.3% (n=44) aid grieving, 17.9% (n=20) assuring everything has been done, and 8% (n=9) on strengthen bond. Besides that, through the data collected, 84.8% (n=95) of participants also believe that offspring of geriatric patients would benefit the most from FWR followed by parents of paediatric patients (65.2%, n=73), spouse of patient (29.5%, n=33) and sibling of paediatric patients (6.3%, n=7). Meanwhile, 87.5% (n=98) of the participants

believe that patients with terminal illnesses would benefit the most from a FWR, followed by patients with chronic illnesses (42.9%, n=48), trauma patients (13.4%, n=15) and patients with acute illnesses (9.8%, n=11).

Based on statistical analysis with Chi square and Fisher's exact test (Table 5), the results showed there was statistically significant difference between groups who agree and disagree on nurses' attitude towards FWR on 'family members benefit from FWR-parent of pediatric patient' (p=0.032). The rest of items on advantages of FWR and family members benefit from FWR were statistically non-significant.

Table 5: Nurses' attitude toward Family Witness Resuscitation (FWR)- Advantages, family members benefit, categories of patients benefit from FWR

	Frequency	Percentage	df	χ2	p
Advantages of FWR-assuring everything has been done					
Yes	20	17.9	-	-*	0.699
No	92	82.1			
Advantages of FWR-aids grieving					
Yes	44	39.3	1	0.708	0.400
No	68	60.7			
Advantages of FWR-strengthen bond					
Yes	9	8.0	-	-*	0.280
No	103	92.0			
Advantages of FWR-enable last rites					
Yes	94	83.9	-	-*	1.000
No	18	16.1			
Family members benefit from FWR-parent of pediatric patient					
Yes	73	65.2	-	-*	0.032
No	39	34.8			
Family members benefit from FWR-spouse of patient					
Yes	33	29.5	-	-*	0.054
No	79	70.5			
Family members benefit from FWR-siblings of paediatrics patient			-	-*	0.589
Yes	7	6.3			
No	105	93.8			
Family members benefit from FWR-offspring of geriatric patient			-	-*	0.414
Yes	95	84.8			
No	17	15.2			
Categories of patients benefit from FWR-patient with acute illnesses			-	-*	0.117

Yes	11	9.8			
No	101	90.2			
Categories of patients benefit from FWR-patient with chronic illnesses					
Yes	48	42.9	1	0.000	1.000
No	64	57.1			
Categories of patients benefit from FWR-trauma patients					
Yes	15	13.4	-	-*	0.685
No	97	86.6			
Categories of patients benefit from FWR-patient with terminal illnesses					
Yes	98	87.5	-	-*	0.665
No	14	12.5			

Note: FWR: Family witness resuscitation; df: degree of freedom; χ2: Chi square test; *: Fisher's exact test

From the Table 6 on nurses' attitude toward FWR-uncomfortable with FWR, and allowed FWR if relatives are medical staff. 79.5% (n=89) of the participants felt uncomfortable with FWR while 20.5% (n=23) of the participants are comfortable with FWR. Also, 40.2% (n=45) of the participants willing to allow FWR if relatives are medical staff while 59.8% (n=67) of the participants not willing to allow FWR even if relatives are medical staff. Based on statistical test with Chi square or Fisher's exact test, the results found that there was a statistically significant difference between groups who agree and disagree on 'uncomfortable with FWR' (p=0.000) and 'willing to allow FWR if relatives are medical staff' (p=0.006).

Table 6: Nurses' attitude toward Family Witness Resuscitation (FWR)-uncomfortable with FWR, allowed FWR if relatives are medical staff

	Frequency	**Percentage**	**df**	**χ2**	**p**
Uncomfortable with FWR					
Yes	89	79.5	-	-*	0.000
No	23	20.5			
Willing to allow FWR if relatives are medical staff					
Yes	45	40.2	-	-*	0.006
No	67	59.8			

Note: FWR: Family witness resuscitation; df: degree of freedom; χ2: Chi square test; *: Fisher's exact test

Table 7 represents nurses' experience towards FWR. 40.2% (n=45) of the participants has experience of family requesting for FWR while 59.8% (n=57) did not experience request of FWR from family. 42.9% (n=47) of the participants received 1-10 requests from relatives for FWR in the past 6

months. When it comes to nurses' reaction when asked for FWR, 80.4% (n=90) of the participants shows dilemma, followed by anxious (66.1%, n=74), and frustration (25%, n=28). At the same time, 92.9% (n=104) of the participants also mentioned that they can't remember what the reaction was when asked for FWR. In terms of initiative to explain FWR to relatives, majority of the participants (72.3%, n=81) did not take initiative to explain FWR to relatives. In term of nurses' reaction to FWR, 28.6% (n=32) of the relative's reaction towards FWR was shocked, 14.3% (n=16) relative's reaction towards FWR was accepting while 13.4% (n=16) relative's reaction towards FWR was disgusting. At the same time, there are also 55.4% (n=62) of the relatives shows reaction of not sure towards FWR. Further statistical analysis found there was a statistically significant difference between groups who agree and disagree on 'nurses' reaction when asked for FWR-dilemma' (p=0.004), 'nurses' reaction when asked for FWR-frustration' (p=0.036), 'nurses' initiative to explain FWP to relatives' (p=0.000), 'relatives' reaction to FWR-accepting' (p=0.003), and 'relatives' reaction to FWR-not sure' (p=0.028).

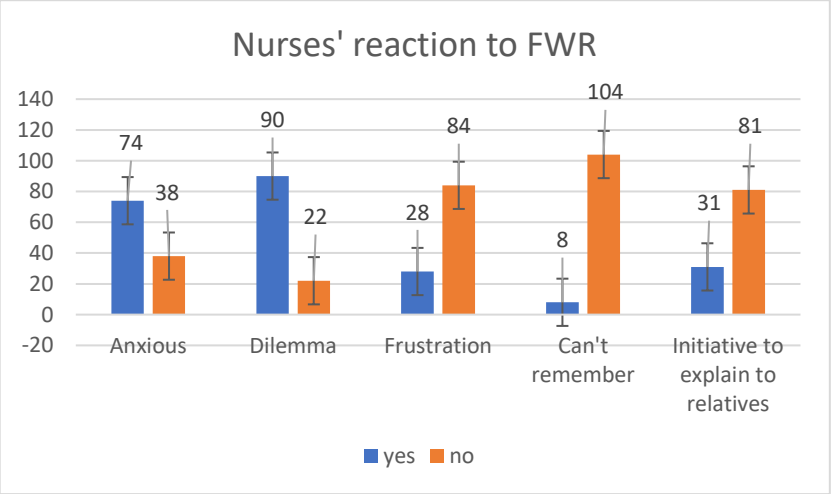
Table 7: Nurses' Experience towards Family Witness Resuscitation (FWR)

	Frequency	**Percentage**	**df**	**χ2**	**p**
Previous request from family					
Yes	45	40.2	1	1.877	0.171
No	57	59.8			
Number of requests received by nurses in last 6 months					
None	64	57.1	1	3.048	0.081
1 -10	47	42.9			
Nurses' reaction when asked for FWR-anxious					
Yes	74	66.1	-	-*	0.126
No	38	33.9			
Nurses' reaction when asked for FWR-dilemma					
Yes	90	80.4	-	-*	0.004
No	22	19.6			
Nurses' reaction when asked for FWR-frustration					
Yes	28	25.0	-	-*	0.036
No	84	75.0			
Nurses' reaction when asked for FWR-Can't remember			-	-*	0.049
Yes	8	7.1			
No	104	92.9			
Nurses' initiative to explain FWP to relatives					

Yes	31	27.7	-	-*	0.000
No	81	72.3			
Relatives' reaction to FWR-shock					
Yes	32	28.6	-	-*	0.755
No	80	71.4			
Relatives' reaction to FWR-disgusted					
Yes	15	13.4	-	-*	1.000
No	97	86.6			
Relatives' reaction to FWR-accepting					
Yes	16	14.3	-	-*	0.003
No	96	85.7			
Relatives' reaction to FWR-indifferent					
Yes	6	5.4	-	-*	1.000
No	106	94.6			
Relatives' reaction to FWR-not sure					
Yes	62	55.4	1	4.811	0.028
No	50	44.6			

Note: FWR: Family witness resuscitation; df: degree of freedom; χ2: Chi square test; *: Fisher's exact test

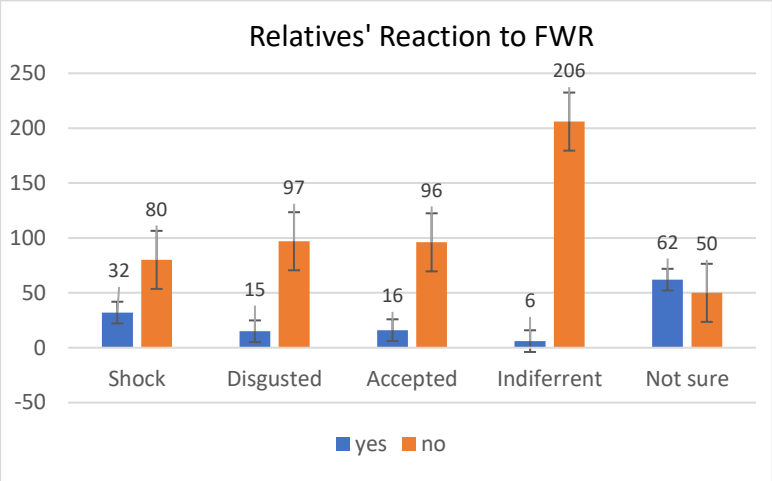
In Figure 4, nurses' reaction to FWR indicates that the highest reaction was dilemma (80.4%), follows by anxious (66.1%).



Note: FWR: Family witness resuscitation

Figure 4: Nurses' reaction to FWR

In Figure 5, nurses' view on relatives' reaction to FWR found majority of them did not react much with shock, disgusted and indifferent, however more than half (55%) of participants were unsure on FWR issue.



Note: FWR: Family witness resuscitation

Figure 5: Relatives' reaction to FWR

Discussions

Based on the finding of this study, majority of the participant 58% (n = 65) were in the age range of 20 – 29 and 81.3% (n=91) were female. Besides that, majority participants32.1% (n=36) of the participant has working experience of 2-5 years followed by 31.3% (n=35) of the participant who has work experience of 6 months-2 years. Similar to the study of Omran et al. (2015), the sample of nurses (n = 192), consisted mainly of females (74%), aged 20-28 (50%), and with less than 10 years' experience (74%). In this study, the participants who involving were more to junior nurses as shown in working experiences and more than 88.9% (n= 99) were not allowed FWR, and negative attitudes toward the practice. In Chapman et al. (2012) study, more senior and more experienced nurses, reported greater self-confidence to manage FWR. However, only older nurses perceived increased self-confidence to manage FWR when compared with their younger colleagues. More senior staff were more confident in their ability to manage the event and communicate with family throughout the resuscitation. However, this finding differs from Twibell et al. (2008) who did not find a relationship between experience or age and perceptions toward FWR among nurses. These differences found between the professions may be associated with the allocation of roles and responsibilities between doctors and nurses during FWR and the different ways these are enacted between more junior and more senior staff. Comparable with de Mingo-Fernández et al. (2021) study, those who see greater benefits and have more self-confidence (nurses and young professionals with less than 5 years of experience), choose to give the decision responsibility to the patient. It is observed that, behind the attitudes, there is a background of generational change that is advancing to allow FWR. Among 61.6% (n=69) of the participants are diploma holder, while 22.3% (n=25) of the participant holds post basic/ advanced diploma, and a total of 16.1% (n=18) of the participant holds qualification of bachelor's degree. In Chapman et al. (2012) study, holding a specialty certification and level of education have previously been shown to

be significantly associated with more positive perceptions of FWR. Twibell et al. (2008) study explored nurses' perceptions of family presence during resuscitation found that certificated nurses and registered nurses perceived more benefits and fewer risks, as well as more confidence in their ability to manage FWR compared to other nurses who were not certificated or registered. The literature has highlighted that health professionals who lack education and experience in FWR tend to hold more negative attitudes toward the practice. Among the participants who participated in this study, 82.1% (n=92) were staff nurse, 10.7% (n=12) were Matron/Sister/Head, 4.5% (n=5) were assistant nurse and 2.7% (n=3) were medical assistant. As Tudor et al. (2014), nurses who were members of a professional nursing organization, had a specialty certification, had ever invited a patient's family member to be present during a resuscitation, and would want a member of their own family present if they were being resuscitated reported significantly greater benefits compared with risks for FWR and were significantly more self-confident in their ability to include patients' family members in resuscitation events. Of all participants, 59.8 % (n = 57) reported they did not experience a situation in which family members were present during CPR. This ratio is lower than the findings of previous studies by Badir and Sepit (2007) (63.7%, n = 177) and, de Beer and Moleki, (2012) (84.2%, n=59). Those respondents with previous experience believed it had more positive than negative effects for the families concerned. In this study, 88.4% (n=99) of the participants who participated in the study choose not to allow FWR and 79.5% (n=89) of the respondents feels uncomfortable with FWR. This is similar to the study of de Beer and Moleki (2012), for those who had not been involved in FWR, 90% (n=63) would not allow the presence of family members during resuscitation. They feared that the presence of the family members could interfere with the resuscitative efforts. The most common one was the perception that a patient's family members might interfere with the resuscitation, either because of their disruptive emotional and/or behavioral response to the situation or because of overcrowding in the room. Additionally with the study from Taraghi et al. (2014) stated the majority of physicians and nurses (92.5% of physicians and 80% of nurses) had negative attitudes towards FWR during CPR. The fear of legal problems such as increased complaints from team members has been reported. A study from Sweden (Waldemar & Thylen, 2019) which 25% of healthcare professionals stated that family should not be present during resuscitation, as it would be far too painful for them. The most common concern was that the resuscitation team may say things that are upsetting to the family member during resuscitation, with 68% agreeing with this statement. In this present study, the ideal number of relatives during resuscitation, 70.5% (n=79) of the participants choose to not allow any relatives in resuscitation, 25.9% (n=29) of the participants agreed to allowed one family member to witness resuscitation while 3.6% (4) of the participants agreed to have 2-3 relatives to witness resuscitation. A controversy from the results of this Taraghi et al. (2014) study showed

only 29% of physicians and 41% of nurses would agree FWR if they had stable behavior and 18.3% of physicians and 23.5% of nurses would agree with FWR, if they escorted by one of the members of resuscitation team. In addition, some nurses expressed feeling of performance anxiety of being watched by family members and this could affect their team discussion during resuscitation and hence interfere with their decision-making. Some nurses thought that patients and family members do not understand what is involved in family presence and its limitations. A final concern was the need for customized tactics of use of family presence option. When it comes to nurses' reaction when asked for FWR, 80.4% (n=90) of the participants shows dilemma, followed by anxious (66.1%, n=74), and frustration (25%, n=28). At the same time, surprisingly 92.9% (n=104) of the participants also mentioned that they can't remember what the reaction was when asked for FWR. Supported by Omran et al, (2015), some nurses expressed feeling of performance anxiety of being watched by family members and this could affect their team discussion during resuscitation and hence interfere with their decision-making. Some nurses thought that patients and family members do not understand what is involved in family presence and its limitations. In Waldemar and Thylen (2019) study, there was strong agreement that there should always be a healthcare professional dedicated to take care of family (92%). Study found that the perception of nurses 'toward against Family Witness), mainly because of the traumatic experience that might bring to relatives 54.5% (n=61) . 87.5% (n=98) against FWR because of medico-legal issues, 76.8% (n=86) against because of breach of policy, 84.8% of the participants against FWR because of interference with resuscitation process, 75% (n=84) against because of overcrowding, 86.6% (n=97) of participants against because of stress to staff, and 46.4% of participants against because of prolong futile resuscitation. In Taraghi et al. (2014) The most common reasons of negative attitudes of nurses in our study consisted of interference family members in resuscitation performance (86.5% of nurses), disturbance of concentration of team members (89.5% of nurses), postpone of resuscitation process (82% of nurses) and insistence to continue the futile resuscitation (81% of nurses). Comparable with Axelsson et al. (2010) study, nearly 50% (n = 410) of the participants expressed a concern that family members would argue with the CPR team if they were present. Thus, as well as fear of family members disrupting the procedure, risked increasing stress levels for the team, with negative consequences for their performance and risked legal implications, have previously been reported. Secondly, the finding on 84.8% of the participants against FWR because of interference with resuscitation process. Similar with de Beer and Moleki, (2012) study, respondents (90%; n = 63) felt that the presence of relatives during resuscitation would interfere with the resuscitation efforts. However, these concerns have not been confirmed when FWR has been implemented Besides that, this study had found nurses (10.7%) agreed to allow FWR during CPR. This may be since many nurses realize that resuscitation moments may be the last

chance for a family member to bid farewell to their dying loved ones. privacy (Sheng et al., 2010). This is consistent with another finding, that 60.7% of nurses agree that FWR would enable the family members to perform last rites. This is because one aspect of dying in Islam is the pronouncement of the 'Shahadah' to the near dying patient. For Roman Catholics, there is also the giving of last rites during such moments. 87.5% (n=98) of the participants against FWR because of medico-legal issues, 76.8% (n=86) against because of breach of policy. This result correlates to de Mingo-Fernández et al. (2021) study, which many professionals (26%) report a lack of specific training and protocols to successfully perform FWR, a factor that coincides with the studies by Chapman et al. (2012) stating that "a key predictor to support FWR is to receive training and have specific protocols". In terms of who should make the decision to allow FWR, majority of the participants 63.4% (n=71) choose department policy to make the decision to allow FWR, followed by 56.3% (n=63) of the participants agreed that the decision to allow FWR should be decided by the medical team. In Jennings (2014) study, as recommended by Emergency Nurses Association (ENA) and American Heart Association (AHA), one of the new standards designed to improve patient and family outcomes is family witness resuscitation. Healthcare organizations need to be prepared to identify and provide the most cost effective, yet safe, way to implement this concept. Program design and implementation, including the development of written policies and standardized training for staff is essential to promote implementation of family presence. This also can correlate with 87.5% (n=98) of the participants against FWR because of medico-legal issues. Supporting with the Omran et al. (2015) study from Saudi Arabia, the nurses stressed that family presence should be an option rather than policy depending on situations and whether it should be applied as a policy, hospital administrators should safeguard that guidelines are regularly followed during family witness resuscitation. Therefore, there is a need first for nurses to work through policy and procedure development to provide every patient and family with opportunities to decide regarding family witness resuscitation, accommodate families at the bedside and address barriers that hinder the practice, and generate a hospital policy for family presence considering nurses' concerns and supports them in their practice. In this study, in term of the invasive procedure nurses allowed in FWR, 95.5% (n=107) allow relative in invasive procedure of blood taking. Similar with Sheng et al. (2010) study, there were about 40.0% of nurses would allow FWR during IV cannulation and blood taking as compared to more invasive procedures. Furthermore, nurses are more likely to allow FWR during procedures if the procedures are likely to be successful (Sacchetti et al., 2003). Blood taking are routine procedures performed even in nonemergent conditions. Procedures that involved exposing the patients' private parts were also less likely to be agreed to by nurses (only 8.9 % agreed to during Foley catheterization). This may be explained by the ethical principles upheld by nurses to protect patients' privacy (Sheng et al., 2010). Based on

the responses from the participants, 83.9% (n=94) of the participants believe that FWR has advantages of enable last rites, followed by 39.3% (n=44) aid grieving, 17.9% (n=20) assuring everything has been done, and 8% (n=9) on strengthen bond. As Omran et al. (2015) study pointed out a major concern was about the safety of patients and their families, which as a possible barrier to family witness resuscitation. The finding of this study not only supports this concern, but also some nurses think that family presence could not be helpful to both patients and families. In addition, some nurses thought that if family members understood what FWR is and that it did not hinder care provided, and then family presence would be appropriate. Critical care nurses often find themselves in the midst of challenging ethical situations that involve conflict between the needs of critically ill patients and the patients' family members and the preferences of physicians and other healthcare providers who initiate and manage resuscitation measures. Nurses need to gauge whether witnessed resuscitation would have benefits for the patient and/or the relatives, which can only be done through a holistic assessment of the specific situation at the time (Rose, 2018). In current study, when it comes to nurses' reaction when asked for FWR, 80.4% (n=90) of the participants shows dilemma, followed by anxious (66.1%, n=74), and frustration (25%, n=28). The study from Twibell et al. (2008) mentioned that healthcare professionals report primary reasons for their reluctance to invite patients' families to be present: the unpleasantness of what the families will see, fear that the resuscitation team will not function well with patients' families in the room and anxiety that family members will become disruptive. Less frequently mentioned concerns include patient confidentiality, possible increase in litigation if patients' families are present, and more aggressive and prolonged treatment if patients' families are present. For instance, Compton et al. (2006) indicated that health professionals' security is something to consider before implementing a FWR protocol. Same in current study, 87.5% (n=98) of the participants against FWR because of medico-legal issues, 76.8% (n=86) against because of breach of policy, In order to enhance FWR, there is a need first for nurses to work through policy and procedure development to provide every patient and family with opportunities to decide regarding family presence, accommodate families at the bedside and address barriers that hinder the practice, and generate a hospital policy for family witness taking into account healthcare providers' concerns and supports them in their practice. A final concern was the need for customized tactics of use of family witness resuscitation option. This study had a significant limitation, this was because this study only conducted in one private hospital in Penang. Thus, the result or outcome may not be representative of all hospital in Malaysia. Further studies should consider the public hospitals as well. The cultural factors could also influence the values and behaviours of nurses. As a result of the differences in nurses–patient interactions, the perceptions, and practices of family presence during resuscitation in Malaysia may differ from those in the western culture. Future research is necessary to determine whether training

CPR with family presence can reduce or even abolish negative emotions encountered. Moreover, future research should address whether the psychology burden imposed by medical emergencies may have lasting negative effects on healthcare workers and/or their future patients.

Conclusion

In the nutshell, this study found the concept of allowing FWR is not well accepted among the critical care nurses especially those who are lack of work experiences. Less than half of this critical care nurses had experienced a situation where family members were present during FWR and local protocols were rare. There was negative attitude towards FWR, though experience in nursing made nurses more favourable towards it. Nurses reported that allowing family witness resuscitation during resuscitation might be uncomfortable for both relatives and staff members involved.

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