

# Factors Influencing Implementation of Family Witnessed Resuscitation Practice among Nurses Working in Medical-Surgical Units of Siaya County Referral Hospital, Kenya.

## ABSTRACT

**Background:** The family witnessed resuscitation is offering family members an option to be present while a loved one is being resuscitated to sustain life. Despite the recommendation by various professional bodies, it is not widely practiced among medical-surgical nurses. This study aimed to describe the influence of nursing-related factors on this practice, and identify its perceived benefits and risks among nurses.

**Methods:** This was a cross-sectional analytical survey. Quantitative and qualitative approaches to data collection were used. A stratified random sampling design was used to obtain study participants. A sample of 75 registered nurses was generated using the Yamane formula. Data was collected using the Family Presence risk and benefit assessment scale designed and validated by Twibell et al. Analysis done using SPSS and NVIVO version 26 and 11 respectively. Chi-square, crosstabulation and frequencies were computed to establish frequencies, and relation between independent and depend variables.

**Results:** There was a significant association between the implementation of family witnessed resuscitation practice and the following independent factors: advanced specialized training in resuscitation ( $X^2=4.125$ ,  $df=1$ ,  $p=.042$ ), training on family witnessed resuscitation practice ( $X^2=6.728$ ,  $df=1$ ,  $p=.009$ ). Perceived benefits were; recognition of the efforts of healthcare professionals (81.7%), acceptance that everything possible was done (83.1%), and better process of grieving (71.8%). Perceived risks identified were; family panic (78.9%), family suffering long-term emotional effects (57.7%), and trauma to the family (63.4%).

**Conclusion:** Overall, 47.9% of respondents had a perception of more benefits & fewer risks. Training in family witnessed resuscitation practice and advanced specialized training in resuscitation increase the implementation of FWR by 4.4 and 3.3 respectively.

**Keywords:** Family Witnessed Resuscitation, Nursing, Medical-Surgical, Resuscitation

## 1. INTRODUCTION

Family witnessed resuscitation (FWR) is a practice of offering family members a choice to be in attendance in a position that gives them visual and physical access to their member being resuscitated (1). The FWR, family presence during resuscitation and witnessed resuscitation are terms used synonymously (2). According to American Heart Association (AHA) guidelines (2020), approximately 209,000 cardiac arrests occurs in hospital while over 350,000 takes place out of hospital yearly in the United States. Despite advancements in knowledge of resuscitation, the rates of the survival of the victims are 25% and 10% for in-hospital resuscitation and out-of-hospital resuscitation respectively (3). Therefore, offering families an option to stay with their loved ones could be the final chance for the members of the family to see their loved ones alive. Approximately 1.2% of hospital admissions in the US are adults who suffered in-hospital cardiac arrest (AHA 2020). In-hospital resuscitation, only 9-11% of all resuscitation events occur within the emergency department (4). This demonstrates that most cardiopulmonary resuscitations are done in various units within the hospital setting including the medical-surgical unit. According to a study by Havugitanga and Brysiewicz (2014), family witnessed resuscitation practice appeared to be a new concept among the nurses despite the concept having been introduced over 30 years ago. In most healthcare settings in this country, the patients' family members are accepted at the patient's bedside but should there be a need for resuscitation they are excluded during the procedure only to be informed of the outcome (5). In Kenya, AHA guidelines for cardiopulmonary resuscitation has been adopted in training nurses on basic life support (BLS) and advanced cardiac life support (ACLS). Despite this, FWR practice is not optimally practiced by medical-surgical nurses. Despite available evidence in support of the practice of family witnessed resuscitation, it is not routinely implemented by medical-surgical nurses in Kenya. When FWR practice is adopted as a routine practice, it improves patient safety, and satisfaction and offers patients comfort (6). The practice offers the family a chance to say "goodbye" to their

member during their last moments (7), it reduces adverse psychological outcomes for the patients and the family (8). The family presence enables them to appreciate that the healthcare team is doing everything possible to save their kin's life, promotes the grieving process, and provides an environment that is professional and upholds the patient's dignity (9–11). The practice promotes a strong bond between the family and resuscitation team, family satisfaction with the care offered to their loved one, and upholds patients' dignity (12–15). Cardiac arrest survivors have reported that patients felt supported and comforted by the presence of relatives during resuscitation (12), just like family members, they preferred the presence of family during resuscitation (16). Resuscitation need to be consistent with the patient's wishes (17), in compliance with hospital policies such as need for social distancing due to surge of COVID 19 infections. Eighty percent (80%) of the relative who had their kin in unsuccessful resuscitation wished they could have been present should they have been offered an option (18). Despite the available evidence, medical-surgical nurses are reluctant to fully embrace the practice. Therefore, the nurses' perceptions regarding the risks, the benefits and the perceived self-confidence need to be understood and how this impacts family presence during resuscitation.

## **2. Methods**

### **2.1 Study design and Setting**

This study was a cross-sectional analytical survey. Quantitative and qualitative approaches to data collection were used. This study aimed to describe nursing-related factors influencing the implementation of FWR practice, identify its perceived benefits, and establish the perceived risks of this practice among nurses in medical and surgical units. This study was conducted among registered nurses who were offering nursing care in both inpatient and outpatient departments of in Siaya Siaya County Referral Hospital (SCRH) which is situated in Siaya county, Kenya. The data collected was collected between December 2021 and March 2022. SCRH is a level five hospital serving approximately 842, 304 people annually in both inpatient

and outpatient. The hospital offers nursing services in accident & emergency, general surgery, internal medicine, pediatrics, obstetrics & gynecology, Ear, nose and throat, dental, ophthalmology, orthopedics, High Dependency Unit (HDU)/ Intensive care unit, oncology, nephrology, radiology, and mental healthcare department. The hospital has 92 nurses with different qualifications working in various departments within the hospital.

## **2.2 Study population**

All registered nurses who were providing nursing services in medical-surgical units were included in the study, the researcher excluded student nurses and nurses on leave during the period of the study.

## **2.3 Sample size determination and sampling Method**

A sample size of 75 respondents was obtained using the Yamane formula (19). A stratified sampling method was used to obtain the study population proportionately from each stratum of medical-surgical units ( Accident & Emergency, Medical wards, Surgical wards, Critical Care Unit (ICU) /High Dependency Unit (HDU), pediatric ward, and Outpatient Units). Simple random sampling was then used to select the respondents from the stratum. Qualitative data was collected using key informant interview (KII). Six KII was conducted among resuscitation team leaders from medical-surgical units to collect in-depth opinions. Data was coded based on generated themes. Eventually, triangulation with quantitative data was done. Yamane formulae to estimate sample size,

$$n = \frac{N}{1 + Ne^2}$$

Where,  $n$  = minimum returned sample size

$N$  = the population size (92)

$e$  = level of precision (0.05)

Therefore,  $n = \frac{N}{1 + Ne^2}$

$$n = \frac{92}{1 + 92(0.05^2)} = \frac{92}{1.23} = 75$$

**n= 75**

#### **2.4 Data collection methods and instruments**

Quantitative data were collected using an anonymous, self-administered questionnaire. The researcher adopted the validated version of Twibell's Family presence risk and benefit scale (FPR & B scale) (20). The permission to use the original questionnaire was granted through written permission by the original authors upon request. The questionnaire had three sections; A, B and C. Section A collected data on socio-demographic characteristics. Section B collected data on nursing-related factors (eg years of nursing experience in the current role, advanced training in resuscitation, training on FWR practice, and membership in professional organization). Section C collected data on nurses' perceived benefits of FWR practice (eg better grieving, acceptance of relative's death, reduce post traumatic stress disorder (PTSD) etc) and risks of FWR practice (eg family disruption, trauma to the family, lawsuits, etc). Questions were on 5 points Likert scale, respondents had options that ranged from 1 (strongly disagree) to 5 (strongly agree). An average score was calculated to determine the overall nurses' perception of family witnessed resuscitation, a higher score on risks and benefits shows that nurses perceive more benefits than risks of FWR practice. Qualitative data were collected using key informant interviews (KII). KII guide was used to collect in-depth opinions of the resuscitation team leaders from medical-surgical units. The FPR & B scale was pretested in 10% of the sample (9 participants) from Busia County Referral Hospital. The coefficient alpha was 0.7

#### **2.5 Statistical analysis**

Data were analyzed using SPSS version 26 and NVIVO version 11. Categorical data were analyzed descriptively using frequency tables, bar graphs, and pie charts. A t-test for independence was used for the comparison of means between groups.  $\chi^2$  test was used to check for an association between independent and dependent variables. Multivariate analysis was performed for variables that proved to have a significant relationship with the dependent

variable. Binary logistic regression was run to develop a prediction model for implementing the Family Witnessed Resuscitation practice. The significance level of p-value  $\leq 0.05$  was set. Qualitative data was transcribed and generated themes were interpreted and then triangulated to increase the credibility and validity of the findings (18,20,21). To enhance understanding, themes were validated by the inclusion of supporting quotes.

### 3. Results

#### 3.1 Sociodemographic characteristics

Seventy-five (75) registered nurses were sampled to participate in the study, seventy-one (71) of the respondents filled and returned the questionnaires, and the response rate was 94.7%. Most of the respondents were female (80.3%), aged between 25 -39 years (64.8%), and were married (71.8%). The median age was 30 years. The median age for their years of experience was 4years.

More than three-quarters of them (80.3%) had attained a diploma education. The respondents were working in the following units: Pediatrics ward (21.1%), Medical ward (19.7%), Intensive care (18.3%), Accident & emergency (16.9%), Out-patient department (12.7%), Surgical Ward (7.0%).

**Table 1: Sociodemographic characteristics of the respondents**

Variable	Category	Frequency	Valid Percentage %
Gender	Male	14	19.7
	Female	57	80.3
Age	18-24	8	11.3
	25-39	46	64.8
	40-55	16	22.5

	≥ 56	1	1.4
Marital status	Single	18	25.4
	Married	51	71.8
	Divorced	1	1.4
	Widowed	1	1.4
Level of education	Certificate	0	0.0
	Diploma	57	80.3
	Bachelors	13	18.3
	Masters and above	1	1.4
Work unit	Intensive care/ HDU	13	18.3
	Pediatrics ward	18	25.3
	Surgical ward	5	7.0
	Medical ward	14	19.7
	Accident & emergency	12	16.9
	Out-patient department	9	12.7

### **3.2 Implementation of family witnessed resuscitation per department**

Overall, out of 71 respondents 35 reported that they had implemented the practice. The practice was highly implemented in the Pediatric Ward (34.3%) and least implemented in the surgical wards and out-patient department (5.7%) and surgical wards (5.7%).

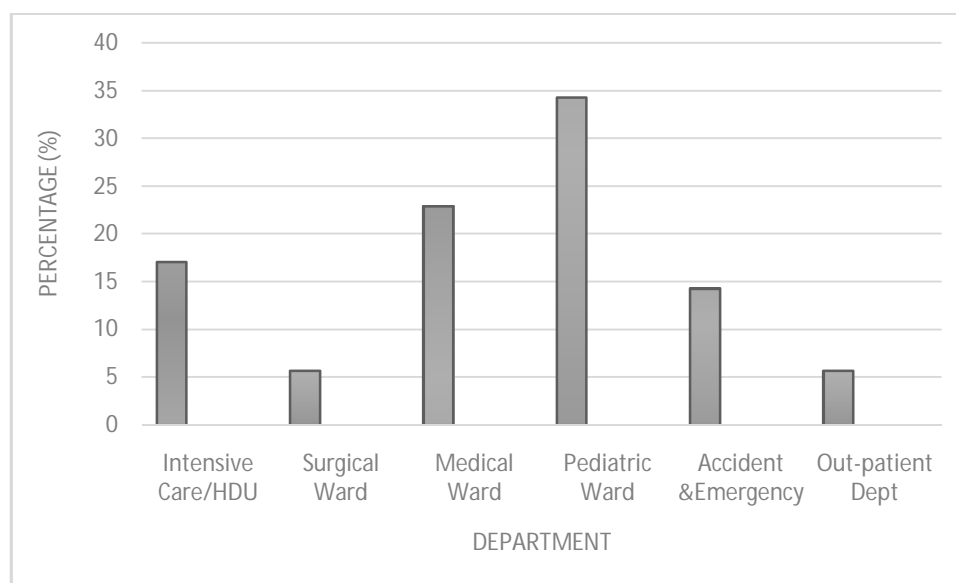


Figure 1. Implementation of family witnessed resuscitation per department

### **3.3 Nursing-related factors influencing implementation of FWR practice in Siaya county referral hospital, Kenya**

The first study objective was to describe nursing-related factors that influence the implementation of FWR practice. The majority of the nurses (60.6%) had an experience of less than five years of nursing working in their current role. The rest had 6 -10 years (16.9%), 11-20 years (18.3%), and more than 21 years (4.2%) working on their current roles. More than half of them (53.5%) had specialized training in resuscitation, while the rest (46.5%) had only completed basic nursing training. In KII a respondent noted explained that:

*...having specialized training in resuscitation improves self-confidence in performing resuscitation in family presence. It would improve the quality of services for instance training*

nurses on BLS and ACLS, although those trainings are very expensive (KII #2)...BLS and ACLS training is very expensive, the county should do something about it (KII #1). The majority (66.2%) of the respondents had not received training on how to support a family member who opts to witness the resuscitation of their loved one. In KII a respondent noted that:

...Such training would improve the quality of resuscitation although they are not locally available (KII #2). Some of us just do our things in the name of resuscitation, they should be trained on the right resuscitation procedures. (KII 1).

Nearly half of the participants (47.9%) affirmed being affiliated with professional organizations such as the National Nurses Association of Kenya (NNAK), and Kenya Progressive Nurses Association (KPNA). The rest (52.1%) had no professional affiliation with any organization. Most of the nurses (78.9%) had participated in more than ten resuscitations in their entire careers. About 11.3% have participated in 1 to 3 resuscitations while 9.9% have participated in 4 to 6 resuscitation in their entire nursing career.

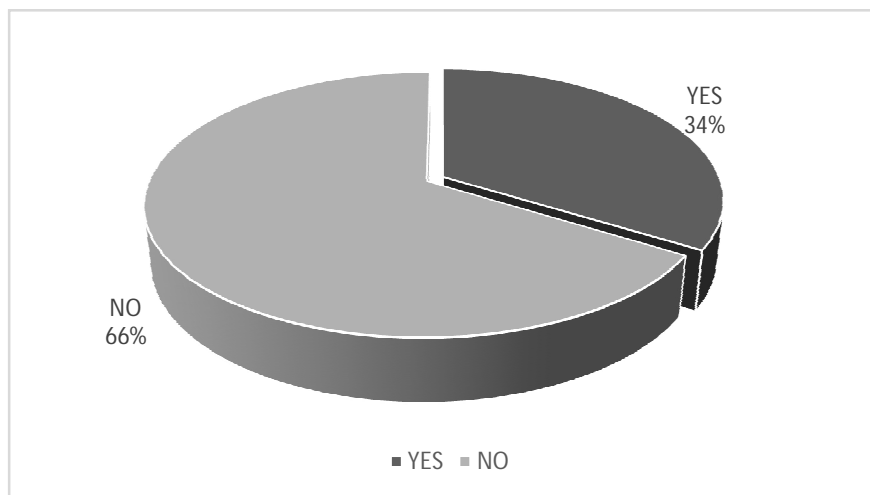


Figure 2. Training on how to support a family member who opts to witness the resuscitation

When nursing-related factors were run on the chi-square test of independence, it revealed a significant association between implementation of FWR practice and the following independent

factors: specialized training in resuscitation ( $X^2 = 4.125$ ,  $df = 1$ ,  $p = .042$ ), training in Family Witnessed Resuscitation ( $X^2 = 6.728$ ,  $df = 1$ ,  $p = .009$ ). Implementation of FWR Practice proved to be independent of years of nursing experience ( $X^2 = 2.401$ ,  $df = 3$ ,  $p = .540$ ), affiliation to professional organizations ( $X^2 = 1.132$ ,  $df = 1$ ,  $p = .287$ ), and the number of times respondents participated in the resuscitation process ( $X^2 = 4.544$ ,  $df = 2$ ,  $p = .103$ ). The adjusted odds ratio indicates that nurses who had specialized training in resuscitation apart from basic nursing were 3.3 times more likely to implement FWR practice than those with no other training. Those trained on FWR were 4.4 times more likely to implement than those with no training on the same. It is worth noting that specialized training and FWR training were not correlated.

**Table 2: Cross-tabulation and chi-square showing association between nursing-related factors and implementation of FWR practice**

Variable	Category	Implementation of FWR		p-value
		Yes	No	
Years of nursing experience in the current role	≤5	21 (48.8%)	22 (51.2%)	$X^2 = 2.401$ $df = 3$ $p^* = .540$
	6-10	8(66.7%)	4(33.3%)	
	11-20	5(38.5%)	8(61.5%)	
	≥21	1(33.3%)	2(66.7%)	
Specialized training apart from basic nursing (BLS, ACLS)	Yes	23 (60.5%)	15(39.5%)	$X^2 = 4.125$ $df = 1$ $p = .042$
	No	12(36.4%)	21(63.6%)	
Training on Family Witnessed Resuscitation	Yes	17(70.8%)	7(29.2%)	$X^2 = 6.728$ $df = 1$ $p = .009$
	No	18(38.3%)	29(61.7%)	
Affiliation to a professional organization (NNAK, KPNA)	Yes	19(55.9%)	15(44.1%)	$X^2 = 1.132$ $df = 1$ $p = .287$
	No	16(43.2%)	21(56.8%)	
Number of times participated in resuscitation in entire career	1-3	3(37.5%)	5(62.5%)	$X^2 = 4.544$ $df = 2$ $p^* = .103$
	4-6	1(14.3%)	6(85.7%)	
	7-9			
	>= 10	31(55.4%)	25(44.6%)	

Perceived Risks and Benefits (FPR & B Scale)	Strongly Disagree & Disagree (Perception of more risk & fewer benefits)	0(0.0%)	2(100.0%)	$\chi^2 = 3.171$ df = 2 p* = .205
	Neutral	20(57.1%)	15(42.9%)	
	Agree & Strongly Agree (Perception of more benefits & fewer risks)	15(44.1%)	19(55.9%)	

\*Denotes Fishers Exact Test

**Table 3: Multivariate Logistic regression showing nursing related factors influencing implementation of family witnessed resuscitation**

		Variables in the Equation					95% C.I. for EXP(B)		
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1 <sup>a</sup>	Advanced specialized training apart from basic nursing(1)	-1.189	.557	4.557	1	.033	.304	.102	.907
	Training on family witnessed resuscitation(1)	-1.486	.622	5.703	1	.017	.226	.067	.766
	Constant	.743	.456	2.658	1	.103	2.103		

a. Variable(s) entered on step 1: Advanced specialized training apart from basic nursing, Training on family witnessed resuscitation

### **3.4 Perceived benefits of FWR practice**

The second objective of the study was to identify the perceived benefits of FWR practice among nurses in medical-surgical units. To achieve this, respondents were asked to respond to Likert scale questions on perceived risks and benefits of the Practice. The majority of the nurses (83.1%) believed that family members ought to be offered a choice of being present during the resuscitation of their loved ones. Nearly three-quarters (70.4%) thought that by performing the resuscitation in the family's presence, the resuscitation team would establish a close association with family members who witnessed the resuscitation process. Most of the respondents (81.7%) felt that family members that observe the process of resuscitation would recognize the efforts of healthcare professionals. At the same time, (73.2%) of the participants in this study believed that the family presence would enable them to accept the death of their kin. The majority (83.1%) of the respondents believed that the family would accept that everything possible was done to save the life of their loved ones. In KII a respondent explained that:

*...in our hospital the rooms are so small that cannot accommodate so many people, but the mother is always present to see whatever you are doing (KII1).*

Most of the respondents 71.8% believed that families will have a better process of grieving when they witness the resuscitation of their kin. Less than half (49.3%) of the nurses interviewed thought that the family presence would reduce post-traumatic stress disorder. This was affirmed during the KII interview when one of the respondents noted that:

*...If you have been with the caregiver throughout the journey, it would be a little easier to communicate death (KII4).*

Most of the respondents (81.7%) affirmed that family presence during resuscitation should constitute patient and family-centered care. Slightly more than half (52.1%) agreed that family members of the patients from the unit they work on prefer being present during the process of

resuscitation. Most of the respondents (73.2%), agreed that family presence during resuscitation would raise ratings of patient satisfaction with nursing care family satisfaction with nursing care (77.5%), and nurse satisfaction in offering optimum patient and family-centered care. Overall, 47.9% of the respondents had a perception of more benefits and fewer risks of FWR practice.

**Table 4: Frequency table showing participants' responses on the FPR & B scale.**

<b>Participants' responses on FPR &amp; B scale</b>			
<b>Independent Variable</b>	<b>Respondent Response</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Family members ought to be offered a choice to be present during the resuscitation of their loved one	Strongly Disagree / Disagree	4	5.6
	Neutral	8	11.3
	Agree / Strongly Agree	59	83.1
The resuscitation team would establish a close association with the Family who chooses to witness the resuscitation process than those who do not	Strongly Disagree / Disagree	9	12.7
	Neutral	12	16.9
	Agree / Strongly Agree	50	70.4
Family members who witness the resuscitation process would recognize the efforts of healthcare professionals	Strongly Disagree / Disagree	5	7.0
	Neutral	8	11.3
	Agree / Strongly Agree	58	81.7
Family members who are present during resuscitation would accept the death of their relative	Strongly Disagree / Disagree	2	2.8
	Neutral	17	23.9
	Agree / Strongly Agree	52	73.2
Family members who observe futile resuscitation attempt would have a better process of grieving	Strongly Disagree / Disagree	9	12.7
	Neutral	11	15.5
	Agree / Strongly Agree	51	71.8
The presence of the family members during resuscitation	Strongly Disagree / Disagree	15	21.1
	Neutral	21	29.6

reduces post-traumatic stress disorder	Agree / Strongly Agree	35	49.3
Family members who witness the resuscitation of their member accept that everything possible was done to save the life of their loved ones	Strongly Disagree / Disagree	2	2.8
	Neutral	10	14.1
	Agree / Strongly Agree	59	83.1
Family members of the patients from the unit I work with prefer being present during resuscitation.	Strongly Disagree / Disagree	8	11.3
	Neutral	26	36.6
	Agree / Strongly Agree	37	52.1
The presence of Family when a loved one is undergoing resuscitation is beneficial to patients	Strongly Disagree / Disagree	18	25.4
	Neutral	23	32.4
	Agree / Strongly Agree	30	42.3
Family presence during resuscitation should constitute patient and family-centered care	Strongly Disagree / Disagree	4	5.6
	Neutral	9	12.7
	Agree / Strongly Agree	58	81.7
Family presence during resuscitation would raise ratings of patient satisfaction with nursing care	Strongly Disagree / Disagree	6	8.5
	Neutral	13	18.3
	Agree / Strongly Agree	52	73.2
Family presence during resuscitation would raise ratings of family satisfaction with nursing care	Strongly Disagree / Disagree	2	2.8
	Neutral	14	19.7
	Agree / Strongly Agree	55	77.5
Family presence during resuscitation would raise ratings of nurse satisfaction in offering optimum patient and family-centered care.	Strongly Disagree / Disagree	4	5.6
	Neutral	12	16.9
	Agree / Strongly Agree	55	77.5

### ***3.5 Perceived risks of FWR practice.***

The third objective was to establish perceived risks of FWR practice among nurses in medical and surgical units. To achieve this, Likert scale questions on perceived risks and benefits of FWR practice were used to rate participants' opinions. Most of the respondents (78.9%) believed that family members would panic when they were given an option to witness the resuscitation of their family member. At the same time, more than half (57.7%) of the respondents affirmed that the family would suffer long-term emotional effects when they observe the resuscitation process. About sixty-three percent of the respondents (63.4%) agreed that the process of resuscitation could be traumatic to the family. About half of them (50.7%) reported that the unit where they work usually lacks a designated person to support the family whose members opt to witness their kin's resuscitation. In the KII interview, a respondent noted:

*...We don't have that extra person to explain the resuscitation to the family, they are not medics and do not understand medical procedures (KII4). With this shortage of nurses, where will you get that extra person to care for the family? Imagine you are one nurse on duty, the priority is the patient (KII4).*

Some sections (43.7%) thought that family members present would scrutinize the resuscitation process, while 38.0% believed that they would disrupt the resuscitation process. A respondent explained that:

*...Some relatives would even want to instruct you on what to do. Some relatives will not understand whatever you are doing, some would be crying, others praying or singing in loud voices (KII1).*

A section of the respondents (31.0%) had an opinion that the practice would make the resuscitation team uncomfortable and not function optimally. At the same time, about a quarter (26.8%) of the respondents thought that the family present during resuscitation could file

lawsuits against healthcare professionals. Overall, 2.8% of the respondents had a perception of more risks and fewer benefits of FWR practice.

#### **4. Discussion**

FWR practice was introduced over two decades ago. Nonetheless, the concept appeared new among many participants in this study. This study has demonstrated that nurses participate in most resuscitation procedures and medical-surgical nurses have the perfect opportunity to implement FWR practice. The nurses with specialized training in resuscitation apart from basic nursing were 3.3 times more likely to implement family witnessed resuscitation practice than those with no other training. This finding is consistent with the study conducted in Kentucky which revealed that nurses with specialized training voluntarily gave the family a chance to observe the resuscitation of their kin (9). Similarly, in South Africa, a study showed that for successful implementation of FWR practice, there is a need for advanced specialized training by healthcare workers (22). Certification and training ensures competency (23) and adherence to evidence based guidelines (24). This study has revealed that nurses with FWR practice were 4.4 times more likely to implement the practice than their counterparts with no such training. According to Edoardo et al there is a need for the training of nurses on FWR for the practice to be accepted. The majority of the medical-surgical nurses interviewed had below five years of experience in nursing working in their current role. This could be the reason for the low implementation of the practice. In Kentucky research showed that nurses that had 11 to 20 years of nursing experience in resuscitation performed resuscitation in the presence of the family. FWR practice was found to be independent of professional affiliation, this finding is contrary to that of a study done in Kentucky which affirmed that nurses registered by professional bodies were more willing to let the family in the room in which their kin was undergoing resuscitation (9). This could be attributed to the fact that the majority of the respondents in this study were not affiliated with professional organizations. Participation in professional nursing organization activities offers more exposure to evidence-based practices, during scientific conferences best practices are shared on how to effectively support the family

that opts to observe the resuscitation of their member. The majority of the respondents believed that offering the family a chance to observe a loved one's resuscitation would make them accept the demise of their member. This is similar to the results of a study in the Kingdom of Saudi Arabia which showed that witnessed resuscitation facilitates grieving, and promotes the healing process and closure (25). In certain instances, the family presence facilitated closure in case of a futile resuscitation attempt (2,9). Most of the respondents asserted that the family presence would make them have a better process of grieving. This is similar to the findings documented by Mclean (26) and Porter (27) which established that giving the family a chance to be in attendance during a loved one's resuscitation significantly helped the family in their process of grieving thereafter, brings reality to the situation and reducing prolonged denial period. The majority of the respondents reported that when the family is allowed to see that all that was possible was done in an attempt to save their loved ones. The consistent findings were found in a study in the United State where it was demonstrated that the presence of patient family reassures them that the healthcare teams have done everything possible was done (9). Less than half of the nurses interviewed believed that family members observing a kin's resuscitation reduces post-traumatic stress disorder. Similar findings were found in a study in France among family members where a research study showed a reduction in the occurrence of PTSD symptoms (11). This is because it reduces the level of anxiety since they believed that they were present when they were most needed. Nearly half of the participants felt that the family would suffer long-term emotional effects when they witness the resuscitation process. Nearly sixty-three percent (63.4%) of the respondents reported that witnessed resuscitation could be traumatic to the family. Similar findings were reported by De Beer (25) which showed that witnessed resuscitation could traumatize the family. Physical and emotional concerns among families have been raised following their presence during resuscitation. Contrarily, a study by Jabre et al showed a significantly higher incidence of symptoms related to PTSD among family

members who never had an opportunity to witness the resuscitation of their loved one (11). The family who witnessed resuscitation coped better than those who did not. A section of the respondents believed that the family members present during resuscitation would interfere with the process. Family loudly crying and wailing were cited as sources of interference that would hamper clear communication. However, this percentage is lower than what De Beer (25) found in a study in the Kingdom of Saudi Arabia in which 90% of the respondents felt that family would hamper the resuscitation process. This difference could be due higher number of participants in this study who perceived more benefits than risks regarding FWR practice. About a quarter of the respondent believed that the family presence could lead to lawsuits. This is contrary to the findings in the Kingdom of Saudi Arabian in which 84.2% of the participants indicated that FWR practice would increase lawsuit levels against the resuscitation team (25). Half of the respondents in this study affirmed that the unit where they work usually lacks a designated person to support the family whose member was being resuscitated. This is similar to the findings in the United States which revealed that the absence of a designated family support person was a hindrance to the implementation of FWR practice (28). Consistent results were found in South Africa where it was shown that there was a need for additional staff to support the family and to answer their questions regarding the resuscitation procedure (22).

## **5. Conclusion**

The implementation of family witnessed resuscitation among medical-surgical nurses at SCRH is at 49.3%. Out of 71 participants, 35 reported having invited family to be present during resuscitation. Overall, 47.9% of the respondents had a perception of more benefits and fewer risks of FWR practice. On the other hand, 2.8% of the respondents had a perception of more risks and fewer benefits of this practice. This study has shown an association between implementation of FWR practice and specialized training on resuscitation other than basic

nursing, and training on how to support the family who opts to witness the resuscitation of their loved one.

The county government should facilitate and encourage specialized training on BLS and ACLS among medical-surgical nurses to improve their resuscitation skills and optimize the implementation of family witnessed resuscitation practice. The hospital should organize continuous medical education among medical-surgical nurses to create awareness on how to support the family who opts to witness the resuscitation attempt of their loved ones as a component of patient and family-centered care and improve the implementation of FWR practice from the current 49.3% in SCRH.

### **Funding**

This research did not receive any specific grant from funding agencies in the public, commercial, or not for profit sectors.

### **Acknowledgments**

I thank everyone that took part in this study.

### **Competing Interests**

Authors declare no competing interest

### **Authors' contributions**

This work is a collaboration among all authors. All authors read, scientifically reviewed the article, and approved the final manuscript for publication.

### **Ethical approval and Consent:**

Ethical clearance to conduct this research was obtained from Mount Kenya University (MKU) Institutional Ethics and Review Committee (ERC), reference no. MKU/ERC/2007 and National Commission for Science, Technology & Innovation (NACOSTI), and license number

NACOSTI/P/21/14768. Permissions were also obtained from participating hospital and appropriate offices within Siaya County. Participation in the study was voluntary and participants signed informed consent. The participant's information was highly confidential.

## REFERENCE

1. Tomlinson KR, Golden IJ, Mallory JL, Comer L. Family Presence During Adult Resuscitation. *Adv Emerg Nurs J*. 2010;32(1):46–58.
2. Porter JE, Cooper SJ, Sellick K. Family presence during resuscitation (FPDR): Perceived benefits, barriers and enablers to implementation and practice. *Int Emerg Nurs [Internet]*. 2014;22(2):69–74. Available from: <http://dx.doi.org/10.1016/j.ienj.2013.07.001>
3. Go, D M, VL R, EJ B, JD B, WB B, et al. Heart disease and stroke statistics--2013 update: a report from the American Heart Association. *Circulation [Internet]*. 2013 Jan 1 [cited 2021 Sep 22];127(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/23239837/>
4. Donoghue AJ, Abella BS, Merchant R, Praestgaard A, Topjian A, Berg R, et al. Cardiopulmonary resuscitation for in-hospital events in the emergency department: A comparison of adult and pediatric outcomes and care processes. *Resuscitation [Internet]*. 2015 Jul 1 [cited 2021 Mar 28];92:94–100. Available from: </pmc/articles/PMC4788967/>
5. Havugitanga P, Brysiewicz P. Exploring healthcare professionals' perceptions

- regarding family-witnessed resuscitation in a hospital in Kigali, Rwanda. *South African J Crit Care*. 2014;30(1):18–21.
6. Leske, McAndrew, KJ B. Experiences of families when present during resuscitation in the emergency department after trauma. *J Trauma Nurs* [Internet]. 2013 Apr 1 [cited 2021 Aug 9];20(2):77–85. Available from: <https://pubmed.ncbi.nlm.nih.gov/23722216/>
  7. Hassankhani H, Zamanzadeh V, Rahmani A, Haririan H, Porter JE. Family Presence During Resuscitation: A Double-Edged Sword. *J Nurs Scholarsh*. 2017 Mar 1;49(2):127–34.
  8. Erogul M, Likourezos A, Meddy J, Terentiev V, Davydkina D, Monfort R, et al. Post-traumatic stress disorder in family-witnessed resuscitation of emergency department patients. *West J Emerg Med*. 2020;21(5):1182–7.
  9. Tudor K, Berger J, Polivka BJ, Chlebowy R, Thomas B. Nurses' perceptions of family presence during resuscitation. *Am J Crit Care*. 2014;23(6):e88–96.
  10. Chapman R, Watkins R, Bushby A, Combs S. Family-Witnessed Resuscitation: Perceptions of Nurses and Doctors Working in an Australian Emergency Department. *ISRN Emerg Med*. 2012 Dec 13;2012:1–10.
  11. Jabre P, Belpomme V, Azoulay E, Jacob L, Bertrand L, Lapostolle F, et al. Family Presence during Cardiopulmonary Resuscitation. *N Engl J Med* [Internet]. 2013 Mar 14 [cited 2021 Mar 17];368(11):1008–18. Available from: <http://www.nejm.org/doi/10.1056/NEJMoa1203366>
  12. Twibell R, Craig S, Siela D, Ccrn-K A-B, Simmonds S, Thomas C. Families in Critical Care Being There: inpaTienTs' percepTions of family presence During

- resuscitation and invasive cardiac procedures. 2015 [cited 2021 Apr 19];  
Available from: <http://dx.doi.org/10.4037/ajcc2015470>
13. Chapman R, Bushby A, Watkins R, Combs S. Australian Emergency Department health professionals' reasons to invite or not invite Family Witnessed Resuscitation: A qualitative perspective. *Int Emerg Nurs*. 2014 Jan 1;22(1):18–24.
  14. O'Connell KJ, Fritzeen J, Guzzetta CE, Clark AP, Lloyd C, Scott SH, et al. Family presence during trauma resuscitation: Family members' attitudes, behaviors, and experiences. *Am J Crit Care [Internet]*. 2017 May 1 [cited 2021 Apr 23];26(3):229–39. Available from: <https://pubmed.ncbi.nlm.nih.gov/28461545/>
  15. Goldberger ZD, Nallamotheu BK, Nichol G, Chan PS, Curtis JR, Cooke CR. Policies allowing family presence during resuscitation and patterns of care during in-hospital cardiac arrest. *Circ Cardiovasc Qual Outcomes [Internet]*. 2015 May 26 [cited 2021 Jun 24];8(3):226–34. Available from: <http://circoutcomes.ahajournals.org/lookup/suppl/doi:10.1161/CIRCOUTCOMES.14.001272/-/DC1>.
  16. Paplanus LM, Salmond SW, Jadotte YT, Viera DL. A Systematic Review of Family Witnessed Resuscitation and Family Witnessed Invasive Procedures in Adults in Hospital Settings Internationally - Part II: Perspectives of Healthcare Providers. *JBI Database Syst Rev Implement Reports [Internet]*. 2012 [cited 2021 Apr 19];10(33):2018–294. Available from: <https://pubmed.ncbi.nlm.nih.gov/27819956/>
  17. Powers K, Montegricono J, Pate K, Pagel J. Nurse faculty perceptions of readiness for practice among new nurses graduating during the pandemic. *J Prof Nurs*

- [Internet]. 2021;37(6):1132–9. Available from:  
<https://doi.org/10.1016/j.profnurs.2021.09.003>
18. De Stefano C, Normand D, Jabre P, Azoulay E, Kentish-Barnes N, Lapostolle F, et al. Family presence during resuscitation: A qualitative analysis from a national multicenter randomized clinical trial. *PLoS One*. 2016 Jun 1;11(6).
  19. Yamane. *Statistics : an introductory analysis / by Taro Yamane | National Library of Australia*. 1967.
  20. Twibell, Siela D, Riwitis C, Wheatley J, Riegle T, Bousman D, et al. Nurses' perceptions of their self-confidence and the benefits and risks of family presence during resuscitation. *Am J Crit Care*. 2008;17(2):101–11.
  21. Noble H, Heale R. Triangulation in research, with examples. *Evid Based Nurs*. 2019;22(3):67–8.
  22. Gordon ED, Kramer E, Couper I, Brysiewicz P. Family-witnessed resuscitation in emergency departments: Doctors' attitudes and practices. *South African Med J*. 2011;101(10):765–7.
  23. Giron SE, Dishman D, McMullan SP, Riel J, Newcomer T, Spence D, et al. Longitudinal assessment: A strategy to improve continuing professional certification. *J Prof Nurs [Internet]*. 2021;37(6):1140–8. Available from:  
<https://doi.org/10.1016/j.profnurs.2021.09.002>
  24. De Robertis E, Romano GM, Hinkelbein J, Piazza O, Sorriento G. Family presence during resuscitation: A concise narrative review. *Trends Anaesth Crit Care [Internet]*. 2017;15(July 2018):12–6. Available from:  
<http://dx.doi.org/10.1016/j.tacc.2017.06.001>

25. De Beer J, Moleki MM. Critical care nurses' perceptions of family witnessed resuscitation in the Kingdom of Saudi Arabia. *Afr J Nurs Midwifery* [Internet]. 2012 [cited 2022 Jul 29];14(1):105–15. Available from: <https://unisapressjournals.co.za/index.php/AJNM/article/view/9187>
26. Mclean J, Gill FJ, Shields L. Family presence during resuscitation in a paediatric hospital: Health professionals' confidence and perceptions. *J Clin Nurs*. 2016;25(7–8):1045–52.
27. Porter JE, Grad MN, Cc D, Ed GC, Hsm GD, Acute L. Perceived barriers and benefits to family presence during resuscitation in the emergency department Family presence during resuscitation ( FPDR ): Perceived benefits , barriers and enablers to implementation and practice. *Int Emerg Nurs* [Internet]. 2017;22(2):69–74. Available from: <http://dx.doi.org/10.1016/j.ienj.2013.07.001>
28. Powers K, Reeve CL. Family Presence During Resuscitation : Medical – Surgical Nurses ' Perceptions , Self-Confidence , and Use of Invitations. 2018;120(11).