
**The Perceptions of Emergency Medicine Physicians
and Trainees Regarding Family Presence During
Adult Patient Resuscitation in South African Public-
Sector Emergency Centres**

by

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MMed in Emergency Medicine

MCCNIC005

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Declaration

I, *Nicola Anita McAlpine*, hereby declare that the work on which this dissertation/thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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Abstract

Introduction The benefits of family presence during adult resuscitation (FPDR) are well documented in the literature. However, despite apparent value, FPDR is not always practised. The purpose of this study was to evaluate the perceptions of Emergency Medicine physicians and specialist trainees regarding FPDR in South African public sector Emergency Centres.

Method A descriptive study was undertaken, using an electronic survey which consisted of both open and closed-end questions. The Survey was distributed via email to 157 Emergency Medicine physicians and specialist trainees in South Africa. The data was collected and subjected to descriptive statistical analysis.

Results Most South African Emergency Medicine physicians and trainees did not feel that FPDR interrupted patient care; did not feel it hindered the teams' productivity; and did not believe it increases complaints about the quality of patient care. Despite this, practice of FPDR was found to be uncommon. Knowledge regarding FPDR guidelines was poor.

Discussion The views of South African Emergency Medicine physicians and specialist trainees regarding FPDR is in keeping with other pro-FPDR countries. However, these views do not seem to translate into practice. FPDR education and development of local guidelines are recommended.

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Abbreviations

ACLS	Advanced Cardiovascular Life Support
AHA	American Heart Association
CMSA	Colleges of Medicine South Africa
CPR	Cardiopulmonary Resuscitation
ECC	Emergency Cardiovascular Care
EM	Emergency Medicine
FPDR	Family Presence During Adult Resuscitation
HCP	Health Care Provider
ICU	Intensive Care Unit
ILCOR	International Liaison Committee on Resuscitation
MeSH	Medical Subject Headings
PALS	Paediatric Advanced Life Support
SA	South Africa(n)
UK	United Kingdom
USA	United States of America

Part A: Literature Review

Objectives of this literature review

- Define Family Presence During Adult Resuscitation (FPDR)
- Current practices regarding FPDR
- South African practice of FPDR
- Best practice recommendations

Literature search strategy including inclusion and exclusion criteria

Three databases were searched: PubMed; Scopus (limited to Medical); and Cochrane. The search employed a combination of Mesh terms and keywords.

Mesh Terms: (("Physicians"[Mesh]) AND "Family"[Mesh]) AND ("Resuscitation"[Mesh] OR "Cardiopulmonary Resuscitation"[Mesh])

Keywords: Family AND
Physicians OR Doctors AND
Resuscitation AND
Attitude or Feelings

Inclusion criteria:

- Study design: all inclusive
- Types of participants: Doctors of any qualification working in an Emergency Medicine setting
- Publication date: all inclusive
- Article language: English

Exclusion criteria:

- Resuscitations of paediatric patients (less than 18 years old)
- All articles limited to nursing staff
- All Pre-hospital articles
- All articles which focused exclusively on Intensive Care Units, trauma units or other specialised units not including the emergency centre

The search yielded a total of 446 articles. After removing duplicates, 438 articles remained. Title review of these articles found 52 applicable articles and abstract analysis narrowed these articles down to 40 papers. 11 of the 40 papers were literature reviews.

Introduction

Family Presence During Adult Resuscitation (FPDR) is defined as: “the attendance of one or more family members in a location that allows visual or physical contact with the adult patient during attempted resuscitation”.(1) FPDR first arose in Foote Hospital in the United States of America (USA) in 1982 when, on two separate occasions, family members refused to leave their loved ones’ resuscitation. These incidents were followed by a survey that showed most families would like to be present during their loved one’s resuscitation, and this initiated the first FPDR trial.(2) The trial took place at Foote Hospital and received overwhelmingly positive feedback.(2, 3)

Before the Foote Hospital FPDR trial in the 1980’s, parents were often permitted to witness the resuscitation of their children. The resuscitation of adults, however, was done behind closed doors, based on the assumption that it was an undesirable experience.(2, 4) The evidence for witnessed resuscitation in a paediatric setting is well established; there is class I, level B evidence, meaning there is clear benefit versus risk, and the procedure should be undertaken as it is useful/effective. This type of evidence includes that of a single randomised trial or multiple nonrandomised studies. However, evidence for witnessed resuscitation in adults is class IIa, level C, meaning the benefit still outweighs the risk and it is reasonable to perform the procedure, but additional studies are required. Hence, when dealing with witnessed resuscitation, it is necessary to separate paediatric from adult resuscitation. Due to the paucity in available evidence on adult population witnessed resuscitation, this literature review and accompanying research only focused on adults.(5)

The setting of the resuscitation also plays a significant role in the performance of the procedure and its outcome. Pre-hospital resuscitations offer a very different experience to in-hospital resuscitations; the challenges faced pre-hospital are unique, and although witnessed resuscitation may happen simply out of necessity (as one may not have control over bystanders), this is technically *not* FPDR. Resuscitation performance also changes within the hospital: emergency centres may be more prepared and better staffed for a resuscitation compared to the ward, however they are often dealing with an undifferentiated patient unlike patients in the ward or the intensive care unit (ICU). In areas where resuscitations are more common, such as in the emergency centre and ICU, it would be expected that the staff should be more accustomed to the routine, and performance should therefore be improved. Due to the influence that the work environment has on staff attitudes, the emergency centre has been selected as the location in order to maintain consistency in this document and accompanying research.

The resuscitation team itself is diverse, and different team members may have different experiences of FPDR depending on their role, prior experiences, personal beliefs, gender and backgrounds.(6) A favourable view of FPDR is directly proportional to the frequency in which physicians participate in

cardio-pulmonary resuscitation (CPR), their years of clinical practice, and the number of FPDR events they have been involved with.(7, 8) Furthermore, consideration of FPDR as an option was most strongly correlated with prior FPDR practice.(7) Nurses have regularly been shown to be more amenable to FPDR compared to doctors, and this is assumed to be so due to their role as advocates for patients and families.(7, 9-12)

There are arguments both for and against FPDR. Supportive views include: the right of the patient and his/her family (autonomy principle); perceived improvement of patient survival (beneficence principle); and aiding the family understand the medical process and facilitating their grieving process.(2) Studies surveying family members that have participated in FPDR continue to give positive feedback, with most family members saying they would choose FPDR; others insist FPDR assists the grieving process; and many family members believe that their presence is beneficial to the patient being resuscitated.(2, 11, 13)

Arguments against FPDR include: concerns of the resuscitation being disrupted; increased stress on staff performance; increase in litigation; difficulty in terminating resuscitation; and negative psychological impacts on family members.(14-16)

Doyle's initial study on FPDR in 1985 dispelled the arguments against FPDR: with none of the resuscitations being disrupted; family members reporting positive outcomes; and the family's presence not adversely affecting the resuscitations in any way.(2) Further studies have shown no adverse psychological effects on family members witnessing resuscitation.(15, 17) In fact, post-traumatic stress disorder symptoms, which are frequently seen in family members of patients with cardiac arrest, are not increased in family members who witness resuscitation.(3) Furthermore, a nine-year retrospective study showed no disruptions in resuscitations where family were present, and there have been no recorded cases of litigation because of FPDR.(3, 18, 19)

Guidelines and Best Practices

Several international organisations have recognised the importance of FPDR. These include: the American College of Emergency Physicians, the American Heart Association (AHA), the European Resuscitation Council and the Emergency Nurses Association.(5, 16, 20) The AHA states in its integrated 2010 and 2015 guidelines regarding FPDR, "In the absence of data documenting harm, and in light of data suggesting that it may be helpful, offering select family members the opportunity to be present during a resuscitation is reasonable and desirable."(5) The South African Resuscitation Council does not currently have its own guideline pertaining to FPDR, however it endorses that of the AHA.(21)

There is no single guideline outlining the practice of FPDR. Organisational policies should detail the process of assessing and preparing relatives; support team selection; and establish resuscitation team protocols for witnessed resuscitation.(22) Suggestions to improve outcomes include:

1. Preparing the family for the resuscitation: a senior member of staff should inform the family about the patient's condition; discuss what they might see, hear, touch and smell; describe the patient's appearance including equipment, monitors and procedures; inform the family if a poor outcome is expected; answer questions prior to entering the resuscitation.(22)
2. Establishing ground rules: duration of family presence during resuscitation; the removal of family if thought to be interfering with resuscitation efforts; the presence of a chaperone; the direct contact of the family with the patient.(22)

The presence of a chaperone to escort the family and explain the resuscitation has been shown to be the greatest asset to improving outcomes.(7) The chaperone does not need to be a doctor and has in most cases been a nurse, hospital priest or social worker.(3)

In addition, educational policies directed at dealing with grieving relatives; witnessed resuscitation and relevant communication skills have been suggested.(9, 22)

FPDR Internationally

Despite the large body of evidence showing the benefit of FPDR, the literature still shows a clear divide in the opinions of doctors on the subject. Studies have been conducted in multiple countries polling doctors' opinions on FPDR. Predominately negative views could be found in Iran, Finland, Poland, Turkey, Israel, Malaysia, Austria, Asia, United Kingdom, Trinidad, Tobago and Taiwan.(23-32) Despite multiple international organisations endorsing FPDR, practice remains poor. The European Resuscitation Council found in a survey published in the 2015 guidelines, that only a third of European countries offer FPDR.(20)

Australia and the USA show the greatest strides in their practice of FPDR.(6, 33, 34) Chapman et al. found that two-thirds of medical staff participants considered family presence the right of patients and families in Australia.(8) However, despite pro-FPDR views in a study conducted in the USA, FPDR took place in only 29% of all resuscitation cases.(34)

Several researchers have tried to ameliorate poor FPDR practices by undertaking an intervention component to studies on FPDR. They have assessed practices and attitudes of FPDR, then exposed the study population to educational material on FPDR, and then re-evaluated their post educational

practices and attitudes. One study showed that presenting education on FPDR can modify opinion-based beliefs and decrease barriers to providing FPDR.(7) However, in contrast, Ferrara et al. found that there were no changes in the attitudes of physicians after an FPDR educational campaign, yet there was a 91% increase in FPDR practice in the 2 months' post-education as compared to the 2 months prior.(10)

FPDR in South Africa

South Africa is known as the rainbow nation due to its cultural; religious; lingual & ethnic diversity. The country comprises of nine provinces each with their own provincial government and health system. The South African health system encompasses both public and private sectors. The private sector is individually funded and mainly used by patients with medical aid. However, only 17% of South Africans have medical aid.(35) 70% of South Africans will choose a public clinic or hospital as their first point of entry to the health system if sick.(35)

Much like South Africa, Emergency Medicine in South Africa has also evolved. It was only in 2004 that the first four-year residency program in Emergency Medicine was started.(36) Prior to this, those interested in acquiring a qualification in Emergency Medicine in South Africa would pursue a Master's degree. Now, centrally situated emergency centres are mainly run by the graduates and 'grandfathers' of the new residency based program. However, smaller peripheral emergency centres are still primarily medical officer or Family Medicine orientated.

In 2011, the first South African study on FPDR was published. It surveyed the opinions of emergency doctors working in Gauteng regarding FPDR.(37) The participants were comprised of a convenience sample from Masters of Emergency Medicine students at the University of the Witwatersrand. These participants worked in either the public or the private sector, both clinically and non-clinically. A second group of doctors doing regular shifts in private emergency centres was also surveyed. The questionnaire did not distinguish whether participants worked in private or public, and the two groups' results were analysed as a whole. As discussed earlier, the environment in which a resuscitation takes place can cause bias to one's views on FPDR. The South African private health sector services a mere 30% of the countries' population, and this 30% tends to be wealthier as they have to pay for an expensive service. They are also more likely to be part of the population that has access to education, the internet, and legal services. Due to these attributes, this population tends to be more demanding of their wishes and they may be better informed of their rights. Hence, a doctor who works predominately within the private sector may have very different views regarding FPDR.

The results of this study found a positive correlation between work experience in the emergency centre and improved FPDR views.(37) They also found an association with the attendance of an AHA course and the likelihood to allow FPDR.(37) However, in general, they found South African doctors to have mainly negative views on FPDR, citing similar concerns to the international population: 72% felt it may traumatise family members; 71% felt it would affect the decision to terminate a resuscitation; 60% felt the resuscitation team would be adversely affected; and 58% had medico-legal concerns.(37) In practice, just under half of the surveyed doctors had *never* considered FPDR.(37)

Information regarding FPDR in South Africa is still lacking and, considering the many contributing factors to the practice of FPDR, further data are clearly still needed. The accompanying research shall address some of these issues by taking place in multiple provinces and centres, focusing on the public sector and the adult population. It shall also utilise the Emergency Medicine residency program by distributing surveys to the specialist trainees and its faculty. This population was targeted due to its special interest in furthering the future of Emergency Medicine and thus the possibility to influence teaching of FPDR and policy making.

Conclusion

Review of the literature showed a clear benefit of FPDR that unfortunately was not practiced due to unfounded misconceptions by practitioners. Despite international resuscitation guidelines, the rate of practiced FPDR even in accepting countries was still low. Knowledge regarding South African Emergency Medicine physicians' opinions on FPDR is limited and further studies are suggested

References

1. Eichhorn DJ, Meyers, T.A, Guzzetta, C.E., Clark, A.P., Klein, J.D., O'Calvin, A. Family Presence During Invasive Procedures and Resuscitation: Hearing the Voice of the Patient. *Am J Nurs.* 2001;101(5):48-55.
2. Doyle CJ, Post H, Burney RE, Maino J, Keefe M, Rhee KJ. Family participation during resuscitation: an option. *Ann Emerg Med.* 1987;16(6):673-5.
3. Hanson C, Strawser D. Family presence during cardiopulmonary resuscitation: Foote Hospital emergency department's nine-year perspective. *J Emerg Nurs.* 1992;18(2):104-6.
4. Resuscitation Council UK. Should relatives witness resuscitation? A report from a project team of the Resuscitation Council, UK. London, 1996
5. Association AH. 2015 AHA Guidelines update for CPR and ECC. *Circulation.* 2015;132(18):315-589.

6. Youngson MJ, Currey J, Considine J. Family presence during management of acute deterioration: Clinician attitudes, beliefs and perceptions of current practices. *Australas Emerg Nurs J*. 2016;19(3):159-65.
7. Feagan LM, Fisher NJ. The impact of education on provider attitudes toward family-witnessed resuscitation. *J Emerg Nurs*. 2011;37(3):231-9.
8. Chapman R, Watkins R, Bushby A, Combs S. Assessing health professionals' perceptions of family presence during resuscitation: a replication study. *Int Emerg Nurs*. 2013;21(1):17-25.
9. Mian P, Warchal S, Whitney S, Fitzmaurice J, Tancredi D. Impact of a multifaceted intervention on nurses' and physicians' attitudes and behaviors toward family presence during resuscitation. *Crit Care Nurse*. 2007;27(1):52-61.
10. Ferrara G, Ramponi D, Cline TW. Evaluation of Physicians' and Nurses' Knowledge, Attitudes, and Compliance With Family Presence During Resuscitation in an Emergency Department Setting After an Educational Intervention. *Adv Emerg Nurs J*. 2016;38(1):32-42.
11. Duran CR, Oman KS, Abel JJ, Koziel VM, Szymanski D. Attitudes toward and beliefs about family presence: a survey of healthcare providers, patients' families, and patients. *Am J Crit Care*. 2007;16(3):270-9; quiz 80; discussion 81-2.
12. Zakaria M, Siddique M. Presence of family members during cardio-pulmonary resuscitation after necessary amendments. *J Pak Med Assoc*. 2008;58(11):632-5.
13. Rittenmeyer L, Huffman D. How Families and Health Care Practitioners Experience Family Presence during Resuscitation and Invasive Procedures. *JBI Libr Syst Rev*. 2012;10(31):1785-882.
14. Boyd R, White S. Does witnessed cardiopulmonary resuscitation alter perceived stress in accident and emergency staff? *Eur J Emerg Med*. 2000;7(1):51-3.
15. Meyers TA, Eichhorn DJ, Guzzetta CE, Clark AP, Klein JD, Taliaferro E, et al. Family presence during invasive procedures and resuscitation. *Am J Nurs*. 2000;100(2):32-42; quiz 3.
16. Helmer SD, Smith RS, Dort JM, Shapiro WM, Katan BS. Family presence during trauma resuscitation: a survey of AAST and ENA members. American Association for the Surgery of Trauma. Emergency Nurses Association. *J Trauma*. 2000;48(6):1015-22; discussion 23-4.
17. Robinson SM, Mackenzie-Ross S, Campbell Hewson GL, Egleston CV, Prevost AT. Psychological effect of witnessed resuscitation on bereaved relatives. *Lancet*. 1998;352(9128):614-7.
18. Dougal RL, Anderson JH, Reavy K, Shirazi CC. Family presence during resuscitation and/or invasive procedures in the Emergency Department: one size does not fit all. *J Emerg Nurs*. 2011;37(2):152-7.
19. Baren JM. Family presence during invasive medical procedures: the struggle for an option. *Acad Emerg Med*. 2005;12(5):463-6.
20. Bossaert LL, Perkins GD, Askitopoulou H, Raffay VI, Greif R, Haywood KL, et al. European Resuscitation Council Guidelines for Resuscitation 2015: Section 11. The ethics of resuscitation and end-of-life decisions. *Resuscitation*. 2015;95:302-11.

21. American Heart Association Support [Internet]. Available from: <http://www.resus.co.za/index.php/rdsa-information/american-heart-association-support>. (accessed 13 January 2018)
22. Nursing RCo. Witnessing resuscitation. Guidance for nursing staff. In: Nursing RCo, editor.: Royal College of Nursing; 2002. p. 1-20.
23. Kianmehr N, Mofidi M, Rahmani H, Shahin Y. The attitudes of team members towards family presence during hospital-based CPR: a study based in the Muslim setting of four Iranian teaching hospitals. *J R Coll Physicians Edinb*. 2010;40(1):4-8.
24. Soleimanpour H, Behringer W, Tabrizi JS, Sarahrudi K, Golzari SE, Hajdu S, et al. An Analytical Comparison of the Opinions of Physicians Working in Emergency and Trauma Surgery Departments at Tabriz and Vienna Medical Universities Regarding Family Presence during Resuscitation. *PLoS One*. 2015;10(4):e0123765.
25. Sak-Dankosky N, Andruszkiewicz P, Sherwood PR, Kvist T. Factors associated with experiences and attitudes of healthcare professionals towards family-witnessed resuscitation: a cross-sectional study. *J Adv Nurs*. 2015;71(11):2595-608.
26. Yanturali S, Ersoy G, Yuruktumen A, Aksay E, Suner S, Sonmez Y, et al. A national survey of Turkish emergency physicians perspectives regarding family witnessed cardiopulmonary resuscitation. *Int J Clin Pract*. 2005;59(4):441-6.
27. Wacht O, Dopelt K, Snir Y, Davidovitch N. Attitudes of emergency department staff toward family presence during resuscitation. *Isr Med Assoc J*. 2010;12(6):366-70.
28. Sheng CK, Lim CK, Rashidi A. A multi-center study on the attitudes of Malaysian emergency health care staff towards allowing family presence during resuscitation of adult patients. *Int J Emerg Med*. 2010;3(4):287-91.
29. Ong ME, Chan YH, Srither DE, Lim YH. Asian medical staff attitudes towards witnessed resuscitation. *Resuscitation*. 2004;60(1):45-50.
30. Mitchell MH, Lynch MB. Should relatives be allowed in the resuscitation room? *Journal of Accident and Emergency Medicine*. 1997;14(6):366-70.
31. Mahabir D, Sammy I. Attitudes of ED staff to the presence of family during cardiopulmonary resuscitation: A Trinidad and Tobago perspective. *Emergency Medicine Journal*. 2012;29(10):817-20.
32. Lai MK, Aritejo BA, Tang JS, Chen CL, Chuang CC. Predicting medical professionals' intention to allow family presence during resuscitation: A cross sectional survey. *Int J Nurs Stud*. 2017;70:11-6.
33. Porter JE, Cooper SJ, Taylor B. Family presence during resuscitation (FPDR): A survey of emergency personnel in Victoria, Australia. *Australas Emerg Nurs J*. 2015;18(2):98-105.
34. Oman KS, Duran CR. Health care providers' evaluations of family presence during resuscitation. *J Emerg Nurs*. 2010;36(6):524-33.

35. Africa SS. General Household Survey. 2016.
36. Wen LS, Geduld HI, Nagurney JT, Wallis LA. Africa's first emergency medicine training program at the University of Cape Town/Stellenbosch University: history, progress, and lessons learned. *Acad Emerg Med.* 2011;18(8):868-71.
37. Gordon ED, Kramer E, Couper I, Brysiewicz P. Family-witnessed resuscitation in emergency departments: Doctors' attitudes and practices. *South African Medical Journal.* 2011;101(10):765-7.

Part B: Manuscript in Article Format

The Perceptions of Emergency Medicine Physicians and Trainees Regarding Family Presence During Adult Patient Resuscitation in South African Public-Sector Emergency Centres

Abstract

Introduction The benefits of family presence during adult resuscitation (FPDR) are well documented in the literature. However, despite apparent value, FPDR is not always practised. The purpose of this study was to evaluate the perceptions of Emergency Medicine physicians and specialist trainees regarding FPDR in South African public sector Emergency Centres.

Method A descriptive study was undertaken, using an electronic survey which consisted of both open and closed-end questions. The Survey was distributed via email to 157 Emergency Medicine physicians and specialist trainees in South Africa. The data was collected and subjected to descriptive statistical analysis.

Results Most South African Emergency Medicine physicians and trainees did not feel that FPDR interrupted patient care; did not feel it hindered the teams' productivity; and they did not believe it increases complaints about the quality of patient care. Despite this, practice of FPDR was found to be uncommon. Knowledge regarding FPDR guidelines was poor.

Discussion The views of South African Emergency Medicine physicians and specialist trainees regarding FPDR is in keeping with other pro-FPDR countries. However, these views do not seem to translate into practice. FPDR education and development of local guidelines are recommended.

Key Messages

What is already known about FPDR?

- FPDR is beneficial to both family members and resuscitation teams.
- Multiple resuscitation councils including the European Resuscitation Council and the American Heart Association recommend the practice of FPDR.
- Despite FPDR recommendations, many facilities still do not offer FPDR. The literature has shown that doctors not practicing FPDR often have ill-founded views regarding the practice.
- There is limited data regarding South African(SA) doctors and their views on FPDR

What this study adds?

- SA Emergency Medicine(EM) Physicians and Specialist Trainees have pro- FPDR views. However, practice of FPDR is poor.
- Knowledge regarding FPDR guidelines amongst SA EM Physicians and Specialist Trainees is poor and this should be addressed.

Introduction

In the 1980's, parents of critically ill children became increasingly involved in their children's health care, including being present during the induction of anaesthesia, invasive procedures, and resuscitations.(1) While family involvement started to occur in other areas of medicine e.g. obstetric practice, adult resuscitation remained largely performed behind closed doors.(1) One of the first attempts at Family Presence During Resuscitation (FPDR) in adults was in 1987 in Foote Hospital in the United States of America (USA). The concept was then introduced in United Kingdom (UK) Emergency Centres in 1994, and the UK resuscitation society drafted a protocol for FPDR in 1996.(2) Since then, several professional guidelines (e.g. Emergency Nurses Association in 1993, American Heart Association(AHA) in 2000, European Resuscitation Council in 2000) have also recommended the practice.

Some of the positive attributes of FPDR are that it helps family members build trust in

Health Care Professionals (HCPs), fulfils informational needs, enables family members to gain close proximity to the patient, and allows them to provide emotional support to their loved one.(3)

A Survey done on HCP's attending a conference in the USA two years after the American Heart Association and Emergency Cardiovascular Care (ECC) recommended FPDR guidelines, still showed, however, that the majority of HCPs did not support FPDR.(4)

Critical reviews of the literature regarding FPDR show families to be in favour of the practice, with the majority, if given the opportunity to be present during a loved one's resuscitation, choosing to do so.(5) Family members who have experienced FPDR generally report the practice to be beneficial.(5) However, HCPs often oppose FPDR due to the presumed risk of increased litigation, disruption to the resuscitation and psychological trauma to the family, none of which have been proven. (6-8)

The South African Resuscitation council endorses the policies of the AHA, however it currently has no guidelines of its own pertaining to FPDR.(9) The literature shows HCPs may be doing a disservice to their patients by not offering FPDR.(5) While changing guidelines does not necessarily change practice, as was experienced in high income countries, it is important to understand the feelings of HCPs regarding FPDR if a change in policy and practice is to be successfully implemented.(10)

Methods

This study was granted ethical approval by the Human Research and Ethics Committee at the University of Cape Town, South Africa.

Design

This is a descriptive study using a survey developed and validated by Youngson, MJ et al.(11) The original survey was adapted with permission and underwent validation by a group of Emergency Medicine physicians and trainees who were asked to comment on appropriateness of content, language and missing elements e.g. culture and tribalism.

Study Setting

The survey was created and administered via SurveyMonkey, an online survey tool. A link to this survey was emailed to all potential participants.

Study Population

Emails were sent to 157 potential participants. These participants were Emergency Medicine physicians and specialist trainees affiliated with a South African University offering the Colleges of Medicine South Africa (CMSA) Emergency Medicine program.

Data Collection

Data was collected by SurveyMonkey. The survey was open for two weeks. After one week an emailed survey reminder was sent to the outstanding participants, in order to improve response rates.

Data Analysis

Data was subject to descriptive analysis. Chi-square analysis was used to examine relationships within the data using Microsoft Excel and MDCalc. P-values <0.05 were considered statistically significant. Open ended questions were scrutinised using text analysis on SurveyMonkey to pick up themes. Quotations and 'thick descriptions' have been used to illustrate the emotions of the participants.

Results

Participant characteristics

79 participants consented to being part of the survey, however only 69 participants answered all subsequent question. Table 1 shows the demographics of the participants.

Participants responses to the FPDR survey with qualitative comments

The frequencies of responses to each item in the survey can be seen in table 2. The survey responses were collapsed into three groups; agree, which included agree and strongly agree; disagree, which included disagree and strongly disagree; and not sure.

Two thirds of participants disagreed that the presence of family members during resuscitation of a patient interrupts patient care; comments regarding this question focused on a chaperone being available to counsel the family on the resuscitative efforts and a focus was placed on staff shortages often hindering this process. Two participants eluded to the cultural background of the family playing a role in their behaviour, with one participant referencing the Zulu culture as being extremely expressive, i.e. "wailing and screaming."

Approximately half the participants felt that the presence of family members during a patient's resuscitation inhibits the team from communicating properly. Comments highlighted that a professional team should not be making inappropriate or insensitive comments and that family presence may encourage appropriate communication. One participant thought that FPDR would make it harder to

Table 1: Demographics

Gender		%
Male		56
Female		44
Age		Years
	20-29	16
	30-39	54
	40-49	26
	50+	4
University		%
	UCT/SUN*	64
	Witwatersrand	12
	Pretoria	10
	KwaZulu-Natal	14
Position		%
	Consultant	43
	Specialist Trainee	54
	Other	3

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Table 2: Frequency of responses to FPDR Survey, including demographic breakdown of answers & their statistical analysis

	All			Consultants			Trainees			p-value*	95% CI
	Disagree %**	Agree %***	Not Sure%	Disagree %**	Agree %***	Not Sure%	Disagree %**	Agree %***	Not Sure%		
Q 6: Effects on patient care:											
The presence of family members during resuscitation of a patient interrupts patient care	67	29	4	77	23	0	62	36	2	0.0566	-1.35 to 30.56
The presence of family members during a patient's resuscitation inhibits the team from communicating freely	48	49	3	47	50	3	51	46	3	0.6394	-13.48 to 21.23
The presence of family members during a patient's resuscitation makes it more difficult for the team to do their job	61	38	1	67	33	0	59	38	3	0.3322	-9.03 to 24.56
Family members present during the patients' resuscitation will commonly misinterpret the activities of the healthcare professionals	49	35	16	63	24	13	41	41	18	0.0100	4.34 to 38.28
Family presence during a patient's resuscitation will result in complaints about the quality of care	69	18	13	83	7	10	62	22	16	0.0059	5.17 to 35.82
Q7: Effects on the family											
Witnessing resuscitation is emotionally traumatic/ stressful for the patient's family	30	58	12	37	47	16	24	68	8	0.0129	3.52 to 37.19
Q8: Effects on individual healthcare provider											
I feel an increased level of anxiety/ stress having the family members present during resuscitation of a patient	41	54	5	47	47	6	38	59	3	0.1594	-5.61 to 28.86

p-value* - 'comparison of the proportions' (chi-squared) of the figures in bold between the Consultants & Trainees

Disagree** - cumulative data of answers disagree and strongly disagree

Agree*** - cumulative data of answers agree and strongly agree

discuss issues regarding futility and withdrawal of care and another participant felt that it would open the team up for litigation and that communication may be misunderstood.

60% of participants felt that FPDR does not hinder the team's work performance, whilst almost 70% of participants did not feel that it increases complaints about the quality of care. The majority of comments regarding this question stated that family members would have a better understanding of the treatment given and that family members may "appreciate rather than find fault". Similar comments such as "more likely to improve understanding and reduce complaints" were also made.

Regarding effects on the family, approximately 60% of participants agreed that witnessing resuscitation is emotionally traumatic/stressful for the patient's family. Comments regarding this statement once again reflected the need for a chaperone to counsel the family, and multiple participants brought up the nature of the resuscitation and perhaps certain procedures (e.g. intercostal drains, intubation, thoracotomy) being more stressful than others.

Participants were asked if they felt an increased level of anxiety/stress having family members present during resuscitation of a patient, and 53% agreed with this statement. Comments were mixed: some said it was "rewarding" and that it helped the family grieving process, others thought it raised the potential for litigation and that the increased stress on the resuscitation team may hinder their work performance.

More than two-thirds of participants had practiced FPDR in less than 50% of the resuscitations they were involved in; 16% practiced FPDR more than 50% of the time; and 15% had never practiced it. Comments revealed that some participants were strong advocates of FPDR, and that its practice was on the rise in some units. Others identified that hurdles to FPDR provision included: lack of staffing to chaperone the family, or that family members were unavailable.

When asked about guidelines (local or international), 74% of participants were unaware of any regarding FPDR (see Figure 1.) When asked for examples, "AHA", "ECC", "ILCOR" and "international literature" were stated, and *only* one participant mentioned that it was in their hospital's resuscitation policy. (Insert Figure 1)

Two thirds of participants answered that they would like to be present during the resuscitation of their own family member. When asked to comment, many felt they were different to the lay public due to their medical training, and hence FPDR would be 'easier' for them. Some felt they would interfere with resuscitative efforts because of their background knowledge, and the word 'closure' recurred 15 times amongst 56 responses (27%).

Relationships between participant characteristics and participant responses to the FPDR survey

The participants were divided into two major groups: consultants and specialist trainees. The consultants were on average older than the specialist trainees, with 53% of them being between 40 and 49 years old, and 71% of specialist trainees being between the ages of 30 and 39. Answers for the majority of the questions between the two groups were similar, see tables 2 and 3. However, far fewer specialist trainees disagreed that family members present during a patient's resuscitation would commonly misinterpret the activities of healthcare professionals when compared to consultants (41% vs. 63%, $p=0.01$). Similarly fewer specialist trainees disagreed that FPDR would result in complaints about the quality of care, in comparison to specialists (62% vs. 83%, $p=0.0059$). 68% of specialist

trainees felt that FPDR was emotionally traumatic/stressful for the family, whilst only 47% of consultants agreed ($p=0.0129$).

Specialist trainees were more likely to have never practiced FPDR, whereas all consultants had practiced it (22% vs. 0%, $p < 0.0001$). Furthermore, specialist trainees' knowledge regarding FPDR was much poorer, with 89% not knowing any international or local FPDR guidelines, compared with 53% of consultants, who also did not know of any ($p < 0.0001$).

Table 3: Frequency of answers to knowledge & experience questions of FPDR Survey, including demographic breakdown of answers & their statistical analysis

Knowledge & Experience	All			Consultants			Trainees			p-value*	95% CI
	Yes in <50% resuscitations I conduct (%)	Yes in >50% resuscitations I conduct (%)	No (%)	Yes in <50% resuscitations I conduct (%)	Yes in >50% resuscitations I conduct (%)	No (%)	Yes in <50% resuscitations I conduct (%)	Yes in >50% resuscitations I conduct (%)	No (%)		
I have practiced Family Presence During Resuscitation	70	16	14	73	27	0	70	8	22	<0.0001	11.53 to 33.60
Do you know of any Guidelines (Local or International) Regarding Family Presence During Resuscitation?	23	74	3	43	53	4	8	89	3	<0.0001	20.37 to 49.89
Would you like to be present during the resuscitation of a family member and why?	68	32		77	23		65	35		0.1217	-4.13 to 27.51

p-value - 'comparison of the proportions' (chi-squared) of the figures in bold between the Consultants & Trainees*

Discussion

This study showed that South African Emergency Medicine physicians and trainees did not feel that FPDR: interrupted patient care; hindered the teams' productivity; or increased complaints about quality of patient care. These positive attitudes are in keeping with those of pro-FPDR international countries such as Australia and the USA.(12-14) In many countries where FPDR is neither accepted nor practiced, it may be partly due to the belief of the above negative views, which have, however, been disproven in practice.(5, 15-17) Despite the pro-FPDR views noted in this study, this has not translated into practice of FPDR in South Africa. This might be explained both by staff members being relatively junior and the demonstrated lack of knowledge regarding FPDR guidelines.

In order to improve the practice of FPDR in South Africa, the knowledge gap needs to be addressed. FPDR should be integrated into the resuscitation curriculum of all Emergency Medicine specialist trainees as well as medical students. Teaching within clinical units should also be encouraged to address FPDR.

Successful implementation of FPDR in South African Emergency centres would be aided by the development of local FPDR guidelines that can be adapted to the clinical unit. The endorsement of guidelines by organisations such as the Resuscitation Council of South Africa, Emergency Medicine Society of South Africa and The Emergency Nursing Society of South Africa, would also play a role in furthering FPDR practice in South Africa.

Further studies regarding FPDR in South Africa are suggested. Particularly, studies addressing a wider participant population, including Family Medicine practitioners and doctors who would be involved in CPR in the peripheral units.

The literature has shown FPDR to be a beneficial practice to both families and health care professionals. Good medical practice should include FPDR when possible.

Limitations

Due to a poor response from participants outside the Western Cape, the data cannot be used to look at differences in participants responses between South African provinces.

This study relies on reported incidence of FPDR by the participant and not observed FPDR and thus the data may be skewed.

References

1. Resuscitation Council UK. Should relatives witness resuscitation? A report from a project team of the Resuscitation Council, UK. London, 1996
2. Mahabir D, Sammy I. Attitudes of ED staff to the presence of family during cardiopulmonary resuscitation: a Trinidad and Tobago perspective. *Emerg Med J*. 2012(29):817-20.
3. Leske J. Experiences of families when present during resuscitation in the emergency department after trauma. *J Trauma Nurs*. 2013;20(2):77-85.
4. McClenathan B. Family member presence during cardiopulmonary resuscitation: a survey of US and international critical care professionals. *Chest*. 2002;122(6):2204-11.
5. Doyle CJ, Post H, Burney RE, Maino J, Keefe M, Rhee KJ. Family participation during resuscitation: an option. *Ann Emerg Med*. 1987;16(6):673-5.
6. Boudreaux E. Family presence during invasive procedures and resuscitations in the emergency department: A critical review and suggestions for future research. *Annals of Emergency Medicine*. 2002;40(2):193-205.
7. Howlett M. Health Care Providers' Attitudes Regarding Family Presence during resuscitation of Adults. *Clinical Nurse Specialist*. 2010;24(3):161-74.
8. Halm M. Family Presence during resuscitation: A critical review of the Literature. *American journal of critical care : an official publication, American Association of Critical-Care Nurses*. 2005;14(6):494-511.
9. American Heart Association Support [Internet]. Available from: <http://www.resus.co.za/index.php/rca-information/american-heart-association-support>. (accessed 13 January 2018)
10. Mian P, Warchal S, Whitney S, Fitzmaurice J, Tancredi D. Impact of a multifaceted intervention on nurses' and physicians' attitudes and behaviors toward family presence during resuscitation. *Crit Care Nurse*. 2007;27(1):52-61.

11. Youngson MJ, Considine J, Currey J. Development, reliability and validity of a tool, to measure emergency department clinicians' attitudes towards family presence (FP) during acute deterioration in adult patients. *Australas Emerg Nurs J.* 2015;18(2):106-14.
12. Youngson MJ, Currey J, Considine J. Family presence during management of acute deterioration: Clinician attitudes, beliefs and perceptions of current practices. *Australas Emerg Nurs J.* 2016;19(3):159-65.
13. Porter JE, Cooper SJ, Taylor B. Family presence during resuscitation (FPDR): A survey of emergency personnel in Victoria, Australia. *Australas Emerg Nurs J.* 2015;18(2):98-105.
14. Oman KS, Duran CR. Health care providers' evaluations of family presence during resuscitation. *J Emerg Nurs.* 2010;36(6):524-33.
15. Meyers TA, Eichhorn DJ, Guzzetta CE, Clark AP, Klein JD, Taliaferro E, et al. Family presence during invasive procedures and resuscitation. *Am J Nurs.* 2000;100(2):32-42; quiz 3.
16. Compton S, Levy P, Griffin M, Waselewsky D, Mango L, Zalenski R. Family-witnessed resuscitation: bereavement outcomes in an urban environment. *J Palliat Med.* 2011;14(6):715-21.
17. Robinson SM, Mackenzie-Ross S, Campbell Hewson GL, Egleston CV, Prevost AT. Psychological effect of witnessed resuscitation on bereaved relatives. *Lancet.* 1998;352(9128):614-7.

Supplementary Files

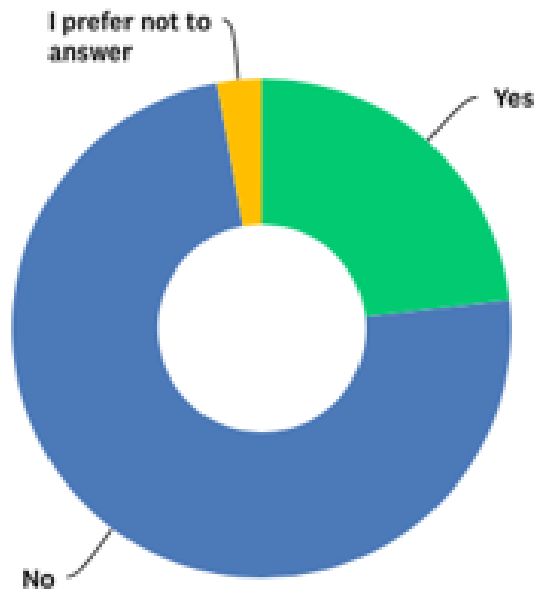


Figure 1: Distribution of answers to Question 10: Do you know of any guidelines (Local or International) regarding FPDR?

Part C: Appendices

The Perceptions of Emergency Medicine Physicians and Trainees Regarding Family Presence During Adult Patient Resuscitation in South African Public Sector Emergency Centres

Research Proposal – January 2017

Lead Investigator (MMed student): Dr Nicola A McAlpine
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Paarl Hospital
Emergency Medicine

Co-Investigators: Dr Heike Geduld
Division of Emergency Medicine
University of Cape Town

This study is in partial fulfilment of the FCEM (MMed) degree

Declaration

I, Nicola Anita McAlpine hereby declare that the work on which this proposal/ dissertation/ thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

I empower the university to reproduce for the purpose of research either the whole or any portion of the contents in any manner whatsoever.

Signature: N. A McAlpine

Date: 25 January 2017

Abstract

Background: For more than a decade the practice of Family Presence During Adult Resuscitation has been advocated by various resuscitation committees, including the European Resuscitation Council and the American Heart Association. The first documented case of Family Presence During Adult Resuscitation was in 1987 in America. Studies have shown that Family Presence During Adult Resuscitation for benefits both the family and the resuscitation process, yet some doctors still remain ambivalent or opposed to this practice.

Objective: To analyse the perceptions of Family Presence During Adult Resuscitation amongst Emergency Medicine physicians and specialist trainees within South African public sector emergency centres.

Methods: With permission from the author Youngson, MJ et al(1), a tool analysing emergency centre clinicians' attitudes towards family presence during acute deterioration in adult patients shall be adapted. An online survey instrument, SurveyMonkey, shall be used to distribute the survey, and collect the data. The study population will include physicians and specialist trainees in Emergency Medicine from the University of Cape Town, Stellenbosch, Witwatersrand, Pretoria and KwaZulu-Natal. Qualitative data collected will then be subject to basic descriptive analysis.

Conclusion: Understanding how South African Emergency Medicine physicians and specialist trainees perceive Family Presence During Adult Resuscitation will aid in assessing the willingness to adhere to this practice and the barriers that exist in preventing this practice.

1. Introduction

1.1. Background

In the 1980s, parents of critically ill children became increasingly involved in their children's health care, including being present during the induction of anaesthesia, invasive procedures, and resuscitation. While family involvement started to occur in obstetric practice, adult resuscitation, however, was still performed largely behind closed doors(2). One of the first attempts at Family Presence During Resuscitation in adults was in 1987 in Foote Hospital in the USA. The concept was then introduced in United Kingdom (UK) Emergency Centres in 1994, and the UK resuscitation society drafted a protocol for Family Presence During Adult Resuscitation in 1996(3). Since then, several professional guidelines (e.g. Emergency Nurses Association in 1993, American Heart Association in 2000, European Resuscitation Council in 2000) have also recommended the practice.

1.2. Rationale

The practice of Family Presence During Adult Resuscitation is an intervention that helps family members build trust in Health Care Professionals (HCPs), fulfils informational needs, and allows family members to gain close proximity to the patient, as well as support their loved one emotionally(4). In the USA, disallowing Family Presence During Adult Resuscitation conflicts with their Institute of Medicine's recommendations regarding quality care and improvement of health care (5). Yet a survey done on HCP's attending a conference in the USA, two years after the American Heart Association and Emergency Cardiovascular Care (ECC) recommended Family Presence During Adult Resuscitation guidelines, still showed that majority of HCPs did not support Family Presence During Adult Resuscitation (6).

Critical reviews of the literature regarding Family Presence During Adult Resuscitation all show families to be in favour of the practice, and the majority, if offered the opportunity to be present during a loved one's resuscitation, would do so. Those family members who have experienced Family Presence During Adult Resuscitation generally report the practice to be beneficial. However, HCPs often oppose Family Presence During Adult Resuscitation with many citing reasons of increased litigation, disruption to the resuscitation and psychological trauma to the family, none of which have been scientifically proven. (5, 7, 8).

1.3. Significance

There are currently no South African guidelines for Family Presence During Adult Resuscitation—However, based on the literature HCPs may be doing a dis-service to their patients by not participating in such a practice. While changing guidelines does not necessarily change practice, as was experienced in high income countries, it is important to understand the feelings of HCPs regarding Family Presence During Adult Resuscitation if a change in policy and practice is to be successfully implemented.

1.4. Research Question

What is the perception of Emergency physicians and specialist trainees regarding Family Presence During Adult Resuscitation within the South African public sector emergency centres?

1.5. Aim and objectives

The aim of this study is to survey the perceptions of EM physicians and specialist trainees , working in the SA public sector emergency centres, regarding Family Presence During Adult Resuscitation.

The Objectives are:

- To look at how EM physicians and specialist trainees in the South African public sector emergency centres perceive Family Presence During Adult Resuscitation
- To analyse differences in perceptions between EM physicians and specialist trainees
- To analyse differences in perceptions between participants based on their university affiliations or location

2. Methodology

2.1. Study Design

A descriptive study using a survey developed and validated by Youngson, MJ et al(1) will be adapted with permission. The survey was designed to assess the attitudes of EM clinicians towards Family Presence During Adult Resuscitation, and consists of 13 questions answerable on a 5 point Likert Scale. The questions are broken down into four sections:

- effects on patient care
- effects on the patient
- effects on the family and
- effects on the individual health care worker.

Additional information pertaining to demographics and current clinical practice shall be included. The adapted survey will undergo a validation process by distributing the survey to three Emergency Medicine physicians and three specialist trainees who shall be asked to comment on the appropriateness of content, language and missing elements e.g. culture and tribalism.

2.2. Study Setting

The survey shall be created and administered via SurveyMonkey, an online survey tool which permits students to use their site for research. A link to this survey will then be emailed to all potential participants as per inclusion criteria.

2.3. Study Population

Emergency Medicine physicians and specialist trainees affiliated with a South African University for the Fellowship of the College of Emergency Medicine program will be invited via email to participate in this online survey. The Emergency Medicine Department at each of the South African Universities (University of Cape Town, Stellenbosch, Witwatersrand, Pretoria and KwaZulu-Natal) included in the study shall be contacted for a list of their EM physicians' and specialist trainees' email addresses.

2.4. Data Collection and Management

Data will be collected by SurveyMonkey, using a password protected account. In order to secure transmission of the survey, SSL encryption shall be enabled: this protects the data as it moves along pathways between the respondents' computers and SurveyMonkey servers. IP address tracking will be disabled to maintain anonymity. The survey will be open for two weeks, with an emailed reminder sent after one week to remind participants to complete the survey, if they have not already done so, in order to try improve response rates. The primary investigator will be responsible for the data collation and management. The data will be downloaded from SurveyMonkey into Microsoft Excel® and PDF formats and stored on a private password protected computer.

2.5. Data Analysis

Data will be subjected to descriptive analysis. Demographic data will be presented as total numbers, means and standard deviations (SDs). Single answer questions will be analysed using total numbers and graphical representations, whilst Chi-square analysis and Fisher's Exact test shall be applied to the data from the Likert Scale questions. Correlations between certain demographic data and Likert scale answers shall be analysed. Open ended question will be scrutinised using triangulation to pick up themes. Quotations and 'thick descriptions' shall be used to illustrate the emotions of the participants.

2.6. Time Schedule

- EMDRC Submission: 23 November 2016 (Meeting 7 December 2016)
- Human Research and Ethics Submission: January- March 2017 (study meets criteria for expedited ethics review)
- Data Collection : April – June 2017
- Data Analysis: July- September 2017
- Write-up and submission: October - December 2017

3. Ethical Considerations

Risks and benefits: This study poses minimal risk to participants and authors by nature of its design: a survey, self-administered online, short, anonymous and voluntary. However, the information gained through a better understanding of how Emergency Medicine physicians and specialist trainees feel about Family Presence During Resuscitation may aid us to change to practices that could potentially benefit both the family members of patients and doctors. Hence the potential gain outweighs any minimal risk that exists.

Permission to Adapt Survey: Written permission to adapt the published survey tool has been attained from Youngson, MJ.

Informed Consent: The survey has been designed so that informed consent must be given in order to proceed with the survey. Each question offers a “prefer not to respond” option in order to allow participants to exercise their right to withhold information and each page of the survey provides the option to withdraw from the survey.

Privacy and Confidentiality: Confidentiality of participants shall be maintained using an anonymous survey which will be administered and stored on a password protected computer. Access to this computer will be limited to the principle researcher and supervisor. The survey IP address tracking shall be disabled and SurveyMonkey encryption services shall be enabled to further secure confidentiality and protection of data.

Reimbursement for participants: Participation is solely on a voluntary basis.

4. Reporting and implementation of results

Ideally the study will be published as an original article in a peer reviewed journal.

5. Resources

5.1. Resources utilisation

Resources needed for this study include the internet, a professional SurveyMonkey account, Microsoft Excel and Word, Adobe Reader and email. Secondly, a contact list of all Emergency Medicine physicians and specialist trainees in the South African public sector emergency centres will be utilised.

5.2. Budget

Internet, email and communication costs will be self-funded and no further expenses are foreseen at this stage.

6. References

1. Youngson MJ, Considine J, Currey J. Development, reliability and validity of a tool, to measure emergency department clinicians' attitudes towards family presence (FP) during acute deterioration in adult patients. *Australasian Emergency Nursing Journal*.2015;18:106-14.
2. Resuscitation Council UK. Should relatives witness resuscitation? A report from a project team of the Resuscitation Council, UK. London, 1996
3. Mahabir D, Sammy I. Attitudes of ED staff to the Presence of Family During Cardiopulmonary Resuscitation: a Trinidad and Tobago perspective. *Emerg Med J*. 2012;29:817-20.
4. Leske J, McAndrew NS, Brasel KJ. Experiences of Families when Present During Resuscitation in the Emergency Department After Trauma. *J Trauma Nurs*. 2013;20(2):77-85.
5. Howlett M, Alexander GA, Tsuchiya B. Health Care Providers' Attitudes Regarding Family Presence during resuscitation of Adults. *Clinical Nurse Specialist*. 2010;24(3):161-74.
6. McClenathan BM, Torrington KG, Uyehara CF. Family Member Presence During Cardiopulmonary Resuscitation: a Survey of US and International Critical Care Professionals. *Chest*. 2002;122(6):2204-11.
7. Boudreaux ED, Francis JL, Loyacane T. Family Presence During Invasive Procedures and Resuscitations in the Emergency Department: A Critical Review and Suggestions for Future Research. *Annals of Emergency Medicine*. 2002;40(2):193-205.
8. Halm MA. Family Presence During Resuscitation: A Critical Review of the Literature. *Am J Crit Care*. 2005;14(6):494-511.

Consent and Questionnaire

The Perceptions of South African Emergency Medicine Doctors Regarding Family Presence During Adult Patient Resuscitation

Informed Consent

PRINCIPAL INVESTIGATOR: Nicola McAlpine (MMed student)
 CO-INVESTIGATORS:Joshna Rajbaran, Heike Geduld
 CONTACT DETAILS: 0847890001, mcreeshn@gmail.com

Dear Colleague

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study investigators any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied and that you clearly understand what this research entails and how you can be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part. This study has been approved by the Health Research Ethics Committee at University of Cape Town and will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

We are investigating Emergency Medicine doctors perceptions regarding Family Presence during Adult Resuscitation. This research project requires you to complete a survey consisting of four demographic questions and nine statements to be ranked on a likert scale / multiple choice options with the ability to comment. The survey should take less than five minutes to complete. Information will be collected anonymously.

What is your responsibility if you choose to participate in this research project?

Your participation is completely voluntary and you are free to decline to participate. You will not be paid to participate in this research project. You are free to withdraw from the study at any point, even if you do agree to take part, without penalty. Benefits of this research project, although not directly applicable to you at this stage, will possibly include improved teaching and guidelines regarding Family Presence During Resuscitation.

By continuing with this survey consent shall be implied.

- + Please contact Dr Nicola McAlpine at tel 0847890001 or mcreeshn@gmail.com if you have any further queries or encounter any problems.
- + You can contact the Health Research Ethics Committee at 0214066492 if you have any concerns or complaints that have not been adequately addressed by the researchers.

Thank-you. Your feedback is important.

Acknowledgement

This survey is adapted from a validated tool with permission from Youngson M.J.

Youngson MJ, et al. Development, reliability and validity of a tool, to measure emergency department clinicians' attitudes towards family presence (FP) during acute deterioration in adult patients. *Just Emerg Nurs J* 2015;18:106-114

* 1. Do You Wish to Continue and thus Consent to Participating in this Study?

- Yes
 No

The Perceptions of South African Emergency Medicine Doctors Regarding Family Presence During Adult Patient Resuscitation

Demographics

* 2. Gender

- Female
- Male
- I prefer not to answer

* 3. Age

- 20-29
- 30-39
- 40-49
- 50+
- I prefer not to answer

* 4. University

- UCT/SUN
- Witwatersrand
- Pretoria
- KwazuluNatal
- Other (please specify)

* 5. Position

- Consultant
- Registrar
- Other (please specify)

The Perceptions of South African Emergency Medicine Doctors Regarding Family Presence During Adult Patient Resuscitation

The Perceptions of Family Presence During Resuscitation

* 6. Effects on Patient Care

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Sure
The presence of family members during resuscitation of a patient interrupts patient care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments?	<input type="text"/>				
The presence of family members during a patient's resuscitation inhibits the team from communicating freely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments?	<input type="text"/>				
The presence of family members during a patient's resuscitation makes it more difficult for the team to do their job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments?	<input type="text"/>				
Family members present during the patients's resuscitation will commonly misinterpret the activities of the healthcare professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments?	<input type="text"/>				
Family presence during a patient's resuscitation will result in complaints about the quality of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments?	<input type="text"/>				

* 7. Effects on the Family

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not sure
Witnessing resuscitation is emotionally traumatic/stressful for the patient's family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments?	<input type="text"/>				

* 8. Effects on the Individual Healthcare Provider

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Sure
I feel an increased level of anxiety/ stress having the family members present during resuscitation of a patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

* 9. I have practiced Family Presence During Resuscitation

- Yes in <50% of resuscitations I conduct
- Yes in >50% of resuscitations I conduct
- No
- I prefer not to answer

Comments?

* 10. Do you know of any Guidelines (Local or International) Regarding Family Presence During Resuscitation?

- Yes
- No
- I prefer not to answer

If Yes, please specify

* 11. Would you like to be present during the resuscitation of a family member and why?

- Yes
- No

Why?

Ethics Approval



UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee



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31 January 2017

HREC REF: 047/2017

Dr H Geduld
 Division of Emergency Medicine
 c/o Ms Alleen Maas
 F-51
 OMB

Dear Dr Geduld

PROJECT TITLE: WHAT IS THE PERCEPTION REGARDING FAMILY PRESENCE DURING ADULT RESUSCITATION (FPDR) OF SOUTH AFRICAN EMERGENCY MEDICINE PHYSICIANS AND REGISTRARS WITHIN THE PUBLIC SECTOR? (Mmed-candidate-Dr N McAlpine)

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee (HREC) for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 28 FEBRUARY 2018.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

We acknowledge that the student, Dr N McAlpine will also be involved in this study.

Please quote the HREC REF in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval before the research may occur.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE

Federal Wide Assurance Number: FWA00001637.

HREC 047/2017

Institutional Review Board (IRB) number: IRB00001938

This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP), South African Good Clinical Practice Guidelines (DoH 2006), based on the Association of the British Pharmaceutical Industry Guidelines (ABPI), and Declaration of Helsinki (2013) guidelines.

The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

Instructions to Authors

From: http://emj.bmj.com/pages/authors/#original_article (accessed 13 January 2018)

Original articles

Full length articles reporting research. Authors of original articles and systematic reviews are required to comply with one of the appropriate reporting guidelines endorsed by the [EQUATOR Network](#). A completed guideline checklist must be included with the submission.

[All clinical trials require prospective registration.](#)

Abstract: 300 words

Word count: up to 3000 words

Illustrations and tables: up to 6

References: 25

Additional information (such as data collection tools, surveys, etc.) may be placed on the web site as a data supplement. In some cases, we may ask to publish the abstract in print and the full-length article on the website only. You also have the option to publish the abstract of your paper in your local language. If you wish to do this, please upload a Word copy of your abstract to your manuscript on Scholar One and save it as 'supplementary material'. We have specific requirements for before and after (pre-post) studies. Please see Goodacre, March 2015 '[Uncontrolled before-after studies: discouraged by Cochrane and the EMJ](#)'.

Recommended sections:

Introduction:

The article should include a brief introduction explaining why you chose to do the study – this would include a description of the importance of the topic, a summary of what is already known and why the study was needed, and the goal of the study. Three to four paragraphs should be sufficient.

Methods:

Guidelines exist for the reporting of methodology and results for randomized trials, observational studies and retrospective chart review. Please see above or refer to the [EQUATOR website](#) for guidelines according to the specific type of study. The Methodology section must include a statement about ethics approval before it can be reviewed. Clinical trials must be previously registered and the registration number given.

Results:

Please follow the standardized guidelines (as in Methods) for reporting of results. For statistics, confidence intervals are preferred to p values.

Discussion:

The discussion should begin with a brief summary of the findings (no more than one paragraph) followed by the following (in whatever order works best in the flow of the article): how this study is similar or different from prior studies with regards to methods and results; limitations of this study; implications of the results for practice or policy. If you wish to offer a conclusion, this should be done in the last paragraph of the Discussion rather than as a separate subsection.

Tables should be placed in the main text where they are first cited while figures should be provided as supplementary files.

“What this paper adds” Box

Please produce a box offering a thumbnail sketch of what your article adds to the literature, for readers who would like an overview without reading the whole article. It should be divided into two short sections, each with 1-3 short sentences.

Section 1: What is already known on this subject

In two or three single sentence bullet points please summarise the state of scientific knowledge on this subject before you did your study and why this study needed to be done. Be clear and specific, not vague.

For example, you might say: “Numerous observational studies have suggested that tea drinking may be effective in treating depression, but until now evidence from randomised controlled trials has been lacking/the only randomised controlled trial to date was underpowered/was carried out in an unusual population/did not use internationally accepted outcome measures/used too low a dose of tea.” Or: “Evidence from trials of tea therapy in depression have given conflicting results. Although Sjogren and Smith conducted a systematic review in 1995, a further 15 trials have been carried out since then...”

Section 2: What this study adds

In one or two single sentence bullet points give a simple answer to the question “What do we now know as a result of this study that we did not know before?” Be brief, succinct, specific, and accurate.

For example: “Our study suggests that tea drinking has no overall benefit in depression”. You might use the last sentence to summarise any implications for practice, research, policy, or public health. For example, your study might have: asked and answered a new question (one whose relevance has only recently become clear) contradicted a belief, dogma, or previous evidence provided a new perspective on something that is already known in general provided evidence of higher methodological quality for a message which is already known.

STROBE (Strengthening The Reporting of OBservational Studies in Epidemiology) Checklist

A checklist of items that should be included in reports of observational studies. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

Section and Item	Item No.	Recommendation	Reported on Page No.
Title and Abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	19
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	19
Introduction			
Background/Rationale	2	Explain the scientific background and rationale for the investigation being reported	19
Objectives	3	State specific objectives, including any prespecified hypotheses	
Methods			
Study Design	4	Present key elements of study design early in the paper	19
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	20
Participants	6	(a) Cohort study—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	20
		Case-control study—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls	
		Cross-sectional study—Give the eligibility criteria, and the sources and methods of selection of participants	
		(b) Cohort study—For matched studies, give matching criteria and number of exposed and unexposed	
		Case-control study—For matched studies, give matching criteria and the number of controls per case	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	21

Section and Item	Item No.	Recommendation	Reported on Page No.
Data Sources/ Measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	
Bias	9	Describe any efforts to address potential sources of bias	
Study Size	10	Explain how the study size was arrived at	
Quantitative Variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	21
Statistical Methods	12	(a) Describe all statistical methods, including those used to control for confounding	20
		(b) Describe any methods used to examine subgroups and interactions	21
		(c) Explain how missing data were addressed	-
		(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed	N/A
		<i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy	N/A
		(e) Describe any sensitivity analyses	-
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	21
		(b) Give reasons for non-participation at each stage	-
		(c) Consider use of a flow diagram	N/A
Descriptive Data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	21
		(b) Indicate number of participants with missing data for each variable of interest	-
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)	N/A
Outcome Data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time	N/A
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure	N/A
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures	N/A

Section and Item	Item No.	Recommendation	Reported on Page No.
Main Results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	21
		(b) Report category boundaries when continuous variables were categorized	N/A
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other Analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	22
Discussion			
Key Results	18	Summarise key results with reference to study objectives	23
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	23
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	23
Generalisability	21	Discuss the generalisability (external validity) of the study results	23
Other Information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	N/A

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.