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Healthcare professionals' experiences and attitudes towards family-witnessed resuscitation: A cross-sectional study

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ABSTRACT

Background: Family-witnessed resuscitation (FWR) offers the option for family to be present during a cardiac arrest, which has been proven to help them in their grieving process. International guidelines highlight the importance of FWR, but this has not yet been widely implemented in clinical practice in Europe.
Aim: Explore nurses' and physicians' experiences and attitudes toward FWR in cardiac care units.
Methods: Cross-sectional web-based multicentre survey study including the seven university hospitals in Sweden, with 189 participants.
Results: The most common concern was that the resuscitation team may say things that are upsetting to the family member during resuscitation, with 68% agreeing with this statement. Physicians opposed FWR more strongly than nurses (3.22 vs. 2.93, $p < .001$). Twenty-five percent stated that family should not be present during resuscitation, as it would be far too painful for them, while 23% of the nurses and 11% of the physicians considered that FWR is beneficial to the patient, $p < 0.001$. There was strong agreement that there should always be a healthcare professional dedicated to take care of family (92%). None of the hospitals had local guidelines regarding FWR.
Conclusion: Many concerns still exist in relation to FWR, suggesting that those barriers must be taken into consideration when planning for implementation of FWR in everyday practice.

1. Introduction

Family-witnessed resuscitation (FWR) offers the option for patients' family members to be present during a cardiac arrest. This has been proven to help them in their grieving process after witnessing an in-hospital cardiac arrest (IHCA) [1] and also resulted in less symptoms of post-traumatic stress, depression and anxiety when compared to a control group with an out-of-hospital cardiac arrest (OHCA) [2,3]. The first paper on this topic was introduced 30 years ago [4]. Since then little has changed in clinical practice, despite the introduction of international guidelines that recommend that family members should be offered the opportunity to be present if IHCA occurs [5,6]. Many obstacles still exist from the healthcare professionals (HCPs) perspectives which impede a structured implementation of FWR. Three recent reviews [7–9] have found that staff working in emergency rooms (ER) or intensive care units (ICU) in general believe that family can be harmed psychologically by being present during cardiopulmonary resuscitation (CPR) and that the situation can be both frightening and traumatic [7]. Physicians tend to be more reluctant to support FWR than nurses [8]. Furthermore, HCPs employed in ERs and ICUs express concerns that their own stress level could increase, confidentiality can be risked and it could be cramped in the room. Shortage of staff that can support the family members is also a reason for not offering the family the opportunity to stay in the treatment room [7–9], as well as lack of organisational support [9]. While the attitudes and experiences from HCPs working at ERs and ICUs is relatively well studied, studies investigating the attitudes of HCPs working in a cardiac care setting – with lower nurse staffing and cardiologists not always on-site – are still limited, even though they are often involved in CPR. To date, only one European [10] and one Canadian study [11] exist in the literature. Accordingly, more studies from the perspective of cardiac HCPs are needed in order to introduce a structured implementation of FWR in this context. In the present multicentre study we explored nurses' and physicians' experiences and attitudes toward FWR in cardiac care units.

2. Methods

2.1. Study setting and design

This was a cross-sectional, web-based questionnaire study including

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the cardiology units at all seven university hospitals in Sweden, with data collected during autumn 2015. All nurses and physicians employed in the cardiology departments at each hospital were invited to participate. The Heads of the Departments distributed the link to the questionnaire by e-mail with one reminder notice given after two weeks. This approach allowed an anonymous procedure where the participants completed the questionnaire on-line. Five out of seven hospitals reported the number of HCP approached, while the remaining two only reported the number of completed questionnaires. The Heads of the Departments were also advised to send in their local CPR guidelines (if applicable).

2.2. Measures

A self-reported questionnaire [12] which has been used extensively in previous studies was used. This questionnaire covered 46 items: 1) socio-demographic characteristics, 2) previous experiences of FWR and 3) attitudes towards FWR, divided into three parts concerning *decision-making*, *process* and *out-come*. Items were scored on a 5-point Likert Scale (1 = *strongly disagree* to 5 = *strongly agree* with a middle value of 3 = *do not know*). Questions were positively or negatively formulated to reduce the chance of mechanical responses occurring. When the data were analysed, scoring was weighted so that higher scores were given to positive attitudes of FWR, irrespective of the positive or negative wording of the question [10,12]. There was also the opportunity to write free text at the end of the questionnaire.

2.3. Data analysis

Descriptive statistics were expressed in frequencies and proportions (%), as well as median (Md) and quartiles (Q_1, Q_3) for non-normally distributed data and for data on the ordinal scale level. For comparisons between the groups the x^2 test for categorical data at a nominal level was used. Data on item level in the attitude domain were provided by merging the proportions of respondents that answered either "totally disagree/disagree", "do not know", or "agree/totally agree" on each specific statement. A median value was calculated for the total scale and for every part in the attitude domain (decision-making, process and outcome). The Mann-Whitney *U* test was used for comparisons at the ordinal scale level (attitudes). The significance level was based on $p < 0.05$. All tests were 2-tailed. The statistical analyses were performed in SPSS version 23.0 for Windows.

All free-text was summarised and grouped under the respective subscale in the attitude domain: decision-making, process and outcome. Similarities and differences were identified and the most common comments, as well as divergent attitudes, are presented.

2.4. Ethical considerations

The investigation conforms with the principles outlined in the Declaration of Helsinki [13]. The Heads of the Departments approved the research protocol and gave their written consent. Together with the link to the questionnaire, the participants received a cover letter explaining the aim of the study and possible publication of the findings. They were guaranteed confidentiality and had the right to abstain from filling in parts of, or the whole, questionnaire without having to give a reason. Consent was implied by the voluntary decision to return the completed web-based questionnaire to the server.

3. Results

3.1. Socio-demographic characteristics

A total of 189 HCPs (65.1% nurses) completed the web-based questionnaire for a 49% response rate for nurses and 45% for physicians respectively for those five hospitals that reported the number of questionnaires distributed. The representativeness from each of the seven participating hospitals varied between 7.4% (n = 14) and 24.3% (n = 46) of the total sample.

As outlined in Table 1, the mean age of the overall sample was

Table 1
Socio-demographic characteristics.

	Total N = 189[1] % (n)	Nurses n = 124[1] % (n)	Physicians n = 65[1] % (n)
Gender			
Female	63.5 (120)	76.6 (95)	38.5 (25)
Male	36.5 (69)	23.4 (29)	61.5 (40)
Age (median, quartiles)	41.0 (33.0–49.0)	41.0 (30.0–50.0)	42.0 (34.5–47.5)
Country of birth			
Sweden	88.3 (166)	94.4 (117)	76.6 (49)
Other Nordic Countries	3.2 (6)	0.8 (1)	7.8 (5)
The rest of Europe	5.9 (11)	1.6 (2)	14.1 (9)
Outside Europe	2.7 (5)	3.2 (4)	1.6 (1)
Profession			
Nurse	65.1 (124)	100 (124)	0 (0)
Physician	34.9 (65)	0 (0)	100 (65)
Years in profession (median, quartiles)	12.0 (4.0–18.8)	10.0 (3.1–18.0)	14.5 (5.0–20.8)
Main work area			
Coronary intensive care unit/Medical cardiology unit	75.7 (140)	79.2 (95)	69.2 (45)
Operating theatre/Cardiac catheterization laboratory	10.8 (20)	5.8 (7)	20.0 (13)
Outpatient clinic	6.5 (12)	7.5 (9)	4.6 (3)
Other	7.0 (13)	7.5 (9)	6.2 (4)
Main practice role			
Clinic/Practice	88.3 (166)	88.6 (109)	87.7 (57)
Education	2.1 (4)	1.6 (2)	3.1 (2)
Management	2.7 (5)	2.4 (3)	3.1 (2)
Research	3.7 (7)	3.3 (4)	4.6 (3)
Other	3.2 (6)	4.1 (5)	1.5 (1)
Experience of CPR in hospital			
Yes	97.9 (185)	97.6 (121)	98.5 (64)
No	2.1 (4)	2.4 (3)	1.5 (1)

[1]Some missing values, which explains the difference in %.

Table 2
Nurses' and physicians' experiences of family-witnessed resuscitation.

Question[2]	Total N = 189[1] % (n)	Nurses n = 124[1] % (n)	Physicians n = 65[1] % (n)	p-value
Have you experienced a situation in which family members were present during CPR?	67.6 (127)	66.7 (82)	69.2 (45)	.75
Has a family member ever asked you if they could be present during CPR?	28.3 (53)	28.7 (35)	27.7 (18)	1.00
Have you ever invited a family member to be present during CPR?	31.9 (60)	35.8 (44)	24.6 (16)	.14
Does your unit/ward have a protocol or policy document on family presence during CPR?	22.5 (41)	17.5 (21)	32.3 (20)	**.04**
Have you had one or more positive experiences of family members being present during CPR?	63.3 (76)	70.4 (57)	48.7 (19)	**.03**
Have you had one or more negative experiences of family members being present during CPR?	35.5 (43)	37.8 (31)	30.8 (12)	.54

CPR = cardiopulmonary resuscitation.
[1]Some missing values, which explains the difference in %.
[2]Per cent that answered yes to each statement.

41 years and 63.5% were women. Median working experience was 12 years (4.0–18.8), with most of the participants having their main working area in the coronary intensive care or medical cardiology units (75.7%). The majority had, at some time, been involved in an IHCA (97.9%).

3.2. Local protocol or policy on FWR

None of the Heads of Departments reported that they had local guidelines about FWR, but three hospitals referred to the national CPR protocol where it, in a note to the CPR form, states that the family member should be taken care of and offered to participate during CPR. Table 2 demonstrates that nearly every fourth participant (22.5%) believed that the hospital had local guidelines on the subject.

3.3. Experiences of FWR

The HCPs experiences of FWR are shown in Table 2. A total of 127 HCPs (67.6%) had at some time been present during FWR. Nurses (n = 124) had more often positive experiences of FWR compared to the group of physicians (n = 65), 70.4% vs. 48.7%, p < 0.03. In total 53 participants (28.3%) had, at some time, experienced family members asking to be present at an IHCA resuscitation attempt, while 60 participants (31.9%) confirmed that they had at some time offered family members the opportunity to be present.

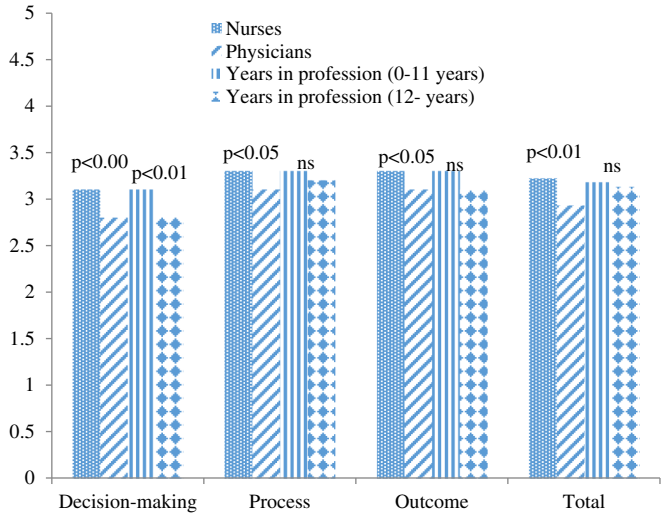

Fig. 1. Nurses' and physicians' attitudes towards FWR and differences in the number of years in their profession (a higher value reflects a more positive attitude), N = 189.

3.4. Factors associated with different attitudes towards FWR

The group as an entirety (N = 189) scored 3.17 (Q_1-Q_3 2.81–3.43) on the total scale, which corresponds with a difficulty to take a stand regarding FWR (3 = *do not know*). Nurses (n = 124) were more positive towards FWR measured as total score of 3.22 (Q_1-Q_3 2.97–3.48) as compared to the physicians (n = 65) who had 2.93 (Q_1-Q_3 2.70–3.40) in total score, p < 0.01. Higher scores indicate a more positive attitude of FWR.

Fig. 1 outlines the HCPs attitudes towards FWR and differences in the number of years in their profession. Those who had worked for less years in their respective profession (n = 93) scored a more positive attitude in the subscale for decision-making with a value of 3.10 (Q_1-Q_3 2.70–3.30), compared to those who had more years in their profession (n = 95) who had 2.80 in score (Q_1-Q_3 2.50–3.20), p < 0.01. Otherwise no difference was found between attitudes towards FWR, based on the number of years in the profession.

The HCPs attitudes towards FWR, depending on previous experiences, are described in Fig. 2. The participants were more positive towards FWR if they had previous experiences of having family members present during CPR (n = 127), with a score equivalent to 3.20 (Q_1-Q_3 2.89–3.47) on the total scale, compared with 3.03 (Q_1-Q_3 2.69–3.32) for those who did not have experience of FWR (n = 62), p < 0.01. Those with positive experiences of FWR (n = 76) were more positive towards FWR in every subscale compared to those who had negative experiences (n = 43).

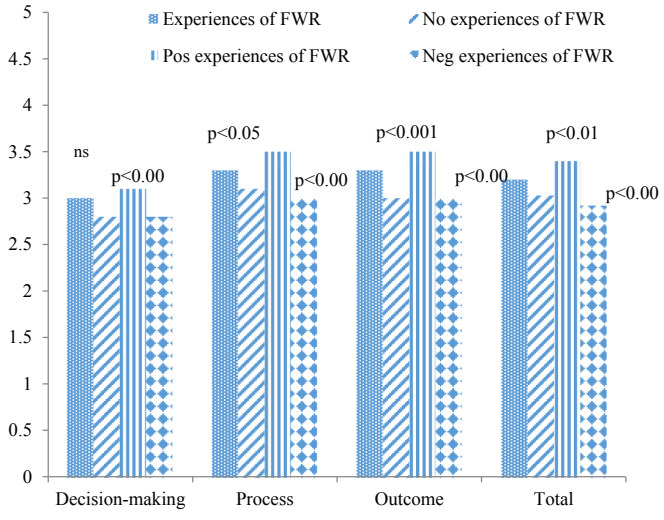

Fig. 2. Nurses' and physicians' attitudes towards Family Witnessed Resuscitation (FWR), depending on whether they have experienced FWR as well as their experiences of it (a higher value reflects a more positive attitude), N = 189.

Table 3
The proportions of healthcare professionals (N = 189) that either totally disagreed/disagreed, did not know, or agreed/totally agreed to each statement in the attitude domain.

Statement	*Totally disagree/Disagree* %	*Do not know* %	*Agree/Totally agree* %
Decision-making			
Family members should always be offered the opportunity to be with the patient during CPR. It should always be their decision	44.1	12.0	43.9
It should be the joint responsibility of all members of the resuscitation team to decide whether (or not) family members are allowed to be present during CPR	28.6	11.2	60.2
There may be a problem of confidentiality in discussing details about the patient if family members are present during CPR	39.0	10.1	50.9
Because family members do not understand the need for specific intervention they are more likely to argue with the resuscitation team	28.3	18.3	53.4
Family members should be present during CPR so that they can be involved in decisions	64.0	15.0	21.0
If present during CPR, family members are more likely to accept decisions to withdraw treatment	18.6	38.8	42.6
Process			
Family members are very likely to interfere with the resuscitation process	60.8	22.2	17.0
Family members should not be present during CPR because it is too distressing for them	49.6	25.1	25.3
Physicians, nurses and medical staff find it difficult to concentrate when relatives are watching	57.2	12.0	30.8
The performance of the team will be positively affected due to the presence of family members	52.8	36.7	10.5
During CPR the resuscitation team may say things that are upsetting to family members	15.8	16.2	68.0
There are enough staff to provide emotional support and remain with the family members during resuscitation.	43.9	10.5	45.6
Most bed areas are too small to have family members present during resuscitation	40.4	16.1	43.5
It should not be normal practice for family members to witness the resuscitation of a family member	36.2	19.6	44.2
If family members are present during CPR, there should be a member of the resuscitation team whose only role is to look after the family	2.0	5.7	92.3
Family presence during CPR is beneficial to the patient	40.5	37.6	21.9
Outcome			
Family presence during CPR prevents family members developing distorted images or wrong ideas of the resuscitation process	17.0	39.7	43.3
Family members will suffer negative long-term emotional effects if they are present during CPR	41.5	45.3	13.2
Rates of legal action against staff will increase because, when present, family members may misunderstand the actions of the resuscitation team	47.0	41.8	11.2
Family presence during CPR helps family members to know that everything is being done for the patient	14.0	23.1	62.9
The resuscitation team is more likely to prolong the resuscitation attempt if a family member is present	20.3	35.1	44.6
Family presence during CPR creates a stronger bond between family and nurses/physicians	24.5	44.0	31.5
Family presence during CPR ***is not*** beneficial to the patient	25.7	30.8	43.5
Family presence during CPR helps the family members with the grieving process, if the patient does not survive	9.1	43.2	47.7
Family presence during CPR prolongs emotional readjustment at the loss of the family member	26.2	59.7	14.1
Family presence during unsuccessful CPR is important because it enables family members to share the last moments with the patient	21.9	38.7	39.4

3.4.1. Decision-making

Table 3 show the proportions of HCP that either totally disagreed/disagreed, did not know, or agreed/totally agreed to each statement in the subscale concerning decision-making (see Supplementary data for nurses and physicians separately), while Table 4 outlines the significant differences in nurses' and physicians' attitudes to FWR (see Supplementary data for all statements). Most HCPs agreed with the statement: *It should be a joint responsibility for all members of the resuscitation team to decide if family should be present or not* (60.2%). A total of 43.9% agreed that family should always be offered the opportunity to be present during CPR, while 44.1% disagreed with this statement and 12% could not take a stand (Table 3). The nurses were more inclined to agree with this statement compared to the physicians (58.7% vs. 29.2%, $p < 0.001$). More physicians considered that it was their profession that should have the responsibility for deciding if family should be present during CPR (63.1%), compared to 33.9% of the nurses who felt that it was their profession that should have the responsibility, $p < 0.001$. The participants were most unsure regarding the statement: *If family are present during CPR then the probability increases that they will accept a decision to terminate treatment*, with 38.8% answering "do not know". However, more nurses (51.3%) than physicians (33.8%) consider that was the case, $p < 0.05$ (Tables 3 and 4). Half (50.9%) of the participants considered that FWR can cause a problem with regard to confidentiality (Table 3, Supplementary data).

3.4.2. Process

The participants' attitudes towards the process surrounding FWR, divided proportionally between the professional groups, are outlined in Table 3 and in Supplementary data and show a strong belief that there always should be one member of the team whose only role is to take care of family (92.3%). Every fourth participant (25.3%) stated that family should not be present during CPR, as it would be far too painful for them (Table 3). Fewer nurses than physicians considered that it is difficult to concentrate when family are observing during CPR (20.5% vs. 41.2%, $p < 0.01$). Approximately half of the physicians (53.9%) and a third of the nurses (34.5%) meant that it should not be normal praxis that family are present during the resuscitation of a family member, $p < 0.05$). Nearly a third of the nurses (32.7%) and 11.1% of the physicians considered that the presence of family during CPR is beneficial to the patient, $p < 0.001$ (Tables 3 and 4, Supplementary data), but this was also the statement that participants felt most unsure about (37.6%), (Table 3).

3.4.3. Outcome

Table 3 show the proportions of HCP that either totally disagreed/disagreed, did not know, or agreed/totally agreed to each statement in the subscale concerning the outcome, while Table 4 outlines the significant differences in nurses' and physicians' attitudes to FWR (see Supplementary data for all statements). The participants agreed that the presence of family during CPR helps them to understand that everything possible is being done for the patient (62.9%) and (43.3%) felt that it prevents the family from having a distorted picture or wrong perception of the CPR process, while 13.2% answered that family will suffer from long-term, negative emotional effects. Nearly half of the participants (47.7%) considered that the presence of family during CPR would help the grieving process (Table 3). Responding to the statement: *Family's presence during CPR is not beneficial to the patient*, nearly a third (31.4%) of the nurses answered that they agreed with this statement, compared to about half the physicians (55.6%), $p < 0.001$, (Tables 3 and 4, Supplementary data).

3.5. Qualitative responses

The qualitative responses on issues relating to the aim of the study are summarised and grouped around the three subscales in the attitude domain and further illustrated by quotations. The data consisted of

Table 4
Nurses' and physicians' attitudes to family-witnessed resuscitation.

Statement	Nurses n = 124 mean (SD)	Physicians n = 65 mean (SD)	P-value[a]
Family members should always be offered the opportunity to be with the patient during CPR. It should always be their decision	3.38 ± 1.16	2.51 ± 1.19	.000[b]
Nurses/Physicians ***do not*** want relatives to be present during CPR	3.24 ± 0.99	2.83 ± 0.99	.007
Nurses should have the responsibility for deciding if family members should be present during CPR	2.69 ± 1.16	2.20 ± 1.14	.000[b]
Physicians should have the responsibility for deciding if family members should be present during CPR	2.95 ± 1.18	3.58 ± 1.00	.000[b]
It should be the joint responsibility of all members of the resuscitation team to decide whether (or not) family members are allowed to be present during CPR	3.66 ± 1.12	3.08 ± 1.38	.005
Family members should be present during CPR so that they can be involved in decisions	2.54 ± 1.11	2.06 ± 1.14	.003
If present during CPR, family members are more likely to accept decisions to withdraw treatment	3.47 ± 0.91	3.09 ± 0.95	.011
Physicians, nurses and medical staff find it difficult to concentrate when relatives are watching	3.61 ± 1.02	3.06 ± 1.20	.002[b]
It should not be normal practice for family members to witness the resuscitation of a family member	3.14 ± 1.17	2.62 ± 1.29	.006
If family members are present during CPR, there should be a member of the resuscitation team whose only role is to look after the family	4.53 ± 0.72	4.46 ± 0.71	.045
Family presence during CPR is beneficial to the patient	3.03 ± 1.04	2.32 ± 1.00	.000[b]
Family presence during CPR ***is not*** beneficial to the patient	3.09 ± 1.02	2.46 ± 0.95	.000[b]

A higher score reflects a more positive attitude (range 1–5).
[a] Only the statements that significantly differ between the professions are presented in the Table.
[b] Indicates a significant difference when also adjusted for multiple testing and corrected by Bonferroni.

1726 words in total. Nineteen nurses and 13 physicians shared their thoughts about FWR. All hospitals were represented in the comments from the nurses and five hospitals are represented within the comments received from the physicians.

3.5.1. Decision-making

The presence of family during resuscitation was widely considered to be positive. From those who want to see what happens I have received only positive feedback, both when things go well and when the patient does not survive (physician). Others felt a certain hesitance towards the presence of family: To see a beloved relative die is very difficult…, I am indecisive as to whether family should be present or not … (nurse). Both nurses and physicians described themselves as feeling ambivalent: There are such individual situations …, all patients are so different and the same goes for family (nurse). What was seen as important was that family were able to say a last farewell: Otherwise I often bring in family when it is hopeless to continue, so they can be present for the last few minutes the patient has in life (physician).

3.5.2. Process

The patient's room was often regarded as too small to perform resuscitation: *At the beginning of the CPR process family are often pushed into a corner* (physician). The participants also described that there was not always enough staff present during all CPR situations: *Unfortunately, I have experienced three cardiac arrests in one hour, where was the time for speaking to family then*? (physician). The CPR-situation was perceived as stressful, it was felt that FWR would lead to staff feeling bad: *It will create anxiety in the healthcare professionals… it is very stressful… many do not have the experience. Family being present will make this worse and lead to staff feeling bad* (physician). Another problem described was that family could react with emotional outbursts: *Some will want to save their family at any cost and make a scene and shout and perhaps disturb our work* (nurse). Furthermore, there were worries about how staff should relate to family documenting the CPR situation when present: *There can't be too many present and filming with mobile phones should not be permitted* (nurse). Even cultural and language problems were described: *When language barriers and cultural differences are too big then often questions, anxiety and conflicts can arise* (physician). Perceptions did, however, vary: *I do not feel that I as a healthcare professional act differently if family are present or not. One can have a dialogue with family while performing CPR* (physician).

3.5.3. Outcome

Both nurses and physicians indicated that it was difficult to say categorically if they were positive or negative towards FWR: *One should show consideration for the current patient situation* (physician) … *It is so different depending on the background and wishes of family as well as how well they understand the patient's illness and background* (nurse). Both physicians and nurses perceived that a CPR situation was difficult to watch: *It could be a traumatic experience that left unpleasant traces* (physician) … *It can look distasteful and make the memory distressful for family and it could give lifelong nightmares* (nurse).

4. Discussion

In the current study we examined nurses' and physicians' experiences and attitudes towards FWR when working in a cardiac care setting. Our main finding was that the participants had difficulties taking a stand in the FWR issue, responding "do not know" to several of the statements in the survey, which suggests that this topic is not discussed and reflected upon at the different workplaces. Furthermore, we found that the nurses generally had a more positive attitude towards FWR and to a higher degree agreed that family always should be offered the opportunity to be present during CPR, as compared to the group of physicians. Our finding is in keeping with previous findings from the context of the emergency and intensive care units [8,14,15] and also from the cardiac care settings [11]; however, other studies have found no difference in attitudes between the professions [16,17].

In contrast to findings from other studies [10,18,19], we found that those with lesser years in their respective profession were more positive towards FWR when it comes to decision-making. One possible explanation for this unexpected finding could be the incorporation of the concept of person-centred care [20] in the curriculums in Swedish healthcare education during recent years. The Canadian Critical Care Society also recently stated in their position paper that patient and family-centred care is an important component when implementing FWR [21]. We found that more nurses than physicians believed that FWR helps family to understand that everything possible has been done for the patient and it is therefore important to discuss those differences in attitudes within the professional team. A minority of the participants in our study also considered it important that family were present during an unsuccessful CPR attempt. Many family members do feel a need to see that everything possible is being done and want to be present also during an unsuccessful CPR attempt [22–24]. Therefore, it is important to include the family in the acute resuscitation process even if a negative outcome for the patient is expected. Furthermore, although half of the participants considered that FWR could help family in the grieving process, the rest could not express an opinion or disagreed about the outcome. Since previous research has found a positive outcome for the family after witnessing an IHCA attempt [1], it is important to increase awareness of existing evidence when FWR is discussed and practised.

Shortage of staff is a well-known issue and has emerged as a hindrance for practicing FWR [10,12,16,22,25–27]. In the present study, almost half of the participants expressed that there were not enough staff to support the family during CPR. The vast majority also considered that there should be one individual dedicated to taking care of family, which is a recommendation when FWR is being implemented [5,12,17,25,26,28–30]. In the literature however, it has been suggested that the individual taking care of family during CPR does not need to be a HCP; for example, it could be a counsellor or hospital priest [31,32], which would open up opportunities for introducing FWR even if there is a shortage of HCPs. However, all such personnel should have the experience and training to guide families through the resuscitation and also be able to provide comfort, recognise family distress and participate with the rest of the CPR team in debriefing sessions following the resuscitation [21,33,34].

The differences in attitudes found in our study between the professional groups should be taken into consideration when teamwork and CPR-training are discussed. Teamwork during resuscitation is often suboptimal and the algorithms that are available are commonly not followed [35]. Improved inter-professional cooperation is necessary in order to overcome the obstacles that are associated with FWR [36]. In order for the HCPs to incorporate FWR there is a need for both local and national guidelines to be developed. International guidelines state that all hospitals should have a written protocol addressing FWR [5,6]. This is also requested by the HCPs themselves [1,33,37–39], as long as there is room for individual assessments [9,16,22,23,26–28]. Still, only a few hospitals have guidelines that explicitly describe FWR [40], which was also the case in our study with none of the participating university hospitals having a local protocol or guidelines concerning FWR. To facilitate the safe and effective implementation of FWR, hospitals should develop policies to provide consistent practice within institutions. Earlier studies have pointed to positive results when teamwork is practiced during CPR training with a focus on guidelines and FWR [1,41,42]. Furthermore, attitudes towards FWR have been demonstrated to be more positive after educational intervention [43,44] and this can assist HCPs to overcome their uncertainty when being observed by a family member during resuscitation [7,45]. Likewise, Porter et al. [17] have suggested that HCPs should have the opportunity to be present at FWR as observers, which potentially would reduce their worries. Drewe [45] goes one step further in the implementation

strategy and proposes that also families should have the opportunity to obtain education and training on FWR issues, which will enable them to witness resuscitation attempts in the future.

4.1. Limitations and strengths

The results of this study must be interpreted cautiously due to its limitations. One limitation was related to the web-based data collection method, with the Heads of the Department sending out the link to the questionnaire to all nurses and physicians. We cannot say, for example, if any of the participants answered the questionnaire twice. Furthermore, we approached each Head of the Department participating in the survey several times in order to receive information about how many nurses/physicians that were on their e-mail group list (i.e., possible participants), but we only received statistics from five out of seven hospitals. Of those reporting the number of possible participants, nearly 50% participated in the study. The relatively small sample can possibly be explained by the fact that this topic is still rather unknown and can cause uncomfortable emotions, which could impact negatively on willingness to take part in the study. These aspects question the representativeness and generalizability of the results, but the strength is that all university hospitals in one nation participated, including both nurses and physicians, which might support an implementation of FWR in this context. Our study could play a role as an important foundation and direction for further research, training and local protocol development to support FWR in HCP.

4.2. Conclusions

This nationwide study of HCPs experiences and attitudes of FWR demonstrated that only half of the participants agreed that family presence during CPR help the family in their grieving process, with nurses being more positive towards FWR compared to physicians. Many cardiac HCPs were indecisive and could not take a stand in the FWR issue, suggesting that these questions are not commonly considered in everyday practice. This is further supported by the fact that none of the hospitals had local guidelines regarding FWR. According to the findings of this study, one of the largest barriers to implementing FWR is the lack of resources to support the family during the resuscitation. This must be taken into consideration when planning for the implementation of FWR in the future.

Conflict of Interest

None.

Ethical Statement

The investigation conforms with the principles outlined in the Declaration of Helsinki.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.ienj.2018.05.009.

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