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PUBLIC PERCEPTIONS OF FAMILY PRESENCE DURING RESUSCITATION: A CROSS-SECTIONAL SURVEY IN SLOVENIA

STALIŠČA JAVNOSTI DO PRISOTNOSTI DRUŽINSKIH ČLANOV MED OŽIVLJANJEM: SLOVENSKA PRESEČNA RAZISKAVA

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ABSTRACT

Background: In Slovenia, the practice of having family present during resuscitation (FPDR) in the clinical setting is still controversial. Therefore, the aim of the study was to explore current public perceptions regarding FPDR in Slovenia and to investigate whether demographic characteristics are related to these perceptions.

Methods: A cross-sectional study was conducted using the FPDR Benefit-Risk Scale (BRS) to collect data from a sample of 618 participants. The FPDR-BRS includes 23 items rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The online survey was conducted from 15 September to 30 December 2023. Inferential statistics were computed using IBM SPSS version 25.

Results: The results indicate moderately favourable attitudes towards FPDR among participants in general. Older individuals (aged 60–82) and respondents not affiliated with the healthcare sector scored higher on the overall FPDR-BRS, indicating more favourable attitudes towards the practice of FPDR. Respondents who had previous experience with cardiopulmonary resuscitation were less concerned that FPDR could cause psychological trauma to family members.

Conclusions: These findings have significant implications for the adoption of FPDR policies and practices in the healthcare sector. Healthcare providers should prioritise education, training and support as the presence of family members during resuscitation becomes more widely accepted.

Keywords:
Family-witnessed resuscitation
Cardiopulmonary resuscitation
Perception
Public opinion
Family-centred care
Quantitative study

IZVLEČEK

Izhodišča: *V Sloveniji praksa glede prisotnosti družinskih članov med oživljanjem (FPDR) v kliničnem okolju ostaja sporna. Namen raziskave je bil ugotoviti trenutna stališča javnosti glede FPDR v Sloveniji, in ugotoviti, ali so demografske značilnosti populacije povezane s temi stališči.*

Metode: *V presečni študiji smo z uporabo FPDR lestvice koristi in tveganj (BRS) zbrali podatke na vzorcu 618 anketirancev. Vprašalnik FPDR-BRS vključuje 23 trditev, ki so jih anketiranci ocenjevali s pomočjo petstopenjske Likertove lestvice (1 = močno se ne strinjam do 5 = močno se strinjam). Spletna anketa je potekala od 15. septembra do 30. decembra 2023. Inferenčna statistika je bila izračunana z uporabo programa IBM SPSS različice 25.*

Rezultati: *Rezultati kažejo na zmerno pozitivno naklonjenost anketirancev do FPDR na splošno. Starejši posamezniki (60–82 let) in anketiranci, ki niso povezani z zdravstvenim sektorjem, so dosegli višje število točk na celotni lestvici FPDR-BRS, kar kaže na večjo naklonjenost do prakse FPDR. Anketiranci, ki so imeli predhodne izkušnje s kardiopulmonalnim oživljanjem, so bili manj zaskrbljeni, da bi FPDR lahko povzročila psihološko travmo družinskim članom.*

Zaključki: *Te ugotovitve pomembno vplivajo na sprejetje politik in praks FPDR v zdravstvenem sektorju. Zdravstveni delavci bi morali dati prednost izobraževanju, usposabljanju in podpori, saj je prisotnost družinskih članov med oživljanjem vse bolj razširjena.*

Ključne besede:
oživljanje v prisotnosti družinskih članov
kardiopulmonalno oživljanje
percepcija
javno mnenje
oskrba osredotočena na družino
kvantitativna študija

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1 INTRODUCTION

Cardiopulmonary resuscitation (CPR) is a challenging and emotional situation for healthcare teams, requiring quick thinking and responsiveness. Traditionally, family members have been kept away from the resuscitation area, but research conducted internationally, notably in England and the United States, supports the presence of family members during resuscitation (1–4). It is noteworthy that approximately 70% of relatives prefer to be present during health-related procedures, including resuscitation (5). Studies have indicated diverse implications of family-witnessed resuscitation. The existing international literature suggests that the presence of family members has a positive impact, particularly in terms of establishing trust between family members and the medical staff resuscitating the patient, creating a more humane atmosphere that facilitates farewell and provides solace during grief in the event of a potential fatal outcome (6–8). These benefits are not limited to patients and their families, but also apply to clinicians (9). However, opponents of this viewpoint raise the possibility of psychological trauma (stress, anxiety) caused by being present during resuscitation, and express concerns that family members might interfere with and disrupt the resuscitation process. These studies also mention ethical dilemmas regarding inviting family members into the resuscitation room, as well as the potential for legal disputes (10, 11).

A broad consensus among international medical associations, including the American Heart Association (AHA), the European Resuscitation Council (ERC) and the European Federation of Critical Care Nursing Associations, supports the presence of relatives during CPR (12–14). However, despite the existing perspectives on this topic, there is still an ongoing debate in many countries, including Slovenia, regarding the involvement of the patient's family members during resuscitation. The latest research on this topic highlights the evolving standard of care and the importance of introducing institutional policies to support family presence during resuscitation (FPDR) (15–17). Studies emphasise the need for a patient-centred approach that balances safety, family autonomy and interprofessional teamwork skills, and involves a designated family facilitator such as an on-call chaplain (18).

The adoption of policies allowing FPDR into clinical practice presents a number of challenges, including legal, ethical and procedural considerations (15). From a personnel perspective, a major barrier to adopting these policies is the lack of written instructions (8). However, there is a paucity of data on the attitudes of patients and their families towards FPDR (7, 8, 19). Moreover, Toronto and LaRocco (7) highlight the limited literature available on the viewpoints of families from Eastern countries, indicating the need for further research on this topic to understand potential cultural variations in the perceptions of FPDR. In Slovenia, the topic of FPDR is under-researched, particularly with regard to the perspectives of relatives themselves. The main objectives of this exploratory study were: i) to assess current public perceptions of FPDR in Slovenia and ii) to investigate whether demographic characteristics are associated with the general population's perceptions of this topic.

2 METHODS

2.1 Study design

The study employed a quantitative, empirical, non-experimental, cross-sectional design and was approved by the Ethics Committee of the University of Primorska (Ethics Committee No. 4264-19-6/23).

2.2 Instrument

Data were collected using the Family Presence During Resuscitation Benefits-Risks Scale (FPDR-BRS), a tool developed by Parial et al. and freely accessible for use (20). The questionnaire contains 23 items rated on a 5-point Likert scale, with 1 representing "strongly disagree", 3 representing "no opinion", and 5 representing "strongly agree". It is relevant to note that ten items of the questionnaire are reverse coded due to negatively worded sentences. In this context, higher scores in the questionnaire indicate a more positive perception of FPDR by relatives, while lower scores indicate a more negative attitude towards this practice. This scale includes four subscales: Insight-Building Benefits (a 7-item subscale focusing on relatives' knowledge-forming perceptions of processes, procedures and patient status during resuscitation), Personnel Risks (a 7-item subscale addressing the potential threats of FPDR to healthcare team performance, ethical and legal competence, and psychological well-being), Connection-Forming Benefits (a 6-item subscale assessing relatives' perceptions of building more meaningful bonds and securing connections with higher entities (such as their Creator) and living beings (including the healthcare team, patients, and other relatives), and Personal Risks (a 3-item subscale examining the psychosocial impact of FPDR on relatives' emotional well-being). These four subscales were identified following an extensive literature review. The estimated internal consistency of reliability for the total scale was reported to be 0.90, with all subscales demonstrating satisfactory Cronbach's α values ranging from 0.86 to 0.94 (17).

The 23-item questionnaire was first translated from English into Slovenian independently by two authors with experience in critical care nursing. To ensure consistency between the Slovenian version and the original text, a back-translation was then performed.

2.3 Sampling procedure and data collection

The study focused on Slovenian residents as the target population. It was conducted on a convenience sample of 618 individuals (21). The required minimum sample size was determined on the basis of population data from the Statistical Office of the Republic of Slovenia, with a confidence level of 95% and a margin of error of 5%. The online survey, which was accompanied by the study purpose statement and an informed consent form, was accessible from 15 September to 30 December 2023. To reach different groups of respondents, the online questionnaire was initially shared via two posts on Facebook and Instagram by the first author of the article. Furthermore, social media followers of diverse age and genders were asked to share the aforementioned posts through their own network, ensuring a diverse sample. Respondents agreed to participate by clicking on the embedded link and completing the electronic survey, which was facilitated by the 1KA One Click Survey online platform (1ka.si; https://www.1ka.si/d/en). The data provided by the respondents were securely collected on the 1ka.si server and managed by a researcher via a password-protected 1KA account. To ensure anonymity, no identifiable information such as IP addresses, names, surnames or email addresses were tracked or collected during data collection. The participants who completed and submitted the questionnaire gave informed consent, which included a statement that their participation was anonymous and voluntary and could be withdrawn at any time.

2.4 Data analysis

The prerequisite for including the respondent in the final analysis was the completion of all FPDR-BRS items. If demographic data were not fully provided, we still included those respondents in the final analysis. The empirical data collected were processed and statistically analysed using IBM SPSS version 25 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics such as frequencies, percentages, skewness, kurtosis, means (M), medians (Me) and standard deviations (SD) were calculated to present and summarise the data. Given the normal distribution of the data, the independent sample T-test and one-way ANOVA were applied to determine statistically significant differences between the demographic groups. The threshold for statistical significance was set at $p<0.05$.

3 RESULTS

Of the 1,120 people who clicked on the survey link, 799 started the survey and 618 completed it. As participation in the study was voluntary, the overall response rate was 51%. The average age of respondents was 42.8 years (SD=13.8; range: 18-82 years). Participants' demographic and other characteristics are listed in Table 1. In addition, 60.9% of participants stated that they had a relative who had been treated in an intensive care unit, and 27.5% had either attended or experienced CPR.

Table 1. Participant demographics.

Variables	n	%
Gender		
Male	170	27.6
Female	445	72.4
Age (years)		
18-39	232	37.7
40-59	321	52.1
60-82	63	10.2
Marital status		
Married	279	46.9
Long-term partnership	212	35.6
Single	104	17.5
Educational attainment		
≤ Higher secondary	274	45.0
≥ Undergraduate degree	335	55.0
Work sector		
Healthcare	121	19.9
Other work sector	487	80.1
Religious		
Yes	353	58.7
No	248	41.3

The internal consistency reliability of individual subscales and the overall scale of the translated instrument was assessed using Cronbach's alpha. The Cronbach's alpha for the total scale was 0.913, and the coefficients for the subscales ranged from 0.916 (Insight-Building Benefits) to 0.848 (Personal Risks). These values indicate a high degree of internal consistency. The mean, standard deviation, actual and possible score range of the instrument with the respective median values are presented in Table 2. Of the two benefits scales, subscale 1 obtained a mean value of 24.2 (SD=7.5) and was also the subscale that was rated highest by respondents, while subscale 3 obtained a mean value of 17.0 (SD=5.9). Of the two risks scales, subscale 2 obtained a mean value of 20.3 (SD=6.6) and subscale 4 obtained a mean value of 8.6 (SD=3.2). Subscale 1 (Insight-Building Benefits) showed a negative skewness (-0.368), while the other subscales displayed a positive skewness as follows: 0.170, 0.114 and 0.232. Overall, respondents were moderately favourably disposed towards FPDR (mean=70.1; SD=17.1). A total of 50.5% of respondents attained a score of 70 points or above on the total score scale.

Table 2. Descriptive statistics of the Family Presence During Resuscitation Benefits-Risks Scale (N=618).

Subscales (No. of items)	M	SD	Possible score range (Me)	Actual score range (Me)	Cronbach's α
Insight-Building Benefits (7)	24.2	7.5	7-35 (21)	7-35 (25.0)	0.916
Personnel Risk* (7)	20.3	6.6	7-35 (21)	7-35 (20.0)	0.865
Connection-Forming Benefits (6)	17.0	5.9	6-30 (18)	6-30 (17.0)	0.884
Personal Risks* (3)	8.6	3.2	3-15 (9)	3-15 (8.0)	0.848
Total scale (23)	70.1	17.1	23-115 (69)	25-115 (70.0)	0.913

Note: FPDR-BRS — all items were rated on a 5-point Likert-type scale ranging from 1=strongly disagree to 5=strongly agree. Ten items were reverse coded. M–mean, Me–median

Table 3 shows the descriptive statistics of the sample population's demographic characteristics with respect to the four FPDR-BRS subscales. To establish statistically significant differences among demographic groups, independent sample T-tests and one-way ANOVA were performed. Statistically significant differences in responses were observed in the following three demographic variables: age group, work sector and previous experience with cardiopulmonary resuscitation. Across all four subscales, the younger population (aged between 18 and 39) expressed less favourable views towards the practice of FPDR compared to the other age groups. Post-hoc tests revealed statistically significant differences in the four subscales only between the 18–39 age group and the other two groups ($p<0.001$). In addition, respondents not affiliated with the healthcare sector showed a more positive perception of FPDR in the first three subscales (Insight-Building Benefits, Personnel Risk, and Connection-Forming Benefits). Respondents with previous CPR experience scored higher on subscale 4, indicating less concern that the practice of FPDR could cause psychological trauma to family members.

The results also reveal differences among individual groups in relation to the overall FPDR-BRS. Older individuals (age group 60–82) and respondents who were not affiliated with the healthcare sector scored higher on the total FPDR-BRS, indicating a more positive perception of FPDR among family members.

In our study, factors such as marital status, educational level, religious affiliation and prior exposure to a loved one's treatment in an intensive care unit showed no significant association with the general population's perceptions of FPDR. No statistically significant differences were observed in the subscales or the overall FPDR-BRS scores pertaining to these variables.

Table 3. Demographic characteristics of the sample population concerning overall FPDR-BRS and its subscales — descriptive statistics.

Variable		Subscale 1	Subscale 2	Subscale 3	Subscale 4	Total
Age						
18-39	M (SD)	23.2 (7.1)	18.3 (6.0)	16.2 (5.4)	7.9 (3.1)	65.5 (15.5)
40-59	M (SD)	24.5 (7.7)	21.5 (6.9)	17.3 (6.1)	9.0 (3.2)	72.2 (17.3)
60-82	M (SD)	26.7 (8.3)	22.1 (5.9)	19.1 (7.1)	9.0 (3.4)	76.7 (18.6)
ANOVA	p	0.004	<0.001	0.002	<0.001	<0.001
Work sector						
Healthcare	M (SD)	22.7 (8.4)	19.3 (6.9)	16.0 (5.7)	8.1 (3.1)	65.9 (18.3)
Other	M (SD)	24.6 (7.3)	20.6 (6.6)	17.3 (6.0)	8.7 (3.2)	71.0 (16.8)
Independent samples t-test	p	0.014	0.049	0.043	0.055	0.004
Level of education						
Higher secondary and lower	M (SD)	24.5 (7.6)	20.4 (7.1)	16.9 (5.9)	8.4 (3.2)	69.9 (17.4)
BA and higher	M (SD)	23.9 (7.6)	20.4 (6.4)	17.1 (6.0)	8.8 (3.2)	70.1 (17.0)
Independent samples t-test	p	0.346	0.947	0.672	0.220	0.915
Experience with resuscitation						
Yes	M (SD)	23.6 (8.6)	20.5 (7.6)	16.7 (6.3)	9.4 (3.4)	69.9 (19.3)
No	M (SD)	24.4 (7.2)	20.3 (6.3)	17.2 (5.8)	8.3 (3.1)	70.1 (16.4)
Independent samples t-test	p	0.932	0.804	0.348	< 0.001	0.932

Note: Subscale 1-Insight-Building Benefits; Subscale 2-Personnel Risk; Subscale 3-Connection-Forming Benefits; Subscale 4-Personal Risks; p=statistical significance

4 DISCUSSION

FPDR represents a multifaceted and emotionally charged subject within the context of healthcare. The aim of this study was twofold: firstly, to assess the prevailing perceptions of the Slovenian public regarding FPDR, and secondly, to identify potential associations between demographic characteristics and attitudes towards this practice.

The results from the present study show that over 50% of respondents tend to be in favour of FPDR practice. This is consistent with the findings of a recent study in which family members were interviewed and stated that they would like to have the option to be present if their family member underwent CPR (22). However, a recent study in Poland indicates that both patients and their family members have insufficient knowledge regarding their permission to be present during CPR interventions (19). Hence, to effectively address this issue, it is imperative to establish unambiguous guidelines that endorse FPDR as an option within a patient-centred approach, rather than making it mandatory (7).

Attitudes towards FPDR vary considerably between different groups (Table 3), with individuals aged 18-39 being less favourably disposed towards FPDR. This discrepancy could be due to different views on the role of family members in medical emergencies. Younger people may place more emphasis on the efficiency of the resuscitation process and be more concerned about possible distractions or interference from family members (23). Another possible explanation for this discrepancy could be that younger people have too little experience with critical care scenarios, which could lead to a sense of unease at the prospect of witnessing a resuscitation procedure (23). Another factor that could play a role is the influence of media portrayals of resuscitation procedures. These are often characterised by over-dramatisation, which can trigger feelings of anxiety (24). However, this area is still largely unexplored, and further research, taking into account different values, life expectations and the influence of social media, would provide a better insight into this phenomenon. Conversely, older individuals may possess a more nuanced understanding of the emotional needs of family members during such critical situations. In fact, individuals over the age of 60 had a more positive overall perception of FPDR. This suggests that age may influence attitudes towards the presence of family members in resuscitation scenarios. These findings may indicate a generational shift in attitudes, with older people placing more importance on the traditional role of family presence and support at critical moments than their younger counterparts (22).

In our study, respondents who were not affiliated with the healthcare work environment tended to have a more positive attitude towards FPDR. Healthcare professionals, particularly physicians, often express reluctance towards the presence of family members during invasive procedures, indicating a lower degree of willingness to allow FPDR (16). On the other hand, patients' family members have been reported to have significantly more positive attitudes towards FPDR compared to healthcare professionals, with family members believing that it may be beneficial for the relatives' grieving process (7). These findings suggest that healthcare professionals may have a more pragmatic view of FPDR and focus more on the potential challenges and risks that FPDR may pose during resuscitation efforts. In contrast, the general public may emphasise the emotional support and closure that FPDR can provide (25). Non-healthcare individuals may also be more open to recognising the potential emotional and psychological benefits of FPDR without being influenced by professional concerns about procedural risks and clinical effectiveness (26).

Despite some reluctance among healthcare professionals to accept FPDR, training in this practice combined with advanced resuscitation instruction significantly increases its acceptance. This emphasises the importance of education and training in this area (27,28). As demonstrated by Chapman et al. (29), enhanced familiarity with FPDR practices could encourage support, and repeated exposure could raise clinicians' awareness of the benefits rather than of the potential drawbacks of these practices. Research suggests several strategies for training healthcare professionals in FPDR, including simulations with standardised patients, role-playing, case studies, asynchronous online modules and traditional face-to-face lectures (7, 30, 31).

Experience with CPR appears to have a significant impact on attitudes, particularly regarding concerns about the psychological trauma experienced by family members. Respondents who had experienced CPR were less concerned about potential psychological harm, possibly because first-hand experience tends to demystify the process and its effects. This finding is consistent with the literature that suggests that familiarity with medical procedures can reduce anxiety and increase understanding in laypersons (2, 8).

Contrary to expectations, no significant association was found between factors such as marital status, educational level, religious affiliation and previous exposure to intensive care unit treatment and perceptions of FPDR. This suggests that these variables may not be relevant to shaping attitudes towards family presence during resuscitation. Previous studies have reported conflicting results regarding the effects of these variables on the perceptions of FPDR (23, 25). This may suggest that attitudes towards FPDR are influenced more by personal and experiential factors rather than broader demographic characteristics.

Findings from the present study have important implications for both the adoption of FPDR policies and their practical implementation in healthcare settings. It is important to acknowledge that the perceptions of FPDR are not homogeneous across demographic groups. This understanding can help tailor communication and education efforts to the specific needs of different groups. For example, education programmes aimed at younger people could focus on demystifying the resuscitation process and addressing their specific concerns. Consequently, working with healthcare professionals to address their concerns and provide evidence-based guidance on how to perform FPDR is recommended. This would help to allay fears and increase acceptance of the practice.

Overall, this study contributes to the ongoing debate on FPDR by highlighting the complexities of public perceptions and the potential influence of demographic factors on attitudes towards the inclusion of family members in resuscitation scenarios. In the context of healthcare systems striving to provide compassionate and patient-centred care, understanding and addressing the public's concerns and preferences regarding FPDR will be of utmost importance. This will be crucial in shaping future policies and practices. Furthermore, future research could investigate the influence of cultural and social norms on perceptions of FPDR. This could provide further insight into the promotion of patient-centred care in resuscitation settings. A comparison of different cultural contexts could also shed light on the way different societies manage the tension between medical effectiveness and emotional support during medical crises.

Even though the study provides an insight into public opinion on FPDR in Slovenia, certain limitations need to be taken into account. One of the most important limitations is the possibility of sample bias. One of the most important limitations is the potential for sample bias. The survey was based on a convenience sample. Therefore, the sample may not fully represent the general population. Furthermore, the participants were invited to complete the questionnaire through different communication channels (e.g., social media, friends, work colleagues' invitations). This recruitment method represents a potential bias, as participants may share similar perspectives or attitudes toward FPDR. In fact, in our sample a considerably high percentage of healthcare workers participated in our study. Although the study attempted to capture the perceptions of all demographic categories, certain subgroups may be underrepresented, for example people from rural areas, people from poorer socio-economic backgrounds and people with limited access to digital technology. In fact, the older population is underrepresented in our sample (Table 1). Further investigations should focus on this group's perceptions of FPDR, as they are more likely to require resuscitation, and family members are often present during such events. Moreover, as this was a cross-sectional study, it captured public perceptions at a single point in time. Due to the design of the study, causality cannot be inferred from the results and any observed associations should be interpreted with caution. This approach did not take into account the potential change in the perceptions of FPDR over time, particularly in light of increasing public awareness and changing healthcare regulations and practices. Longitudinal studies would be needed to observe changes in perceptions over time. To adequately evaluate the results of the study, these limitations should be fully acknowledged. Future studies could overcome these limitations by using more representative sampling methods, incorporating qualitative data, and examining long-term changes in public perceptions. Despite these limitations, the study provides an important foundation for understanding public perceptions of FPDR in Slovenia and suggests avenues for future research.

5 CONCLUSION

In conclusion, this study provides valuable insights into public perceptions of FPDR. The results show that the public is generally positively disposed towards FPDR. Certain demographic groups, such as older adults aged 60-82 and those not employed in healthcare, tend to have a more favourable attitude towards FPDR. Interestingly, respondents with prior experience with CPR were less concerned that FPDR could lead to psychological trauma in family members.

The results suggest that FPDR is gaining acceptance, particularly among certain demographic groups and people with relevant experience. However, there is still room for improvement when it comes to increasing overall positive attitudes and reducing concerns about the emotional impact of this practice on families. As FPDR becomes more widely accepted, it will be important for healthcare providers to prioritise education, training and support in order to achieve the best possible outcomes for patients and their families.

CONFLICTS OF INTEREST

The authors declare that no conflicts of interest exist.

ETHICAL APPROVAL

This study was approved by the Ethical Committee of the University of Primorska (Approval No./4265-25/21). Participation in the study was voluntary and participants had the right to withdraw from the study at any time without consequences.

FUNDING

The study received no funding.

AVAILABILITY OF DATA AND MATERIALS

All data used in this study are available upon reasonable request.

LLM STATEMENT

The authors of this article utilized the GPT-3.5 language model during the preparation process to:

- review and amend grammatical and spelling mistakes,
- ensure linguistic consistency and coherence,
- test and fine-tune the article's wording.

After utilising the language model, the authors thoroughly reviewed and edited the content as needed. The authors take full responsibility for the final published content.

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