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ORIGINAL ARTICLE

Knowledge and Perception of "Do Not Resuscitate" (DNR) Among Health Care Providers in Pediatric Emergency Departments: A Cross-Sectional Study in a Resource-Limited Country

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ABSTRACT

Background: A busy Pediatric Emergency Department (PED) receives hundreds of critical patients daily. Providing maximum treatment to stabilize the patient is the primary goal of every PED. Many patients require advanced support like cardiopulmonary resuscitation (CPR), ventilators, or inotropes but providing these advanced supports to every sick child is difficult, particularly in a resource-limited country, prompting health care workers to make “do not resuscitate” (DNR) decisions.
Aim: To determine the basic knowledge and perception of DNR among health care providers working in PED of tertiary care hospitals in a resource-limited country.
Methods: A cross-sectional study was conducted in three public sectors PED in Karachi. Pakistan. The study was determine the basic knowledge and perception of DNR among health care providers working in PED of tertiary care hospitals in a resource-limited country. Data was collected from doctors and nurses working in these PED through a questionnaire consisting of ten questions to meet the objectives of the study.
Results: There was a total of 59 providers who participated in the study, with 36(61%) being nurses and 23(39%) being physicians. Notably, 46(78%) had been involved in DNR decision-making during their careers, underscoring the relevance and importance of this research. The study revealed that 50(85%) of the participants knew the term DNR, but their knowledge of sub-categories such as full code (47.5%), comfort care (40%), and DNR with additional limitation (30%) was found to be deficient. Moreover, 52.5% believed DNR means not doing CPR but continuing pharmacological support, while 35.6% thought it means not doing CPR and discontinuing pharmacological support. The participants' perceptions regarding authority in decision making showed that 63% thought that physicians have the right to decide DNR, while 59% believed it should be parents, 20% relatives, 18% nurses, and 17% the ethical committee. 75% of the participants reported being taught about DNR during their training.
Conclusion: The majority of the healthcare providers are familiar with the term DNR, and they have also been part of decision making. However, complete knowledge about the DNR policy is lacking among the participants. A sustainable educational program on clinical and ethical issues about DNR can help to improve practices on this sensitive matter.
Keywords: CPR (Cardiopulmonary-resuscitation), DNR (do-not-resuscitate), Ethics.

INTRODUCTION

In hospital settings, the first place to deal with acutely ill children is the Pediatric Emergency Department (PED), where all the initial action happens. Often there is a high influx of such sick patients that require advance support like inotropes or even cardiopulmonary resuscitation (CPR)[1]. Despite giving all the possible best treatment, at times physicians working in these PED take crucial decision of “do not resuscitate” (DNR) where the potential for recovery is seems to be minimal or where aggressive interventions may cause over suffering[2,4]. The physicians in low middle income countries (LMIC) have faced more such situations where resource limitation prompted them to take these decisions[2-8].

Usually in an emergency department, CPR is initiated by treating physicians within 60 seconds as soon as they encounter terminally ill patient and defibrillation within 3 minutes[9]. To take a DNR decision usually comes down to the treating physician who decides after taking consultation from other physicians, nurses, parents, or patient,but the final say is mostly rest on the physician[10-11]. To make a DNR decision, detailed and comprehensive knowledge on the medical, ethical, and legal aspects of the case is necessary. It usually involves and adheres to the best interest of child, parental wish and organizational DNR policies[12-13].

Existing literature on DNR decision making is more from the adult population and very few are from the pediatric age group [12-14]. However, the data from the pediatric population highlighted the uniqueness of issues in terms of medical and ethical background and emphasizing multidisciplinary approach[15].

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LMIC like Pakistan, financial limitation and constraints in medical resources and specialized care, health care providers face additional challenges surrounding ethical issues[12,16-21]. These challenges make it more necessary for them to be equipped with all the essential updates as they are more involved in frequent and difficult DNR decision making[15,22-23].

There is also the dearth of data regarding the knowledge and attitudes on this subject among health care providers, especially working in LMIC (24-25). Understanding the existing knowledge gaps and potential misconceptions surrounding DNR in pediatric emergency care is essential for developing targeted educational interventions and establishing comprehensive guidelines[24-28].

Therefore, this study aimed to explore the current level of understanding and perceptions of DNR among healthcare providers working in Pediatric Emergency Departments in our region. By highlighting the current status of knowledge among health care providers this study will guide towards improved practices and ultimately enhance the care provided to sick children in low resource settings.

METHODS

It was a cross sectional study done over a period of 6 month from February 2022 till July 2022 in a PED of three tertiary care hospitals of Karachi Pakistan. Our objective is to determine the basic knowledge and perception of DNR among health care providers working in PED of tertiary care hospitals in a resource-limited country. The data was collected through a structured questionnaire.

The questionnaire was designed by the research team, comprising ten questions that focused on the participants' understanding of DNR, their involvement in decision-making, knowledge of DNR sub-categories, perceptions of DNR

implications, and exposure to DNR-related education during their training.

A convenient sampling method was used to recruit participants from the target population, which included both doctors and nurses working in the selected Pediatric Emergency Departments. A total of 59 healthcare providers participated in the study, with 36(61%) being nurses and 23(39%) being physicians.

RESULTS

A total of 59 healthcare providers, comprising 36 nurses (61%) and 23 physicians (39%), participated in the study (Table 1). Among the participants, 83% reported having less than 5 years of professional experience (Table 2), indicating a relatively young and diverse group of healthcare workers. Notably, a substantial portion (78%) of the participants had been involved in DNR decision-making during their careers, underscoring the relevance and importance of this research.

The results indicated that the majority of healthcare workers (85%) were familiar with the term DNR. However, their knowledge of DNR sub-categories, such as "full code" (47.5%), "comfort care" (40%), and "DNR with additional limitation" (30%), was found to be deficient (Fig. 1).

Furthermore, study revealed that 52.5% believed DNR to imply withholding CPR while continuing pharmacological support, 35.6% thought it meant both withholding CPR and discontinuing pharmacological support (Fig. 2).

Table 1: Participants Occupation (n=59)

Physicians	23 (39%)
Nurses	36 (61%)

Table 2: Participants Experience (n=59)

Less than one year	21 (36 %)
One year to Five years	28 (47%)
Five years to 10 years	4 (7%)
More than 10 years	6 (10 %)

Regarding decision-making authority, the results indicated that 63% of participants believed physicians should have the right to decide on DNR, while 59% thought it should be the parents, 20% relatives, 18% nurses, and 17% the ethical committee (Fig. 3).

Interestingly, the study found that 75% of participants reported receiving some form of education on DNR during their medical training. The study data also revealed that 73% of respondents were aware of the organizational DNR policy, but their knowledge of the policy remained incomplete.

Fig. 1: Knowledge of term DNR and related Terms

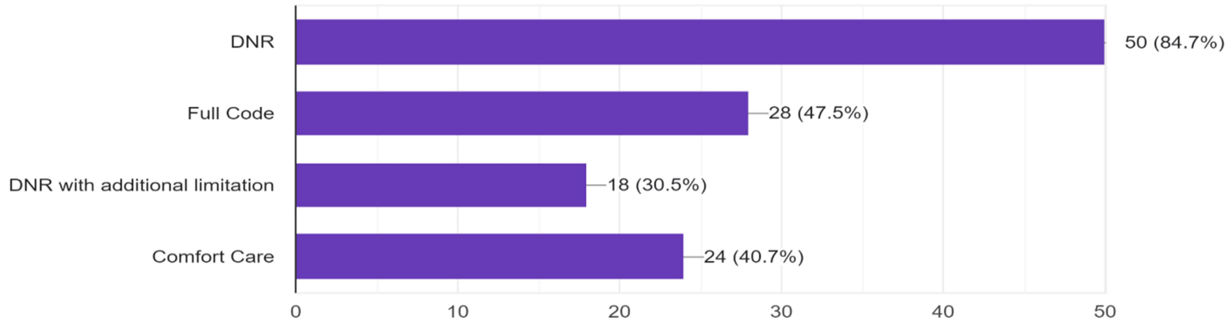


Fig.2: Definition of DNR

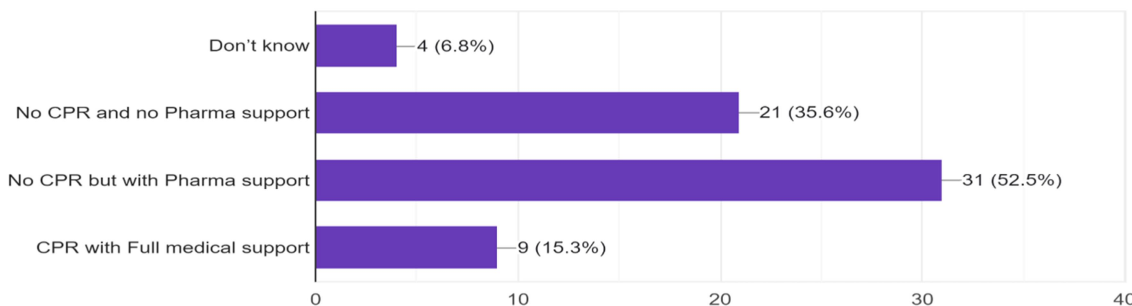
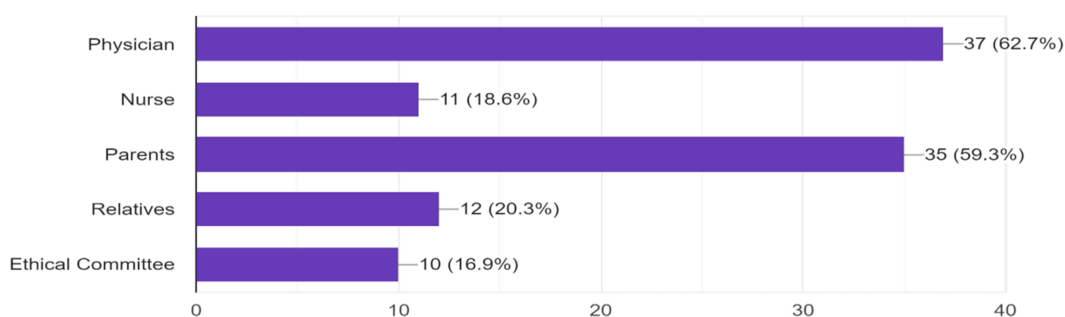


Fig. 3: Right for decision making on DNR



DISCUSSION

This study was aimed to check the basic knowledge and perception about the DNR among health care providers in our region.

This study revealed that almost all the health care providers working in PED knew the term DNR as all of them have been part of this process at some point or another during their career. But knowing the term is not enough for this process. There is a lack of knowledge about the details of DNR and its associated terms.

There is also disparity and variance in knowing the actual meaning of DNR. These differing interpretations may lead to inconsistent practices and highlight the necessity of standardizing the understanding of DNR implications to ensure uniformity in decision-making. This is also emphasized in the article by Qureshi about the DNR decision to have a clear knowledge on this matter[21] The perception of who is the decision maker for DNR is also not uniform in our study participants. This is a similar finding in another study done in Saudia Arabia by Aljethaily et al[15]. This showed a need of consensus guideline and protocols for involving all relevant stakeholders including physicians, nurses, parents, and ethical committee.

Our study results also revealed that most of the participants (75%) have received some teaching from their primary medical school. But the lack of standardization of teaching on dealing with ethical issues isreflected from the results of the study. As the 73% participants aware of the organizational DNR policy but their application is not represented in the study results.

It is noted that our study has certain limitations. The convenient sampling method may have introduced selection bias, potentially affecting the generalizability of the findings. The sample size of the study is also low, which may limit the broader representation of healthcare providers' knowledge across the entire HCP community. This study will direct future research with inclusion of more diverse group of health care professionals who worked in other intensive care areas to make robust protocols and guidelines on DNR decision making.

CONCLUSION

This study gives superficial but useful insight into the physician's knowledge of DNR and its application. Though not generalizable but study revealed a gap of uniform knowledge on this sensitive matter and prompted other researchers and health policy makers to explore more of this ethical dilemma. Making standardized and uniform DNR policy with well-directed education activities towards this sensitive matter can make better patient care and outcomes in pediatric emergency settings.

Authorship and contribution declaration: Each author of this article fulfilled following Criteria of Authorship:

1. Conception and design of or acquisition of data or analysis and interpretation of data.
2. Drafting the manuscript or revising it critically for important intellectual content.
3. Final approval of the version for publication.

All authors agree to be responsible for all aspects of their research work.

Conflict of interest: There was no conflict of interest.

Ethical Consideration: All ethical considerations have been taken.

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