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# BARRIERS AND TRAINING NEEDS OF NURSES IN DEALING PATIENTS WITH BRAIN DEATH ADMITTED AT TERTIARY CARE HOSPITALS, PESHAWAR

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**Abstract**

***Background***

*Brain death (BD) is defined as the irreversible loss of brain function, awareness, and brainstem reflexes and is accompanied by the inability to breathe spontaneously making patients dependent on life support in intensive care unit. Study shows that approximately 10% of deaths in intensive care units (ICU) are attributed to brain death. Nurses play an important role in managing Patients in ICU. Nursing care is not limited to provide physical care to BD patients but their responsibilities extend beyond clinical duties to incorporate the management of families' emotional and psychological needs. However, despite their integral role, the unique difficulties nurses face in caring for BD patient has not been fully explored. Understanding these challenges in depth is essential for enhancing nurses' proficiency as well as improving care for both patients and their families.*

***Objective***

*The objective of this study was to explore the barriers and training needs of ICU nurses dealing with BD patients at tertiary care hospitals of Peshawar.*

***Methodology***

*A phenomenological research design was used to conduct this study. Approval was obtained from the Ethical Review Board (ERB) of Khyber Medical University (KMU), Peshawar. Ten individuals, including both male and female, were interviewed face to face following the purposive sampling technique. Data were recorded, transcribed in the form of verbatim and translated into English language. It was further analyzed, codified and categorized. Finally different themes were extracted through thematic analysis.*

***Result***

*Five different themes were emerged such as workplace and systemic challenges which include resource limitations and staffing shortage. Nurses' emotional and psychological responses, nurses emotionally drained ethical obligation and family expectations. Palliative care is a framework to ensure comfort measures and dignified care and the perceived importance of training in specific nursing care as well as in soft skills like communication and counseling.*

***Conclusion***

*The findings of this research provide valuable insights into the barriers and training needs of nurses who are involved in caring for BD patients often. To overcome these barriers and empower nurses both in theory and practical work specific skills need to be taught in the nursing curriculum as well as in in-service training sessions. Policymakers should develop policies based on these findings to ensure that patients receive optimal care.*

## INTRODUCTION

Death is defined as the irreversible loss of brain function that cannot be regained by any intervention.[1] It is determined mainly based on two criteria i.e. circulatory criteria or neurology criteria also known as Determination by Neurology Criteria (DNC). Brain death (BD) is declared using DNC.[2] The first attempt to define brain death according to DNC took place during the Dr. Henry Beecher-led Harvard conference in 1968.[3] Although Harvard University and the World Medical Assembly together developed procedures to determine brain death all over the world but many countries do not have or do not follow a legit protocol to determine brain death.[4, 5]

The phenomenon of BD presents a unique challenge for healthcare professionals, particularly nurses, who are regularly at the forefront of patient care in especially in the ICU.[6] Understanding the barriers that nurses face in providing care to BD patients is critical not only for improving the quality of care, it also for enhancing the emotional and psychological well-being of both nurses and families involved.[7] In providing care for people who are dying, the nurses role is essential. Often, nurses are the first to identify the clinical indicators of compromised body functions and are the first to assess that a patient should be considered for organ donation.[8] Research has indicated that nurses have various responsibilities, such as locating possible organ donors, efficiently attending to the needs of families of BD patients, disseminating information to the public, and tending to patients who opted for organ donation. [9]

One of the primary issue identified in the literature is the emotional and psychological strain that nurses experience while caring for BD patients. The sudden nature of brain death, particularly in younger patients, can lead to significant emotional distress for both nurses and the families of patients. [10] This emotional burden can hinder nurses' ability to provide optimal care, as they may struggle with feelings of sadness and helplessness in the face of such tragic circumstances.[11] In addition to emotional challenges, there is a significant knowledge gap regarding brain death and organ donation among nursing professionals. Studies have shown that many nurses lack adequate training in the physiological and legal aspects of brain death, which can lead to confusion and uncertainty in their practice. [11] For instance, a study found that nurses often acquire their knowledge through experience rather than formal education, resulting in a lack of understanding of critical concepts related to BD care and the organ-donation process [12]

The knowledge gap not only affects the quality of care provided to BD patients but also impacts the nurses' confidence in discussing these

sensitive topics with families The need for comprehensive educational programs that address both the clinical and ethical dimensions of brain death is thus paramount. [13] Moreover, cultural and religious beliefs significantly influence nurses' perceptions and attitudes towards brain death and organ donation. Another study done in Iran also highlights that religious concerns can create barriers to effective communication and care, as nurses may grapple with their own beliefs while attempting to support families during this difficult time. [14, 15] The training needs of nurses in the context of BD care extend beyond mere knowledge acquisition; they also encompass the development of emotional resilience and coping strategies.

There was a scarcity of information available at the local level and national level. The study has a wider societal implication as the findings are not only relevant for nurses, but also for overall healthcare systems in countries Pakistan, where there is a dire need to implement standard criteria for the care of patients admitted with brain death in critical care units.

This research is of significance as it enlightened the significant areas of training needed for Pakistani nurses in caring for BD patients. The aim of this study was to explore the barriers and training needs of ICU nurses dealing with BD patients at tertiary care hospitals of Peshawar.

## Methodology

This study adopted a qualitative phenomenological research design to explore nurses' perceptions regarding barriers and training needs in managing patients. Phenomenology was chosen as it focuses on uncovering the essence of participants' lived experiences, allowing a deeper understanding of their attitudes and behaviors. The study was conducted in three tertiary-care hospitals in Peshawar, Pakistan: Hayat Abad Medical Complex (HMC), Khyber Teaching Hospital (KTH), and Lady Reading Hospital (LRH). These facilities serve as major referral centers with structured ICUs and qualified nursing staff. The participants included registered nurses currently working in ICUs with at least one year of experience in caring for relevant patients. Both male and female nurses were recruited to ensure diversity in perspectives. Nurses unwilling to participate or those not directly involved in patient care were excluded. A purposive sampling technique was employed to select information-rich participants who could provide deep insights into the phenomenon. This method is widely used in qualitative research, as it allows the intentional selection of participants with relevant experience. The sample size was determined by the principle of saturation—data collection continued until no new themes emerged. Saturation was achieved with ten participants, representing varied demographic and professional backgrounds.

### Data Collection

Data collection was initiated after obtaining approval from the Advanced Study Review Board (ASRB), the Ethical Review Board (ERB), and hospital administrations. Participants were informed of the study objectives, assured of confidentiality, and provided both written and verbal consent. Semi-structured, face-to-face in-depth interviews were conducted in private settings using an interview guide validated by experts. Interviews were recorded with participants' permission and supplemented by observational notes on non-verbal cues.

### Data Analysis

Thematic analysis was used to analyze the transcribed interviews. The process included familiarization with the data, generating codes, searching for potential themes, reviewing and refining themes, and defining them with clear descriptions. NVivo software and manual coding in Microsoft Word were used to ensure systematic organization of data. Themes were supported with participants' direct quotations to illustrate key findings. To ensure rigor, credibility and dependability were maintained through peer debriefing, expert validation of tools, and transparency in analysis. The final report integrated the findings into existing literature,

highlighting implications for nursing practice and training.

## Results and Analysis

### Demographic Characteristics of Study Participants

A total of ten registered nurses participated in the study, equally divided between males and females (50% each). Their ages ranged from 27 to 44 years. Half of the participants held a Generic BSN (50%), while the other half had a Post RN degree (50%). All were serving as charge nurses in ICUs, with work experience ranging from 2 to 7 years; notably, one had seven years and two had six years of ICU experience. Regarding hospital distribution, four participants were from HMC, while three each were from KTH and LRH. [Table 1].

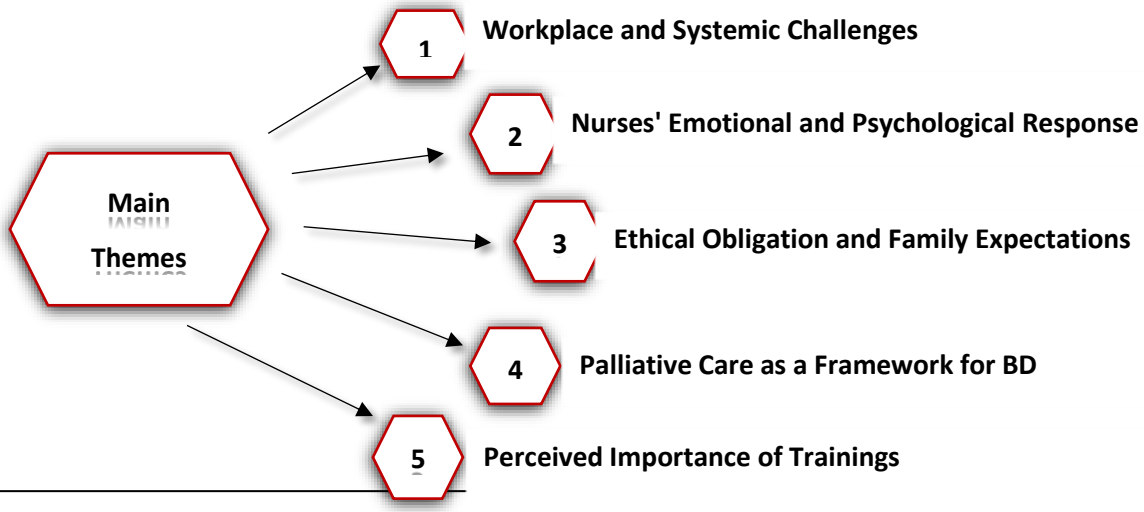
**Table 4.1: Demographic Characteristics of Study Participants**

| Participant | Gender | Age (Years) | Qualification | Designation | ICU Experience (Years) | Hospital |
|---|---|---|---|---|---|---|
| P1 | Male | 27 | Generic BSN | Charge Nurse | 2 | HMC |
| P2 | Female | 28 | Post RN | Charge Nurse | 3 | HMC |
| P3 | Male | 29 | Generic BSN | Charge Nurse | 4 | HMC |
| P4 | Female | 30 | Post RN | Charge Nurse | 5 | HMC |
| P5 | Male | 31 | Generic BSN | Charge Nurse | 6 | KTH |
| P6 | Female | 32 | Post RN | Charge Nurse | 6 | KTH |
| P7 | Male | 33 | Generic BSN | Charge Nurse | 7 | KTH |
| P8 | Female | 34 | Post RN | Charge Nurse | 2 | LRH |
| P9 | Male | 35 | Generic BSN | Charge Nurse | 3 | LRH |
| P10 | Female | 36 | Post RN | Charge Nurse | 4 | LRH |

### Thematic analysis

Thematic analysis was conducted using NVivo and Microsoft Word, following the six standard steps from data familiarization to report writing. Open and axial coding were applied, leading to the identification of ten categories, which were organized under five major themes. These themes, supported by participant quotations and literature, provided a structured framework for presenting the key findings. [Figure 1].

**Figure 1 Key themes surfaced during data analysis**



**Theme 1: Workplace and Systemic Challenges.**

This theme was derived from two categories: Resource limitations & organizational demands and Organization's systemic shortcomings consisting of seven codes – three of the codes were hinted directly related to barriers nurses faced at hospital level due to resource limitation verbalized by respondent

The other four codes were related to hospital/unit system flaws which consist of having no specific protocols for BD, no particular one to report and in a few cases family's violence towards the nurses. According to majority of participants, they often encounter these problems while caring for such patients in ICU. The participants seem to not happy with the way the organization's lack of protocol to deals with such cases.

Participants also shared views about the lack of protocols to be followed by nurses and patients' families once BD diagnosis is made. Therefore, usually the withdrawal process was being delayed by families. The delay in this process further worsened the patient's condition and also increased the burden of work. Participants also talked about the lack of safety security of nurses as they have to face and aggressive family members in dealing with the families which affect their own work and safety. There of participants showed concerns about attendants being physically and verbally abusive

Nursing staff is low. In one shift, but one has staff is 3-4 patients. Patients are there, exactly. So quality care we have to provide, we are doing, but we are not able to give them because of staff deficiency. (P6)

As I told you earlier, we lack resources. We shortage of beds. We have a very high nurse-patient ratio. Nowadays, all the nurses are going abroad. On the other hand, we are not hiring nurses. So, the nurse-patient ratio is very high. (P4)

There are some attendants who are aggressive. They ask why it happened, how it happened, etc. Their language or behavior from the attendants towards us is a kind of barrier to me no any other and work burden which includes: scarcity of resources of including ventilators, medications and other equipment. Increase work load due to increase nurse patient ratio, which is more than the standard ration and burden of care required for BD patient as they are complete dependent on nursing care .

**Theme 2: Nurses' Emotional and Psychological Responses**

The second most abundant theme emerged was the emotional and psychological responses of nurses while caring for BD patients. All most every participant talked about their feeling while providing care. This theme was extracted from two categories being in emotional drain and the imbalance between efforts put towards care to outcome received in return. This theme represented participants' insight view from emotional and psychological perspective. According to participants caring for BD patients had a great impact as they know there will be no optimum output from patient, their condition is irreversible. Therefore few of the participants believed that the treatment BD patients receive is may be pointless and exhaustion of resources.

According to participants good patient outcome was important in nursing care because it drives them to work hard on the case. Knowing the prognosis and outcome beforehand, unconsciously interferes with their care delivery for BD patients and cause sadness for them. Intervenes also highlighted the finical aspect of long-term care (futility care) without having any outcome at the end. One participant particular talked about lack of motivation in providing care to BD patients because of the obvious and predictable occurrence of death These findings showed that nurses faced not only physical hardships but it their mental perspective also get hindered.

I feel very strange because if the brain-dead patient is declared, then I think you are wasting your time. Properly, the patient's family should be

consulted. The patient should be only on Pharma support or DNR code. (P7)

I feel sad. When a patient is assigned to a brain death patient, we confirm as a nurse about the cause of the brain death and assess are the signs and symptoms of brain death. (P9)

*I usually get two patient if I care for the other patient who is not brain death I get out come at the of the shift I see improvement in the patient. But with brain death patient whatever I work hard there is no outcome the patient's condition. (P8)*

**Theme 3: Ethical Obligation and Family Expectations**

The third emerged theme focused on ethic-legal obligation and family expectation. Participant share their thoughts and experience about the situation they find their selves in while caring for BD patients. Participants believed that it is moral responsibility of nurses to provide compassionate care to BD patient. Participants viewed patients as a human being and have the right to care even after BD declaration despite all the limitations. At the same time few participants felt that there is lack of equity between BD patients and other patients. Due to obvious reasons they were not able to give same care to BD patient as compare to normal patient mainly due to limitations. Participant shared their thoughts on role of patient family and felt that sometimes patient's family's unrealistic hope about BD recovery was overwhelming. Thus putting nurses under tremendous mental stress.

Moreover few participants also felt intimidated by family's reaction to BD diagnosis of their loved ones. Family involvement plays a major role in BD care in ICU setting. Since BD patient is not in position therefore nurses and health care personals depended on family for further continuity of care. Hostile family tends to interrupt the environment and may create additional stress for nurse.

Although the patients are BD but cardiac function is good. We just not only look at brain death we consider their heart function also. Therefore, we see them as a normal patient and care for them just like live patient and not like someone who is dead. (P10)

For us, withdrawing treatment, is very challenging because when we take a patient's end-of-life decision, then our religious values are also involved. (P4)

Some family members, they have spiritual and cultural beliefs, so due to that, they hesitate to take decision for withdrawal. It took 4-5 days, for them understand the matter and agree for it. (P7)

**Theme 4: Palliative Care as a Framework for BD**

Majority of the participants believed that opting for palliative care in BD scenarios can enhance the quality of care provided. The participants verbalized that instead of keeping BD patients in ICU palliative care approaches can support both patients and families during the challenging time Since BD patient do not have aggressive treatment and intervention for recovery purpose the focus should be more on reducing any sort of pain and promote comfort which is not possible in acute ICU setting. Participants also highlighted the importance of end-of-life care which should focus on ensuring comfort and maintaining dignity for patient rather giving patient required treatments and prolonging their sufferings.

A holistic care approach was also suggested by the interviewees. According to them BD patients need care beyond mere symptom management and daily care i.e. hygiene care, ventilator care invasive lines care. It encompassed comprehensive support for patients and families in difficult times keeping in mind their spiritual cultural beliefs. All these cannot be done by keeping patients in acute care ICU rather need palliative care units which specializes in all the mentioned areas of care.

As ICU staff, while providing care we should think about the patient as well as the patient's family members. We should think about how we can provide care to the patient and to the patient's family. Therefore I would recommend to show empathy for the patient and to provide palliative care for the patient. (P2)

**Theme 5: Perceived Importance of Training**

When asked about training requirement for nurses then theme five emerged as perceived importance of training almost every participant

highlighted the need for training in order to ensure smooth nursing care delivery to BD patients. Participants were able to share different knowledge and skills which were either facilitate them in their practice or they lack such skills which is hindering their care.

BD assessment skills including GCS monitoring, checking of reflexes and apnea tests were mentioned by participants to have a hand on skill. The interest of participants developed as according to them they have to assess and re-asses patient for BD along with other health care providers. Participants shared the need for a variety of skills set ranging from simple bedside nursing skills to large complex phenomenon ethical phenomenon. Simple bedside skills of feeding, positioning, wound, dressing was particular mentioned.

Participants seemed to be more interested in developing soft skills like, communication skill, breaking bad news and family counseling skills, and recommended to have regular training to be offered to them. According to them nurse role as counselor much appreciated in these situation so that families emotional need can be entertained.

One participant in particular verbalized the need for training for cultural competence skills, in order to provide culturally congruent care to BD patient and their families.

Training, like we talked about, training of palliative care, I have told you, that in care, in training, then communication skills, that how to communicate, then how to show empathy, how to show sympathy, all these things, we have to do training once. All these can make the care a smooth pattern. (P2)

I suggest training. Mostly, I will mention HMC, because I work here. There is no proper counseling or regular training for these things. This should be there. Especially in the ICU, there should be brain death patient counseling. (P7)

The ICU staff should know how to prevent bed sores and how to treat them. IV line, CVP line care, swelling and redness should be taken care of. Which joints should not be taken care of? CVP, IV line care, bed sore care and oral care should be taught to the nurses. (P9)

*Culturally competent skill, for example, if an attendant comes to me, he says, we are praying, and he will be saved, because we are praying for him, according to his religious beliefs, we can't say, that his brain will die. how will he wake up, means, culturally congruent care, or culturally related specific, we should give him care, we should counsel him, counseling, training, culture specific, or religious specific. (P1)*

**Discussion**

Nurses caring for BD patients in ICU face significant workplace and systemic challenges, including insufficient staffing, lack of a 1:1 nurse-patient ratio, and delayed decisions from families about withdrawal of life support. These factors intensify stress and compromise the quality of care, especially in Pakistan where ICU resources are limited. [22] Nurses also reported exposure to violence from families, echoing previous studies that described aggression as normalized in ICU settings, where healthcare workers often see themselves as victims [23].

Emotionally, nurses endure compassion fatigue and distress from transitioning between curative and palliative roles for BD patients. This shift often results in frustration and a sense of futility, particularly when care is perceived as therapeutically ineffective [24]. The emotional burden is worsened when families blame nurses for outcomes beyond their control [25], contributing to burnout and job dissatisfaction.

Ethical dilemmas were evident in inconsistent brain death declarations and the absence of standardized protocols. Some physicians omit critical steps such as the apnea test, raising concerns about the reliability of BD diagnosis [26]. Nurses expressed moral commitment to providing care even to non-donor BD patients, driven by their professional obligation and the ethical principle that all patients deserve dignity [27]. Emotional reactions from families, often rooted in denial and mistrust, further complicate care, highlighting the need for culturally sensitive communication [28].

Participants also emphasized the value of a palliative care approach in managing BD patients and their families, suggesting that aggressive interventions be replaced with comfort-focused

care. As only 14% of people globally receive needed palliative care most in low-resource countries there is a legit need to expand access and integrate it into BD management [29]. Palliative support can ease families' emotional distress and help them process the reality of brain death [77].

Lastly, the need for structured training was strongly advocated by participants. Nurses require both clinical and communication skills to accurately assess BD and support families. A study in the U.S. reinforced that education, checklists, and neurologist-led protocols improve diagnostic accuracy. [30] Additionally, simulation-based and communication training, including breaking bad news and cultural competence, enhance nurses' confidence and family relationships Despite growing evidence supporting training in other fields such as oncology, the acute care setting still lacks standardized assessment tools, underscoring the need for further development

.

## Conclusion

This study explored the experiences of ICU nurses in caring for patients with brain death (BD) and identified significant barriers to delivering optimal care. The findings revealed that nurses face multiple challenges, including inadequate training, emotional strain, ethical dilemmas, time constraints, and limited institutional support. These barriers compromise not only the quality of care but also the emotional well-being of nurses themselves. Resource limitations, such as insufficient staffing, lack of standardized BD protocols, and inadequate access to equipment, further exacerbate these difficulties. The study underscores that without adequate preparation, both in technical knowledge and emotional resilience, nurses struggle to provide holistic and compassionate care for BD patients and their families. Ultimately, the findings highlight the urgent need for comprehensive interventions addressing educational, institutional, and emotional dimensions of BD care.

## Recommendations

1. **Development of Clear Protocols**: Establish standardized guidelines for brain death care to ensure uniformity and clarity in nursing practice.

2. **Training and Education**: Integrate brain death care modules into nursing curricula and provide regular in-service training, including hands-on simulations and case-based learning.

3. **Interdisciplinary Collaboration**: Encourage team-based approaches, fostering collaboration between nurses, physicians, and allied health professionals for consistent decision-making

4. **Emotional and Psychological Support**: Introduce resilience-building programs, stress management workshops, and counseling services to support nurses coping with the emotional burden of BD car

5. **Resource Allocation**: Ensure adequate staffing, availability of essential equipment, and access to updated guidelines to reduce care gaps.

6. **Future Research**: Conduct longitudinal and interventional studies to evaluate the effectiveness of educational programs and to explore the emotional and ethical implications of BD care in diverse settings.

## Strengths and Limitations

A significant strength of this study was its ability to provide deep insights into the experiences of nurses caring for BD patients. Participants had sufficient experience and knowledge regarding the topic under study. The topic deeply resonated with the researcher, sparking a genuine interest therefore approached the topic with a sense of enthusiasm and passion.

The study was conducted in a local context as per the feasibility of time, travelling and accessibility to the hospitals' ICU therefore, it was kept limited to the tertiary care hospitals in Peshawar only. In addition, the researcher had difficulty finding space to conduct an interview because the staff room was mostly occupied.

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