

## Review Article

# The role of nurses in advancing organ donation: a review paper

Mahendra Kumar<sup>1\*</sup>, Shivani Gautam<sup>2</sup>

<sup>1</sup>Institute of Medical Education and Research (PGIMER), Chandigarh, India

<sup>2</sup>SSRB Institute of Nursing, Kakira Dist. Chamba, Himachal Pradesh, India

**Received:** 22 March 2026

**Accepted:** 23 April 2026

### \*Correspondence:

Mahendra Kumar,

E-mail: Kumarmahen9@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Organ transplantation is an effective treatment for patients suffering from end-stage organ failure caused by diseases, accidents, or congenital conditions. However, the success of transplantation largely depends on the availability of donated organs. Despite medical advancements and improved survival rates after transplantation, the demand for organs continues to exceed supply. In India, the organ donation rate remains extremely low compared to many developed countries, resulting in a large number of preventable deaths each year. Limited awareness, cultural beliefs, and misconceptions about organ donation contribute to this shortage. Healthcare professionals, particularly nurses, play a crucial role in promoting organ pledging and increasing organ donation. Through patient and family education, identification of potential donors, counselling, and coordination of the donation process, nurses can significantly influence decisions regarding organ donation. Literature also suggests that training and awareness programs for healthcare workers can improve knowledge, attitudes, and participation in organ donation activities, thereby helping to bridge the gap between organ demand and availability.

**Keywords:** Organ donation, Transplant, Coordinator, Brain dead, Nurses

## INTRODUCTION

Human beings are biologically complex organisms composed of multiple interconnected organ systems that work in a coordinated manner to sustain life. Each organ performs specialized functions, while simultaneously interacting with other systems to maintain physiological balance.<sup>1</sup> Due to this intricate organization, the human body is vulnerable to various pathological conditions. Additionally, traumatic incidents such as road traffic accidents, as well as acute and chronic diseases, can cause significant injury to vital organs, resulting in partial or complete loss of normal bodily functions. In such situations, organ transplantation can provide an effective treatment option. However, transplantation is only possible when organs or tissues are donated, usually after a person's death. Organ donation refers to the voluntary retrieval of human organs or tissues from either a living

individual or a deceased for the purpose of transplantation into a recipient with irreversible organ failure.<sup>2</sup> Since a long-time high rate of organ transplant failure significantly recorded and resulted in restricting the number of successful transplant procedures. However, the development of effective immunosuppressive therapies and improved understanding of transplant immunology substantially enhanced graft survival rates.

Organ donors are broadly classified into living and deceased donors based on the timing and circumstances of donation. A living donor is an individual who voluntarily donates an organ or a portion of an organ during their lifetime, typically to a biologically related family member or a closely associated recipient. Such donations are permitted only after comprehensive medical evaluation, psychological assessment, and legal clearance to ensure donor safety, informed consent, and

compatibility with the recipient; commonly donated organs include one kidney or a segment of the liver, as these can sustain function after partial removal in carefully selected healthy individuals.<sup>3</sup> In contrast, deceased donation occurs after a person has been declared dead, most commonly following the confirmation of brain death according to established medical criteria. In these cases, viable organs are surgically retrieved under strict clinical protocols and allocated for transplantation to patients with end-stage organ failure.

Despite the life-saving potential of deceased donation, factors such as limited public awareness, sociocultural concerns regarding bodily integrity, and misconceptions related to religious beliefs often influence family decisions and may reduce consent rates.<sup>4</sup> By the late 1960s, organ transplantation had progressed beyond kidneys, making liver, heart, and pancreas transplants a clinical reality rather than experimental attempts. In the following decades, especially during the 1980s, continued improvements in research, surgical expertise and peri-operative management show the way for successful lung and intestinal transplantation, further expanding the possibilities of life-saving organ transplantation.<sup>5</sup>

In India, the shortage of organ donors leads to many preventable deaths each year. Nearly 500,000 people die due to the lack of available organs. Around 200,000 deaths occur from liver disease and about 50,000 from heart disease. Approximately 150,000 patients need a kidney transplant, but only about 5,000 receive one. Despite having a population of more than 1.2 billion, the organ donation rate in India is less than one donors per million people, which is extremely low compared to many other countries.<sup>6</sup>

This figure reflects a substantial disparity when compared to several developed nations. Organ donation can take place after death, including in cases of confirmed brain death these individuals are known as deceased donors. Living individuals can also choose to donate certain organs or tissues, such as one kidney or a part of the liver, and still continue to live a healthy life.

Many countries are shifting their organ donation policy from an opt-in system, where people must register to donate, to an opt-out system, where individuals are considered donors unless they refuse during their lifetime. Countries such as Chile, Finland, Greece, Uruguay, Wales, Colombia, Iceland, the Netherlands, England, Scotland, Nova Scotia (Canada), and Switzerland have recently adopted opt-out policies. Some other nations, including Australia, Denmark, Germany, Israel, Romania, and parts of the United States, are also discussing similar changes.<sup>7</sup>

Research suggests that opt-out policies may improve organ donation rates, but they work best when supported by good healthcare infrastructure and effective coordination. In countries like the United States, United

Kingdom, Germany, and the Netherlands, families often give the final consent, and donation rates are about 10-30 per million people, while presumed consent countries often report 20-40 donors per million population. In India, legislation governing organ transplantation was formally initiated when the Transplantation of Human Organs Bill was presented in the Lok Sabha on 20 August 1992. This bill was subsequently enacted as the Transplantation of Human Organs Act (THOA) in 1994, providing a legal framework for organ donation and transplantation in the country.<sup>8</sup> Under the provisions of the THOA, 1994, particularly subsection (6) of section 3, "brainstem death" is legally defined as the irreversible and permanent cessation of all brainstem functions.

This definition serves as the basis for certifying death in cases of deceased organ donation.<sup>1</sup> Across different countries, studies show that awareness about organ donation and transplantation laws generally ranges between 60% and 85%, depending on how knowledge is measured.

However, having basic awareness does not always mean that people fully understand the process or feel confident about it.<sup>9</sup> Low levels of accurate information, common myths, religious concerns, and limited trust in the healthcare system often influence decisions about donating organs after death. These factors can create fear, confusion, and suspicion among family members during emotionally difficult moments. As a result, many families hesitate or refuse to give consent for organ donation, even when it has the potential to save several lives.

The limited availability of transplantable organs is influenced by multiple interrelated factors. Insufficient public awareness and inadequate understanding of the organ donation process remain primary contributors. Misconceptions, cultural norms, and religious concerns often create hesitation toward organ donation. Furthermore, limited knowledge regarding the legal framework and procedural requirements for donation both among the general population and even among healthcare professionals significantly restricts donor registration and consent rates.<sup>10</sup>

Healthcare workers, especially nurses can play a key role in promoting organ donation because they are often the main source of information for patients and families. Their knowledge, attitude, and communication strongly influence the decisions of potential donors and their relatives. By providing correct information and guidance, healthcare professionals can help increase awareness about both living and deceased organ donation.<sup>11</sup>

Therefore, their understanding and positive approach are essential for improving donation rates. Although many awareness campaigns have been conducted for the public, the number of organ donors has not increased enough, highlighting the need for stronger involvement of healthcare professionals.

**METHODS**

This peer-reviewed review article was conducted under the title The role of nurses in advancing organ donation. The review aimed to examine existing evidence regarding nurse’s knowledge, responsibilities, challenges, and involvement in the organ donation process. A comprehensive open-access literature search was undertaken between January 2015 and January 2026 using electronic databases and search engines including Medline, PubMed, and Google Scholar. The keywords used for retrieval were: organ donation, organ transplantation, nurse’s role, knowledge of organ donation, and transplant coordination. The initial stage of the search focused on literature describing challenges related to organ donation, such as identification of potential donors, brain death certification, family consent, ethical concerns, and organizational barriers. The subsequent stage explored nurses’ roles in donor identification, counselling of family members, coordination with transplant teams, and promotion of organ donation awareness. Gray literature was also reviewed to obtain additional evidence related to policies,

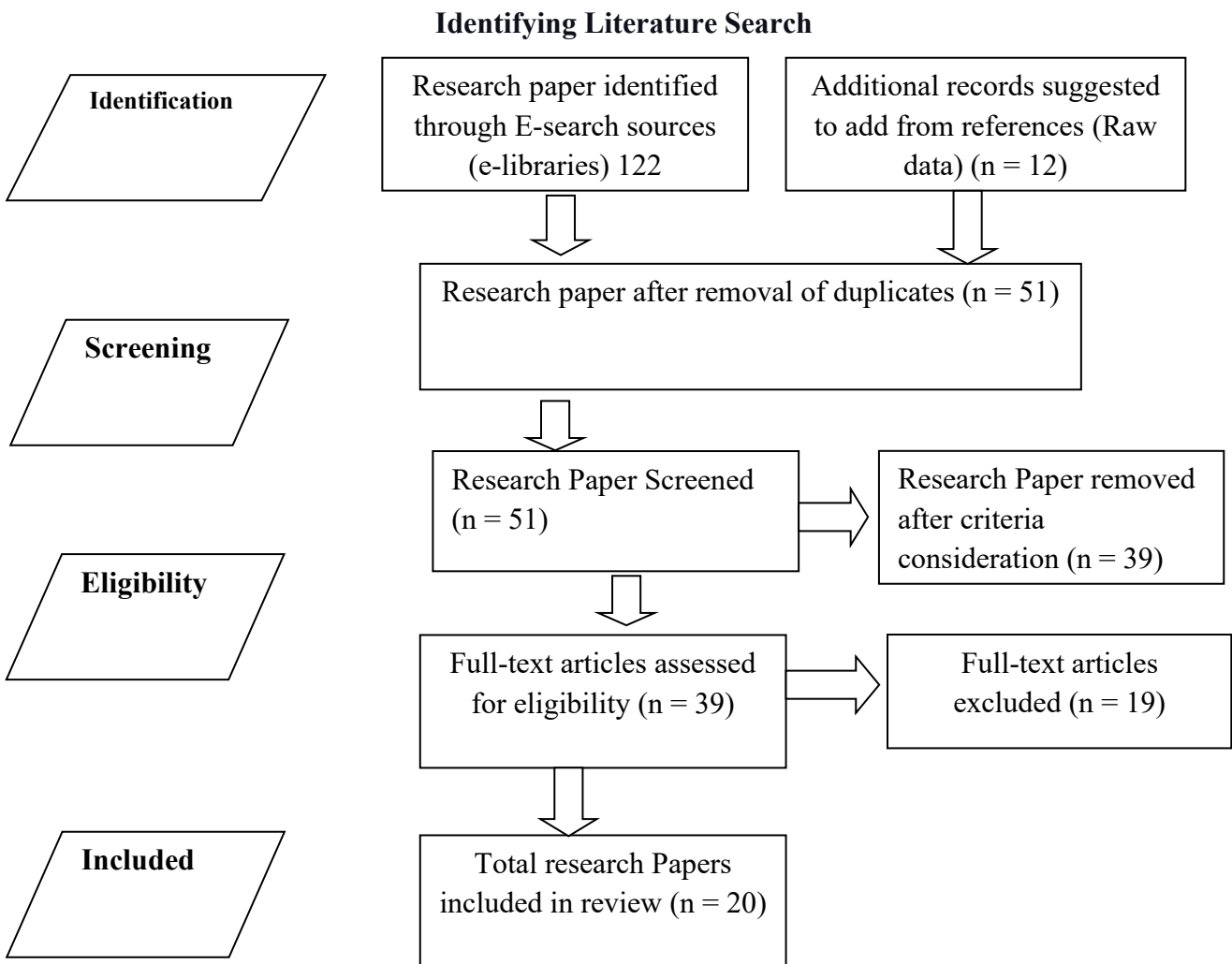
guidelines, and practices in organ donation.

**Inclusion criteria**

The studies included in this review focus on organ donation and transplantation, with particular attention to the role of nurses in the donation process. Only articles published in English were considered. The selection comprised primary research studies, review articles, and letters to the editor that specifically examined nurses’ knowledge, attitudes, and practices related to organ donation.

**Exclusion criteria**

Articles were excluded if they lacked a clear methodology, identifiable data sources, or defined analytical procedures. Non-peer-reviewed publications were also not considered for inclusion. In addition, studies that did not directly address organ donation or the involvement of nurses in the process were excluded from the review.



**Figure 1: PRISMA search strategy and article selection process.**

### **Ethical considerations**

As this review was based exclusively on previously published literature and did not involve direct participant interaction or intervention, formal ethical approval was not required. All sources have been appropriately cited and acknowledged.

The details on the literature search and processes of screening are illustrated in Figure 1. After removing duplicate search and screening of titles and abstracts and characteristics we appraised 39 relevant studies discussed. The remaining did not meet our inclusion criteria and were removed. Finally, 20 full-text studies were discussed in detail and other studies were taken during the stage of evidence synthesis.

A descriptive study by Karaman et al was carried out to understand how intensive care unit nurses support families of patients diagnosed with brain death regarding organ donation. The findings showed that most nurses actively supported families during this difficult time. About 74.5% of the nurses encouraged relatives of patients with actual or possible brain death to openly share their feelings and thoughts, and they listened to them with care and empathy.<sup>12</sup>

Oluyombo et al assessed the level of knowledge and willingness toward organ donation among healthcare workers in South-West Nigeria. The study found that while awareness about organ donation was relatively high, the number of healthcare workers willing to donate their own organs was lower. The authors identified a gap between knowledge and willingness and suggested the need for stronger educational programs to improve positive attitudes toward organ donation.<sup>13</sup>

Alashek et al conducted a population-based study to explore people's willingness to donate organs after death. The results showed that less than one-third of participants were willing to donate, while many others were either unwilling or uncertain. Younger age, male gender, higher education, and unmarried status were associated with a greater willingness to donate. Common reasons for refusal included limited understanding of the benefits of organ donation, uncertainty about religious approval, concerns about the body after death, and discomfort with post-mortem procedures. The authors recommended increasing public awareness and involving religious leaders to address misconceptions and improve acceptance of organ donation.<sup>14</sup>

Another study carried out by Schaeffner and colleagues assessed the understanding and opinions of medical students and practicing physicians regarding organ donation and transplantation. The researchers used a questionnaire to collect information from participants. The study showed that only a small number of respondents felt confident about discussing organ donation with the families of potential donors.

Participants with higher levels of medical education had better knowledge, more positive attitudes toward organ donation, and were more likely to possess an organ donor card.<sup>15</sup>

Tzenalis et al in their study reported that nurses play an important role in encouraging organ donation by providing accurate information to patients and families. Their regular interaction with patients allows them to clarify doubts and address misconceptions related to organ donation and pledging. Educational interventions for nurses were found to improve their confidence in discussing donation with families and increased their participation in donor identification and counselling processes.<sup>16</sup>

Thilly et al conducted a study among critical care nurses highlighted their important role in identifying potential organ donors and coordinating the donation process. The study emphasized that nurses working in intensive care units are often the first healthcare professionals to recognize possible donors and initiate communication with transplant teams. Proper training and institutional support were found to strengthen nurses' involvement in organ donation promotion.<sup>17</sup>

Bertocchi et al conducted a multicentre cross-sectional study among 235 Italian nursing students and found that although attitudes toward organ donation were generally positive, knowledge levels were suboptimal, with only 40.4% feeling adequately informed about transplantation and brain death; willingness to authorize donation was significantly associated with year of study, religious orientation, and self-perceived knowledge, highlighting the need for enhanced educational strategies and public awareness initiatives.<sup>18</sup>

A 2025 scoping review published in *Nursing Reports* examined the role of specialist nurses acting as donation coordinators and found that their involvement was consistently linked to increased organ donation rates, improved identification of potential donors, and higher family consent rates. The review also highlighted better staff preparedness and smoother management of the donation pathway, suggesting that integrating dedicated nurse coordinators into health systems can strengthen both the efficiency and overall outcomes of organ and tissue donation processes.<sup>19</sup>

### **ROLE OF NURSES IN PROMOTING ORGAN PLEDGING AND INCREASING ORGAN DONATION**

#### ***Patient and family education***

Nurses interact with patients and their families more frequently than most other healthcare professionals. Because of this close contact, they are well positioned to provide clear and accurate information about organ donation and organ pledging. Nurses can explain how

organ donation helps save or improve the lives of people suffering from end-stage organ failure. They can also clarify the procedures involved in organ donation and address common doubts, fears, and misunderstandings. When individuals receive reliable information from trusted healthcare professionals, they are more likely to develop a positive attitude toward organ donation and consider registering as organ donors.

#### ***Identification of potential donors***

In hospital settings such as intensive care units, emergency departments, and trauma wards, nurses continuously monitor patients' conditions. Through careful clinical observation and timely communication with physicians and transplant teams, nurses can help recognize patients who may become potential organ donors. Early identification of such cases is important because it allows the healthcare team to follow proper protocols for donor evaluation and organ preservation.

#### ***Counselling and emotional support***

Discussions about organ donation often occur during emotionally challenging situations, especially when families are coping with the critical illness or loss of a loved one. Nurses provide emotional support and compassionate care to family members during these difficult moments. By responding to concerns with sensitivity, nurses help families understand the meaning and value of organ donation. Their empathetic approach can help families feel supported and may encourage them to consider organ pledging as a meaningful decision that can help save other lives.

#### ***Coordination in the organ donation process***

Nurses frequently assist in coordinating different steps involved in the organ donation process. This may include maintaining accurate patient records, communicating with transplant coordinators, preparing patients for procedures, and ensuring that clinical guidelines are followed. In many healthcare institutions, specially trained nurses work as transplant coordinators and manage communication between medical teams and donor families. Their organizational and communication skills help ensure that the donation process is conducted smoothly and ethically.

#### ***Community awareness and advocacy***

Beyond their hospital responsibilities, nurses also contribute to increasing public awareness about organ donation. They often participate in health education programs, awareness campaigns, and community outreach activities. Through public talks, counselling sessions, and educational materials, nurses can encourage individuals to register as organ donors and discuss their decisions with family members. By promoting accurate information and addressing cultural or social

misconceptions, nurses help create a more supportive environment for organ donation in the community.

### **ORGAN DONATION NURSE COORDINATOR**

Many experts have discussed the importance of appointing a specially trained nurse to coordinate organ and tissue donation. Research suggests that creating a formal role for a highly skilled and trained professional, who is responsible for donation outcomes, can improve overall performance in this field. Nurses are well prepared for such responsibilities because their education provides both clinical expertise and strong organizational skills.

In several countries, this role is already well established. These nurses lead multidisciplinary teams and manage the entire donation process. For example, in Spain they are known as Nurse Transplant Coordinators, and in Great Britain as Organ Donor Coordinators. When this role is supported by clear policies, legal frameworks, and proactive hospital strategies, results have improved significantly. Countries that use this model have reported increased organ donation rates, better organ quality, lower healthcare costs especially in kidney transplantation and higher satisfaction among healthcare professionals.

### **REQUIRE ATTRIBUTE OF ORGAN DONATION NURSE COORDINATOR**

Organ and tissue transplant nurses must have strong and detailed scientific knowledge. The skills required for this role are more advanced than those taught in basic undergraduate nursing programs. These nurses are responsible for assessing and caring for deceased donors, transplant recipients, and living donors.

They must be prepared to manage physical, medical, and emotional needs of patients, families, and even the wider community. This includes understanding ageing and providing compassionate end-of-life care. Careful assessment skills are especially important, such as identifying signs of infection or organ rejection in transplant patients.<sup>20</sup>

Transplant nurses work closely with other healthcare professionals and are essential members of the transplant team. They help coordinate care, use medical technology effectively, support research, and ensure smooth program functioning. Strong ethical knowledge is also necessary to evaluate risks, benefits, and social concerns related to transplantation.

Specialist nurses involved in organ donation must possess strong clinical expertise along with emotional resilience, leadership qualities, and clear communication skills. They guide and coordinate multidisciplinary teams, manage essential information, ensure patient safety, and support families during emotionally challenging decisions about organ donation. Their presence and approach often play a

key role in influencing whether a family chooses to give consent for donation. Their responsibilities are wide-ranging. They help in the early recognition of potential donors, provide support to intensive care and emergency department staff, and maintain sensitive communication with grieving families. They also work closely with hospital authorities and external organizations, promote awareness about organ donation among healthcare professionals and the community, and conduct audits after each donation to evaluate the process and outcomes.

## CONCLUSION

When nurses are well informed and confident in their roles, they are more capable of guiding patients and families through the organ donation process. Strengthening nurses' education in this area can therefore contribute to improving organ pledging rates and increasing the availability of donor organs. Literature indicates that although awareness of organ donation is generally present among healthcare professionals and students, gaps persist in comprehensive knowledge, practical engagement, and willingness to donate. Educational level, religious beliefs, cultural perceptions, and exposure to formal training significantly influence attitudes and behaviours.

## Recommendation

### *Nursing practice*

Nurses' understanding of organ donation can be enhanced through structured teaching programs, and strengthening their knowledge enables them to clearly explain the concept of organ donation to patients and their families, thereby increasing awareness within the community. Therefore, it is important to update nurses' training on organ donation and transplantation, and to include this topic within the nursing curriculum. Furthermore, when nurses actively support and register themselves as organ donors, they can serve as role models and encourage greater public participation in organ donation.

### *Need of more research*

Further research can be conducted across different hospitals and healthcare settings with larger sample sizes and over extended time periods to validate and strengthen the existing findings. In addition, studies focusing on the general public's awareness and knowledge of organ donation are needed to better understand the barriers that prevent individuals from pledging to become organ donors.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

- Hall JE. Guyton and Hall textbook of medical physiology. 13th ed. Philadelphia: Elsevier. 2016.
- WHO. WHO guiding principles on human cell, tissue and organ transplantation. Geneva: WHO. 2010. Available at: <https://www.who.int/health-topics/transplantation>. Accessed on 22 February 2026.
- Morris PJ, Knechtle SJ. Kidney transplantation: principles and practice. 7th ed. Philadelphia: Elsevier. 2014.
- National Organ and Tissue Transplant Organization (NOTTO). Annual report. New Delhi: Ministry of Health and Family Welfare. 2022. Available at: [https://notto.mohfw.gov.in/?utm\\_source=chatgpt.com](https://notto.mohfw.gov.in/?utm_source=chatgpt.com). Accessed on 22 February 2026.
- Rithalia A, McDaid C, Suekarran S, Myers L, Sowden A. Impact of presumed consent for organ donation on donation rates: systematic review. *BMJ*. 2009;338:a3162.
- Government of India. Transplantation of human organs and tissues act, 1994 (amended 2014). New Delhi: Ministry of Health and Family Welfare. 2014. Available at: <https://www.notto.gov.in/>. Accessed on 22 February 2026.
- Wakefield CE, Watts KJ, Homewood J, Meiser B, Siminoff LA. Public knowledge and attitudes toward organ donation: systematic review. *Prog Transplant*. 2010;20(4):380-91.
- Kosare S, Gala A. Brain death and organ donation. *Res Inno Anesth*. 2019;4(2):45-9.
- Irving MJ, Tong A, Jan S, Cass A, Rose J, Chadban S, et al. Community attitudes to deceased organ donation: systematic review. *Transplantation*. 2012;93(10):1055-63.
- Karaman A, Akyolcu N. Role of intensive care nurses in organ donation. *Pak J Med Sci*. 2019;35(4):1115-21.
- Oluyombo R, Fawale MB, Ojewola RW, Busari OA, Ogunmola OJ, Olanrewaju TO, et al. Knowledge regarding organ donation and willingness to donate among health workers in South-West Nigeria. *Int J Organ Transplant Med*. 2016;7(1):19-26.
- Schaeffner ES, Windisch W, Freidel K, Breitenfeldt K, Winkelmayr WC. Knowledge and attitudes regarding organ donation among medical students and physicians. *Transplantation*. 2004;77(11):1714-8.
- Oluyombo R, Fawale MB, Ojewola RW, Busari OA, Ogunmola OJ, Olanrewaju TO, et al. Knowledge regarding organ donation and willingness to donate among health workers in South-West Nigeria. *Int J Organ Transplant Med*. 2016;7(1):19-26.
- Alashek W, Ehtuish E, Elhabashi A, Emberish W, Mishra A. Reasons for unwillingness of Libyans to donate organs after death. *Libyan J Med*. 2009;4:110-3.

15. Robert P, Bégin F, Ménard-Castonguay S, Frenette AJ, Quiroz-Martinez H, Lamontagne F, et al. Attitude and knowledge of medical students about organ donation-training needs identified from a Canadian survey. *BMC Med Educ.* 2021;21(1):368.
16. Tzenalis A, Kontesidou E, Kipourgos G, Andreopoulou E, Gkotsi A, Albani E. Nurses' attitudes and knowledge about organ donation and transplantation in closed hospital wards. *J Crit Care Med (Targu Mures).* 2025;11(4):409-16.
17. Thilly Roth N, Åkerman E. Critical care nurses' perceptions and experiences of the organ donation process: a systematic review. *Nurs Open.* 2026;13(1):e70420.
18. Bertocchi L, Petrucci C, Calzetta MA, Dante A, Curcio F, Lancia L, et al. Knowledge and attitudes toward organ donation and transplantation among nursing students: a multicentre cross-sectional study. *Nurs Rep.* 2025;15(6):181.
19. Longo D, Ramacciati N, Giusti GD. Nurse specialist in the organ and tissue donation process with coordination role: a scoping review. *Nurs Rep.* 2025;15(2):39.
20. Kumar M, Dhawan S, Chaudhary A, Dwivedi S, Kumari A. Organ donation in India and nurses as a change to lead in organ donation: scoping review of organ donation. *Asian J Nurs Educ Res.* 2021;11(3):321-5.

**Cite this article as:** Kumar M, Gautam S. The role of nurses in advancing organ donation: a review paper. *Int J Community Med Public Health* 2026;13:2562-8.