





Exploring the Dynamics: A Comprehensive Scoping Review of Factors Influencing Organ Donation Decisions: A Scoping Review

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Abstract

Background: This scoping review explores the key demographic and psychosocial factors impacting organ donation, with a focus on studies utilizing online or digital platforms. We aimed to understand the existing facts that influence to effects of the organ donation decision.

Methods: This review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. A comprehensive search of PubMed, CINAHL, and Medline was conducted using MeSH terms and logical operators to identify relevant studies published in English 2018 to 2023. Studies focusing on the demographics and influencing factors for organ donors of any age were included. Abstract concepts, conference proceedings, and non-English studies were excluded. Data extraction and quality assessment were independently conducted by two reviewers using standardized tools, including the Newcastle-Ottawa Scale, Cochrane Risk of Bias tool, and Joanna Briggs Institute checklist.

Results: Out of 270 records identified, 9 studies met the inclusion criteria. The synthesis of results revealed three major themes: 1) demographic characteristics of organ donors, 2) psychosocial and digital factors influencing organ donation, and 3) interventions promoting awareness and engagement in organ donation. Online and digital platforms play a significant role in shaping attitudes, intentions, and awareness of organ donation. Quality assessment indicated a moderate-to-high level of methodological rigor across the included studies.

Conclusion: This review highlights the key factors influencing organ donation, particularly the role of digital platforms in enhancing awareness and engagement. Future research should focus on leveraging these insights to develop targeted interventions aimed at increasing organ donation rates globally.

Keywords: Tissue and organ procurement; Brain death; Transplantation; Opinion

Introduction

Donating an organ is a crucial aspect of contemporary medicine that could save countless lives. However, people's desire to give up their bodies after they pass away is what ultimately determines whether organ donation is successful (1). Organ transplants are vitally needed because over

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120,048 men, women, and children in the US are on the waiting list for treatments that could save their lives. Sadly, 21 people lose their lives while waiting for an organ transplant every day (2). Despite the significance of organ donation, approval rates for the practice vary greatly between nations and regions, with statistics ranging from 31.3% to 85% (3). Developing measures that effectively promote organ donation requires an understanding of the unique environment and features of each group (4).

The preferred course of treatment for serious organ failure is transplantation. Even though organ donation is widely acknowledged as a worldwide issue, claim for organs exceeds source in almost all nation on the planet (5). Policies to remedy this undersupply can be informed by an understanding of the factors that influence people's decision to give or not. However, in order to fully understand the interplay of various influences, people's ideas frequently need to be comprehended via a larger narrative (6).

Even though the COVID-19 pandemic caused a global drop in transplants performed in 2020 compared to 2019, in terms of transplantation rates, the Americas is the most active region out of the six WHO regions, with 54,084 transplants (55.0 per million people). With 36,181 transplants (42.7 per million people), Europe ranks second (7).

The process of donating an organ is difficult and is dependent on the donors' or their families' generosity. In order for the process to be successful, proper communication between the participating hospitals' healthcare providers must be established. Establishing standardised evaluation criteria for these hospitals' potential could therefore encourage efforts to improve performance (8).

There is a significant global concern over the discrepancy between the supply and demand for donor organs, it is critical to analyse the characteristics of the organ donation process and pinpoint the variables impacting the decision-making process (9).

The complex process of organ donation might totally limit conscious choices if false information

about brain death and donation procedures is ignored or if donor family members' emotional reactions are underappreciated (10). Most organs utilised in transplant recipients come from people who have passed away from brain death. Family members may experience trauma or struggle to decide whether to give their organs (11).

Transplantation and organ donation are still not widely accepted. While organ donation is legal everywhere in the globe, there is a significant supply and demand imbalance in nations like India. Only 6000 kidneys, 1200 livers, and 15 hearts are transplanted in India per year, despite the country's need for 258,000 organs annually, including 185,000 kidneys, 33,000 livers, and 50,000 hearts. The Organ Procurement Transplant Network estimates that a single organ donor might save the lives of about eight individuals. Regretfully, India has a pitiful 0.34 deceased organ donation per million population (PMP) as opposed to 36 PMP in a nation like Spain. Due to this, India has had an organ scarcity, which might be remedied even if only 5%-10% of accident victims donate their organs (12).

The Transplantation of Human Organs Act (THOA) was conceded in India in 1994 and allows a person to commit to donating their organs upon death. The public can also promise to donate different tissues thanks to the 2014 regulations (13). Despite the opt-in system, an individual has the autonomy to decide whether or not to contribute, and in the incident of a brain stem death, the family has the last say over whether or not to make a donation (14). As a result, the family has a significant influence in deceased organ donation since they have to choose whether or not to donate their loved one's organs in order to save other people. According to research, a conflict of values arises when decisions are made differently than they appear to be, is the reason why the majority of relatives stayed stuck in a difficult situation (15),(16). There are a variety of reasons why someone can refuse, including strong emotions, incapacity to make decisions, and a lack of enthusiasm to participate in the donation process (17). There is evidence to support two distinct methods to decision-making: "ra-

tional decision-making" gathering pertinent information and considering all options and "moral decision-making," which involves allowing others' actions to influence one's own decision (18). The literature on organ donation in India is devoid of evidence regarding the elements that impact familial consent, such as beliefs towards brain death or psychosocial and demographic characteristics that may indicate the effectiveness of organ donation (19). Designing interventions and policy discussions aimed at improving donation decisions with family members can be aided by such evidence (20). It is critical to document the views and intentions of household members regarding organ donation in order to enhance understanding of potential strategies for increasing donation rates (21). The goal of the current study was to understand decision-making process and to meticulously document case studies of successful cadaveric organ donation (22).

We aimed to essentially examine the existing facts that influence to effects of the organ donation decision. The research question focus on the following issues: What are the various elements that affect the choice to donate an organ?

Methods

This scoping review utilized various internet search engines and databases to identify relevant studies. The review questions guided the selection criteria, with justifications provided for both inclusion and exclusion. Studies on organ donors of any age, focusing on demographics, were included. Excluded were reviews, abstracts, conference proceedings, letters, commentaries, opinions, and book chapters. Only Englishlanguage studies were considered, with or without comparison groups. A comprehensive quality assessment was conducted using broad critical evaluation guidelines, incorporating PEO criteria to assess the impact on organ donation. This review employed rigorous quality and quantity assessment methods to ensure reliability. The Newcastle-Ottawa Scale (NOS) evaluated

studies based

on

selection,

comparability, and exposure/outcome. The Cochrane Risk of Bias Tool assessed RCTs for selection, performance, detection, attrition, and reporting biases. The Joanna Briggs Institute (JBI) Checklist examined qualitative and quasi-experimental studies for methodological soundness, validity, and credibility.

For quantity assessment, 270 records were identified from PubMed, CINAHL, and Medline. After removing 68 duplicates, 202 records were screened, and 190 were excluded for irrelevance. Nine studies were included after eliminating three due to missing full-text and conference independent proceedings. Two reviewers conducted data extraction, resolving discrepancies via discussion or a third reviewer. Reasons for exclusion were systematically categorized. These robust assessment methods ensured only high-quality and relevant studies were included, enhancing the credibility of findings.

Search Strategy: The databases that were chosen for this study were used throughout the whole data collection process. We searched Pubmed, CINAHL, and Medline. To lessen data saturation, logical operators and keywords were used in the search. It is imperative to demonstrate that a comprehensive, wide-ranging, and exhaustive search was carried out. MeSH words used for the search. Search strategy involved (((((Tissue and Organ Procurement [MeSH Terms] OR Brain Death [MeSH Terms] OR Tissues [MeSH Terms] OR Transplantation [MeSHTerms] Tissue OR Donors [MeSHTerms]))))) AND (((attitude MeSH Terms] OR opinion [MeSH Terms] OR intention [MeSH Terms]))). Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) standards were followed. To guarantee research endorsed updated methods for providing for organ donation, we only included publications from the 2018 to 2023

Study Selection: Two authors independently reviewed all papers that were found through database searches using MESH terms and worked with a third author to address disagreements. After obtaining the full texts of

observational

the studies selected at level one, each one was subjected to an independent evaluation by the same two writers to ascertain its eligibility. The reasons for exclusion were carefully documented and categorised.

Data Extraction: Two reviewers independently collected the data from each report. The study design, Time period, participant characteristics, description of the intervention, maternal outcomes, findings, and limitations were all gathered using a standard proforma. Two reviewers collected data and worked independently.

Quality and Bias Assessment: Publications are quantitatively assessed using the Newcastle-Ottawa Quality Assessment Scale (34) by allocating according to the selection,

comparability, and exposure categories. Randomised controlled trials (RCTs) addressing several facets of trial design, conduct, and reporting were analysed using the Cochrane Risk of Bias (35) tool. The checklist-based Joanna Briggs Institute tool (36) was utilised to evaluate the qualitative and quasi-experimental investigations.

Search Results: After conducting a Boolean search for pertinent terms, 270 records were found. Only 122 records could be found in CINAHL, 88 in Medline, and 70 in PubMed. PRISMA flow diagrams were created and are shown in Fig. 1. A few items were removed since they had no bearing on the study's topic.

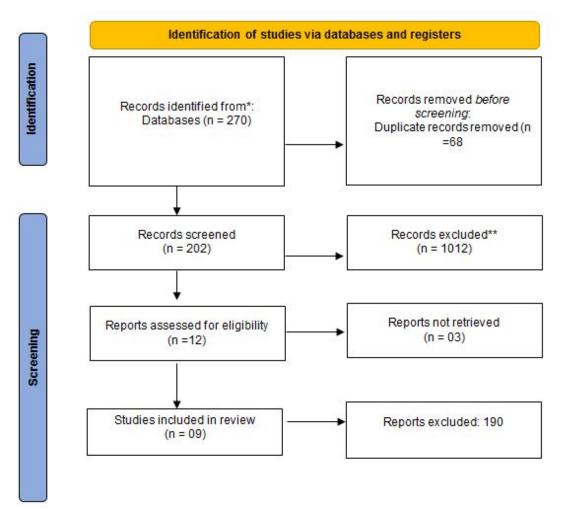


Fig. 1: Prisma Flowchart

The abstracts of every article were looked at after the duplicates were omitted. After 68 duplicates were omitted, 202 records were deemed appropriate and qualified for the following screening. 190 records were omitted from the screening process by two separate authors for various reasons, including that the interventions were not based on online or digital platforms (n = 92), that the age group was over 25, n = 88, and n = 10 that the interventions had no relation to the intended outcomes. Three articles were excluded from the remaining twelve due to the unavailability of full-text access for one study and classification of two as conference proceedings.

Synthesis of Results: The studies are summarised in Table 1. Synthesis of results followed convergent synthesis where numerous outcomes gathered both before and after the intervention, and were assessed using self-reports, post intervention questionnaires and results targeting the research questions which specifically discussed in three sections which are the factors influences for organ donation to the organ donor.

Results

Tables 1,2 depicts the study characteristics and details are discussed as follows.

Table 1: Study characteristics

Table 1. Study characteristics					
Author and Reference	Year of the study	Sample size	Age of par- ticipants	Exposure	Key findings
Akpınar Söylemez et al (23)	2023	600 patients	21 yr	Nil	On the Organ Donation Attitudes Scale, the students' mean scores for the positive and negative items were 105.84 ± 12.61 and 45.91 ± 15.74 , respectively. The views of the students towards volunteering and organ donation were encouraging.
Jameel Soqia et al (25)	2022	600 participants	35 yr	Nil	For 62.8% of individuals who, after they passed away, decided to donate their organs because they wanted to help others. For males, the main cause of organ refusal was religious convictions; for females, main causes were lack of knowledge and religious beliefs.
Webb, Gwilym et al (26)	2021	1549 adult	18 to 65 yr	Nil	Eighty percent of people would think about giving up all or part of their organs. Age, race, and religion all had an impact on this support.
Renad S. AlSubaie et al (27)	2020	General population	18 to 60 yr	Nil	Donation attitudes differed: 42.4% of respondents were willing to donate, whilst 57.6% were not. Donation reluctance was influenced by psychological barriers, health concerns, pain, and insufficient knowledge.
Vanessa Stadlbauer et al (29)	2021	354 students	20 to 30 yr	Nil	Family history had an impact on respondents' knowledge of organ donation, their strong opinion-expressing rate, and the proportion of respondents who have this knowledge conversation rather than conversations at school. Knowledge and attitudes on organ donation were also influenced by age, gender, nationality, and religion.
Xiulan Chen et al (30)	2019	501 vey of young	18 to 25 yr	Nil	Surveyed reviled that, 15.2% knew that laws and regulations pertaining to organ donation existed, whereas 99.2% were aware of the practice and 47.1% were eager to donate their organs.
Mohammed Y. Alessa et al (28)	2022	443 Saudi residents	18 to 50 yr	Nil	Social media had an impact on participants' attitudes towards organ donation, 187 of them (96.4%) described it as a positive effect that was significantly connected with the readiness to donate organs (P=0.006), with nearly half of them (51.6%) believing that it was so.
Panel Oktay Demirkiran et al (24)	2020	Three hundred and seventeen	18 to 50 yr	Nil	People's decisions to donate their organs are influenced by cultural and religious considerations. Our survey of Turkish respondents revealed that religious motivations are especially successful in encouraging organ donation.
Liu et al (22)	2018	20 hemodialysis patients	55 yr	Nil	Positive decisions regarding transplantation were correlated with higher levels of education, self-worth, decisiveness, and support; optimism and a propensity for taking risks did not. Decision-making abilities and personality traits were found to be strongly correlated.

Author and Refer-Risk of Bias Criteria Assessment Comments ence Akpınar Söylemez et Selection, Performance, Low risk of Proper randomization and blinding procedures **Detection Bias** bias al (23) used. Jameel Sogia et al (25) Low risk of Selection, Performance, Clear inclusion/exclusion criteria and adequate **Detection Bias** bias blinding methods. Webb, Gwilym et al Selection, Performance, Low risk of Adequate participant selection and data collec-**Detection Bias** bias tion methods, with clear reporting Low risk of Random selection and good quality of data Renad S. AlSubaie et Selection, Performance, al (27) **Detection Bias** bias collection and reporting. clear participant selection, with no significant Vanessa Stadlbauer et Selection, Performance, Low risk of al (29) **Detection Bias** bias bias identified. Xiulan Chen et al (30) Selection, Performance, Low risk of proper sampling and evaluation methods, with **Detection Bias** adequate participant selection. bias Mohammed Y. Alessa Selection, Performance, Low risk of Inclusion of diverse groups with adequate bias **Detection Bias** bias control methods et al (28) Selection, Performance, Low risk of Panel Oktav Sample is representative, and biases minimized Demirkiran et al (24) **Detection Bias** bias through proper design. Selection, Performance, Low risk of Small sample size, but strong methodology and Liu et al (22) **Detection Bias** low risk of bias in study design. bias

Table 2: Risk of Bias Assessment for Each Study

The above studies characteristics were followed by, Turkey (23), (26), Syria (24), England (25), Saudi Arabia (27), (28), Austria & Switzerland (29), China (22), (30). Most of the studies were cross sectional survey studies some of survey study some of paper based survey study and some of exploratory study. The used were not having any exposures. The key finding was as follows:

Knowledge and information regarding organ donation

One of the most common barriers mentioned was a lack of understanding regarding organ donation and the procedures involved. Families believe they should not give up hope for their loved ones' survival as long as their heart continues to beat, they are still alive, and their bodily organs continue to function (31).

Akpınar Söylemez et al (23) draw attention on the students' opinions towards volunteering and organ donation were encouraging. Despite their humanitarian and altruistic intentions, they may be reluctant to donate their organs due to concerns of medical malpractice and physical harm.

They fiercely oppose organ donation. A similar supporting study of Nguyen D (32) draw attention to the misconception about regaining brought on by prior knowledge of coma recovery. According to a different study, most families have the incorrect belief that brain death is reversible and have the wrong perspective on it. There is no relationship between age, gender, or even educational attainment, suggesting that various societal groups may be included in the system (24). Although many understand its significance, potential donors are discouraged by ignorance of its details and donation process (27).

Religious Belief

Culture and religion have an impact on people's decisions to give their organs (26). The rate of permission for organ donation varies depending on factors including cultural beliefs, religion, conventions, and traditions. One of the most important aspects of decision-making is the influence of cultural and religious beliefs. According to a similar supporting study (33), there are differences in the consent rate depending on whether a person believes in fate, accepts death as inev-

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itable, survives after death, or continues to exist after death. Similarly, religion and culture have a significant influence on organ donation, with Muslims in particular holding religious beliefs that have great significance for many Asians (34). Because organ transplantation is legally recognised by the Catholic faith as a "service of life," persons who identify as Catholics were having a more positive attitude towards organ donation. Although their knowledge of organ donation was limited, young people were aware of it (30). The kind of household registration, degree of education, and religious affiliation all strongly influence a person's propensity to donate.

Personal donation

When it is suitable, organ donation takes place (25). Priorities should be given to ascertaining a person's intentions prior to death, making sure that any misunderstandings are cleared up before a choice is made, promoting and enrolling new members, and confronting those who would like to disregard the wishes of others. The features of the deceased were identified and a supporting study conducted by Beigzadeh A et al (33) as one of the critical criteria that influence the satisfaction process. In actuality, the willingness of the deceased to consent to donation prior to death is one of the most predictive elements in the decisions made by families regarding donation. Families' reasons for donating organs would be indirectly impacted by the patient's prior expression of desire and quickness in signing up (35). The consent rate in this case would be 95%. Over 80% of families' consent to donation provided they are aware that their loved one had consented to it beforehand (36). As a result, in this instance, the deceased's approval as well as the happiness of the family are crucial. Since knowledge and attitudes on organ donation were positively correlated with having had family discussions, a theoretically modifiable feature(29), we hypothesise that educational programmes encouraging family discussions on organ donation may be a promising way to raise knowledge.

Fear of donation

Similar beliefs about donation, such as the two main fears that were brought up were the worry of not dying at the time of donation and the fear of feeling pain after death. When it came to signing an organ donor card, donors showed a high level of perceived self-efficacy and acceptance of death, while nondonors significantly feared death and had bodily anxiety (37).

The role of media

Assuming a patient with brain death can recover and the imposition of a dubious attitude towards death are two ways in which the media plays a part. Some of the families may choose not to receive donations in this way. Families' decisions to accept donation appear to be influenced by films that show organ sales and exchanges as well as the possibility of patients returning to life (25). Relatives were exposed to a substantial amount of information regarding organ donation through the media, the majority of which was regrettably unfavourable (38). A similar study brought this issue up as well (39). The videos that the media shows its viewers can lead to families becoming less certain about organ donation.

Discussion

Organ donation is a vital component of medical care that has the power to save many lives. However, understanding the dynamics influencing individuals' decisions regarding organ donation is complex and multifaceted. In the review study titled "Unravelling the Dynamics: Understanding the Multifaceted Influence on Organ Donation Decisions," the authors delve into this complexity, aiming to provide insights that can inform strategies to increase organ donation rates. In this discussion, we will compare this study with other similar research to glean a comprehensive understanding of the factors influencing organ donation decisions.

A number of factors influence whether or not organ donation is accepted. Accepting brain death is one of the other effective aspects in donation. Since acknowledging brain death makes donation possible, we advise the medical staff to make sure families are informed about brain death at the time of donation. Families should be provided with clear and understandable information in order to accomplish this goal (40). Professionals working in the organ donation process give families a sufficient framework in which to accept the reality of brain death. The medical team must adhere to all clinical guidelines and protocols pertaining to brain death. The medical staff makes every attempt to allay concerns and uncertainties regarding any kind of decision (41). To make the greatest use of them, this person should also be aware of the reasons for consent and refusals about organ donation (7).

One of the prominent themes in studies on organ donation decisions is the influence of culture and religion. For instance, research stated how cultural beliefs and religious doctrines significantly impact individuals' willingness to donate organs (42). Similarly, cultural attitudes towards death and the afterlife play a crucial role in shaping organ donation decisions within specific ethnic communities (43). These findings align with the review study's emphasis on the need for culturally sensitive approaches to promote organ donation. Socio-economic factors also emerge as significant determinants of organ donation decisions. The disparities in access to information and healthcare resources, which influence individuals' ability to make informed decisions about organ donation (28). Moreover, socio-economic status can affect perceptions of altruism and the willingness to engage in charitable acts, including organ donation (44).

The review study underscores the role of psychological factors, such as fear, distrust, and misconceptions, in shaping organ donation attitudes. Similarly, research reveals how fear of medical procedures and distrust in the healthcare system act as barriers to organ donation among certain demographic groups. Understanding and addressing these psychological barriers are crucial for designing effective interventions to promote organ donation (45).

Finally, the review study emphasizes the importance of policy and institutional frameworks in facilitating organ donation. This aligns with findings which highlight the role of legislative measures, public awareness campaigns, and healthcare infrastructure in shaping organ donation rates (46). By comparing different policy approaches and institutional practices, researchers can identify best practices for promoting organ donation within diverse socio-cultural contexts Escoto et al (47).

Policy and institutional frameworks establish the legal, regulatory, and ethical parameters within which organ donation operates. By implementing evidence-based practices, promoting transparency and accountability, and prioritizing ethical considerations, policymakers and healthcare stakeholders can strengthen the organ donation system and enhance opportunities for lifesaving transplantation.

Study Limitations

- 1. **Limited Scope:** Restricting studies to English publications from the last 12 years may exclude valuable older or non-English research. Excluding grey literature and conference proceedings may overlook emerging trends.
- 2. **Non-Digital Factors Ignored:** The study focuses on digital platforms, potentially overlooking cultural, religious, or healthcare system influences on organ donation.
- 3. **Search Bias:** Lack of explicit efforts to ensure global representation may limit geographic diversity in findings.
- 4. **Small Sample Size:** Only 12 out of 270 studies met inclusion criteria, limiting generalizability.
- 5. **Digital Access Limitations:** Emphasis on online platforms may exclude populations with limited digital access, such as those in rural or low-resource settings.
- 6. **Assessment Subjectivity:** Despite standardized tools (NOS, Cochrane, JBI), subjective judgment in quality assessment may introduce bias.

- 7. **Generalization Risk:** Broad thematic synthesis may oversimplify nuanced factors influencing organ donation.
- 8. **Short-Term Focus:** Predominantly cross-sectional studies limit insights into long-term behavioral changes.
- 9. **Intervention Gaps:** The review lacks details on intervention effectiveness, scalability, and implementation challenges.
- 10. **Reliance on Secondary Data:** Findings depend on existing study quality, limiting novel insights or hypothesis testing.

Conclusion

The review study "Unravelling the Dynamics: Understanding the Multifaceted Influence on Organ Donation Decisions" provides valuable insights into the complex array of factors shaping individuals' attitudes towards organ donation. By comparing this study with other similar research, we can appreciate the nuanced interplay between cultural, religious, socio-economic, and psychological factors in influencing organ donation decisions. Moving forward, it is essential to continue exploring these dynamics and developing targeted interventions to enhance organ donation rates and ultimately save more lives.

Policy makers, managers, and the responsible organisations can use the factors that our study defined as influential and linked to acceptance or rejection of organ donation in their planning. To boost the possibility of organ donation, they should take these things into account. The findings of this investigation can also be applied to the development of a unique tool for assessing and establishing the importance of these variables in subsequent research projects. Finally, but just as importantly, our research can be used to inform the education of doctors, nurses, and medical students.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or

falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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Conflict of interest

The authors declare that there is no conflict of interests.

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