

Modern Imperatives of Organ Donation: Ensuring Survival at the Edge of Life A Narrative Review

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² Organ donation is the legal process by which a person allows their own or their kin's organs to be removed and transplanted into another person, this can happen while the donor is still alive or after death with the donor's next of kin's consent.¹ There are two forms of organ donor: (i) Living Organ Donor: A person may donate one kidney, a portion of the pancreas, or a portion of the liver etc. during his or her lifetime. In India the age limit for living organ donation is equal or more than 18 years age. (ii) Deceased Organ Donor (Cadaveric organ donation): A person may donate multiple organs and tissues after brain-stem/cardiac death after the consent of first-degree relatives.¹ The brain death is irreversible and permanent end of all the brain functions; such persons are kept on artificial support (ventilation) to maintain oxygenation of organs so that organs are in healthy condition until they are removed. whereas when a person suffers a cardiac death, the heart stops beating and due to lack of circulation of blood the vital organs quickly become unstable for transplantation; however, if person is on ventilators and if it is medically clear that the person could not survive; then family can consider organ donation for certain vital organs.

For organ donation, there are two main methods to determine voluntary consent: (i) Opt-in (Explicit Consent): One would have to sign up to be an organ donor, or rather, it is assumed that nobody is an organ donor unless they voluntarily do so. This system is followed in India. (ii) Opt-out (Presumed Consent): It means that, hospitals would be permitted to remove people's organs unless they choose to opt out of the donor registration or their relatives objected. But this consent structure and process is based on sociological fears. This system is existed in Argentina, Chile, Colombia, Spain, Austria, Belgium, Scotland, England, Wales.²

To pledge for organ donation, a person has to fill an online form to register on www.notto.gov.in website or an offline form at any nearby organ donation organization then can receive donor card and the organ recipient has to be registered by concerned hospital through online registration form on www.notto.gov.in website

31 under THOTA (Transplantation of Human Organ and Tissue Act). Allocation of
32 organs will be done first based on state waiting list, if no recipient is available in state
33 waiting list then allocation will be done in same Regional Organ and Tissue
34 Transplantation Organizations wise then to nearby state and then other Regional
35 Organ and Tissue Transplantation Organizations nationally. Donated Organs of
36 Pediatric donor (<16 years) first will go to pediatric patients, if any pediatric patients
37 are not available then to it is allocated to adult patients. Organs from donors with
38 blood group 'O' will be allocated to recipients with blood group 'O', then to any other
39 group, other than 'O' blood group.²

40 Global organ donation rate in 2021 was 4.77 per million population.
41 Which was decreased from 5.78 per million population in 2020 and 6.97 per million
42 population in 2019. Organ donation rate of South East Asia was 0.44 per million
43 population in 2021, 0.47 per million population in 2020 and 0.63 per million
44 population in 2019.³ Although India has been performed the third largest number of
45 transplants in the world in 2019 (after United States and China), still it lags far behind
46 the western nations like Spain (49 pmp), United States (36.88 pmp) in national organ
47 donation rate of only 0.52 per million population in 2019, 0.25 per million population
48 in 2020 and 0.4 per million population in 2021 due to lack of awareness and so many
49 reasons.⁴ According to the World Health Organization, only around 0.01 percent of
50 people in India donate their organs after death in comparison of 70-80% people in
51 western countries.^{5,6} Some of the reasons behind such poor performance are lack of
52 public awareness,⁷ religious or superstitious beliefs among people, and strict laws.
53 'World Organ Donation Day' is observed annually on August 13 to promote organ
54 donation and motivate others to do the same. The day has been set aside to raise
55 awareness of the importance of organ donation. In 1954, Ronald Lee Herrick donated
56 his twin brother a kidney in the first-ever organ donation. The treatment was carried
57 out by Dr Joseph Murray, who also received the 1990 Nobel Prize in Physiology or
58 Medicine for his contributions to the field of organ transplantation. Recently it was
59 celebrated in 2022 with the theme - 'let's pledge to donate organs and save lives'.⁸

60 **Organ donation in India:**

61 Organ donation is very helpful for the grieving process. Furthermore,
62 many donor families take relief and consolation due to organ donation. Initially the

63 organ donation transplantation was unregulated and organ trafficking was rampant so
64 the primary legislation related to organ donation and transplantation in India was
65 passed in 1994 named as Transplantation of Human Organs and Tissues Act (THOTA
66 1994) and was amended in 2011 and rules were notified in 2014⁹ except in Andhra
67 Pradesh and Jammu and Kashmir, as these States have their own laws.¹⁰ This Act is
68 aimed at regulation of removal, storage and transplantation of human organs for
69 therapeutic purposes and for prevention of commercial dealing in human organs. Even
70 after amendment in Act, there was no authority for handling organ transplantation
71 processes in States and no any dedicated staff for registry, surveillance, awareness or
72 training for organ donation and transplantation and in India, according to a non-profit,
73 non-government organization-‘MOHAN Foundation’ (Multi Organ Harvesting Aid
74 Network Foundation, established in 1997 in Tamil Nadu); a total of only 530 organs
75 were retrieved from 196 multi-organ donors in 2012 and 852 organs from 388 multi-
76 organ donors in 2013 resulting in national organ donation rate of 0.16 per million
77 population in 2012 and 0.26 per million population in 2013. In 2014, 1150 organs
78 were retrieved from 411 multi-organ donor (0.34 per million population)¹¹. Due to
79 such low Organ donation rates, almost 90% people in India die despite their name on
80 waiting list. So to bridge the gap between demand and supply of organs/Tissues of
81 transplantation, to improve access for needy citizens and to organize and monitor an
82 efficient mechanism and system, Government of India has implemented National
83 Organ Transplant Programme (NOTP), which carry out the activities as per
84 amendment Act for training of manpower and promotion of organ donation from
85 deceased persons. Under this programme, in 2014, an apex level organization,
86 National Organ & Tissue Transplant Organization (NOTTO) was established at 4th
87 Floor, National Institute of Pathology, NIOP Building, Safdarjung Hospital Campus,
88 New Delhi under Directorate General of Health Science, which has components of
89 National networking, National Registry, National level Biomaterial center and facility
90 of cadaver organ and tissue retrieval Operation theatre. There are 5 Regional Organ
91 and Tissue Transplantation Organizations (ROTO) and 12 State Organ and Tissue
92 Transplantation Organizations (SOTTO) in India. NOTTO has announced July as
93 organ donation month in 2022 to commemorate 8 July 1994, when Transplantation of
94 Human Organs and Tissues Act was sanctioned and 3 August as ‘Indian Organ
95 Donation Day’ to commemorate India’s first Deceased Heart transplant in India on 3
96 august 1994.¹²

97 In various situations even the organs are available, organ wastage is
98 also a factor due to very short and critical time interval between harvesting and
99 transplantation of the organ. Studies have suggested that the chances of the
100 transplantation being successful are enhanced by reducing this time delay.¹³ The time
101 between recovering and transplanting is 72 hours for kidney, 24 hours for pancreas
102 and liver, 4 hour for heart, 4-6 hour for lung, 14 days for cornea, 5 years for bone and
103 skin and 10 years for heart valves. Due to such very short range of time, creating a
104 tissue bank (heart valves, skin, bones, cornea, etc.) is possible but creating an organ
105 bank is not.¹⁴

106 Therefore, transportation of the organ is also a critical factor. For this
107 purpose, "green corridors" have been created in many parts of India, which refers to a
108 route that is cleared out for an ambulance carrying the harvested organs to ensure its
109 delivery at the destination in the shortest time possible. Green corridors are generally
110 used for transporting heart and liver, which have the shortest preservation times of 4
111 to 6 hours and 12 to 15 hours, respectively.¹⁵ The hospitals involved in a
112 transplantation, city traffic authorities, and in certain cases, airport authorities
113 collaborate to transport an organ from one hospital to the next.¹⁶ The formal name of
114 "Green Corridor" was given in July 2014 when a hospital and police
115 in Chennai coordinated to transport a heart from one hospital to another in half the
116 regular time. This system has been used effectively in cities such
117 as Mumbai, Gurgaon, Hyderabad, Bangalore, Kolkata, and Indore.¹⁷

118 **Organ Donation in States of India:**

119 The number of deceased organ donations in India grew gradually from
120 2012. The total number of multi-organ deceased donors in 2012 throughout India was
121 196 (0.16 pmp), which was doubled in 2014 to 411 (0.34 pmp)¹¹ and further increased
122 to 552 (0.4 pmp) in 2021.³

123 In Rajasthan, The Department of Medical Education has taken up the task
124 of promoting deceased organ donation and transplantation in the state to overcome the
125 organ shortage problem. The State Organ and Tissue Transplantation Organization
126 was established in 2nd floor of academic block of Sawai Man Singh (SMS) Medical
127 college in 2019. The first deceased organ donor in the state was a 7yearold boy Mohit

128 Kumar who became brain dead following an accidental head injury. On 6th February
129 2015, his both the kidneys were transplanted into a 50-year-old man Mahatma Gandhi
130 Hospital, Jaipur and the liver was transplanted into a 10year old boy at the Institute of
131 Liver and Biliary Sciences in Delhi. The second deceased organ donor was a 14-year-
132 old girl Radha Rani. She was brought to, Sawai Man Singh (SMS) Hospital, Jaipur on
133 22nd February 2015, in a critical condition. She was declared brain dead on
134 24th February, her kidneys were transplanted into two patients at SMS Hospital while
135 her liver was sent to the Army Research & Referral Hospital in Delhi through a
136 special Indian Air Force helicopter, where it was transplanted into a patient who was
137 the wife of a soldier.¹⁷ In Rajasthan, first heart transplant was conducted in August
138 2015 at Mahatma Gandhi Medical College & Hospital, Jaipur, when 18 year old road
139 accident victim was declared brain death, his heart was transplanted to 32 year old
140 patient of hanumangarh after consent of family.¹⁸ SMS Hospital conducted its first
141 liver transplant in February 2017 with support from experts of Delhi's Institute of
142 Liver and biliary science (ILBS) and first heart transplant in February 2020.¹⁹

143 In Rajasthan, to release patients form expenses, Organ donation also has
144 been included to the Chief Minister Chiranjeevi Health Insurance Scheme
145 (Mukhyamantri Chiranjeevi Swasthya Bima Yojana). The yearly medical coverage
146 sum has also increased from Rs 5 lakh to Rs 10 lakh, with an additional accident
147 cover worth Rs 5 lakh. Packages of this scheme includes five packages of cochlear
148 implant, nine of bone marrow transplant, eight of liver transplant and seven of heart
149 and kidney transplant. This would allow people to receive expensive treatment of
150 such diseases free of cost.²⁰

151 To keep encouraging people for organ donation, India's first 'Organ Donor
152 Memorial' (Angdata Smarak) was inaugurated in Jaipur, Rajasthan by the Honourable
153 Chief Minister of Rajasthan Mr. Ashok Gehlot on 27 November 2020 (National
154 Organ Donation Day) through the efforts of Navjeevan-MFJCF (MOHAN Foundation
155 – Jaipur Citizen Forum) with the theme of 'ek khamoshi-anekmuskaan, aaokarein
156 angdaan'.^{21,22}

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161 This memorial is an epitome of love and compassion towards mankind and
 162 its design is inspired from the famous sculpture of Jaipur, the Jantar Mantar.

163 Despite of continuous efforts, in Rajasthan there is huge difference in
 164 demand and supply for organ transplant, As only 22 organs were transplanted in 2015,
 165 35 in 2016 and 34 in 2017, which was declined to only 18 in 2020,²³ while 430
 166 patients were on waiting list for kidney, 140 for liver, 44 for heart transplantation.²⁴

167 In the Tamil Nadu, Organ transplantation is regulated by
 168 ⁸ 'India's Transplantation of Human Organs Act, 1994' and is facilitated by the
 169 Transplant Authority of Tamil Nadu (TRANSTAN) of the Government of Tamil
 170 Nadu and several NGOs. Tamil Nadu made brain death certification mandatory in
 171 2008, becoming the first Indian state to do so. Between 2008 and 2013, more than
 172 2,000 transplants were recorded in Tamil Nadu, the highest in the country at the
 173 time.¹⁵ The state of Tamil Nadu had the most deceased organ donations in the country
 174 until 2018. It ranks first in deceased organ donation rate at 1.8 pmp as of 2018,²⁵
 175 which was seven times higher than the national average.¹⁴ From 2016 to 2018, the
 176 state transplanted 4,938 organs from 887 donors.⁶ By 2019, this number went up to
 177 7,783 organs. The state suffered a dip in number of organ donations received in 2018,
 178 reportedly due to a controversy over preference given to foreign patients. Organ
 179 donations dropped from 185 in 2016 to 160 in 2017 and 140 in 2018.²⁶ In 2019, the
 180 state recorded 128 deceased donors.²⁷ In 2021, only 60 donors were registered and

181 378 transplantation surgeries were done,²⁸ which is declined form 128 organ
182 donations in 2019 and 768 transplantation surgeries. In 2022, a wide waiting list was
183 of 6,483 for kidney, 380 for liver, 43 for heart, 42 for lungs, 18 for heart and lungs,
184 two for pancreas and 23 for hand.^{29,30}

185 The Government of Andhra Pradesh has its own law to regulate organ
186 donation in the state. The Andhra Pradesh Transplantation of Human Organs Act,
187 1995, was enacted by the government shortly after the central act.¹⁰ The deceased
188 donor program functions under the banner of 'Jeevandan' since January 2013 in the
189 state.¹¹ In 2022, total 191 donors had donated their organs as compared to 162 in 2021,
190 which was increased from 51 in 2014 (organ donation rate: 0.6 pmp)³¹ but still as of
191 June 2022, about 2,400 patients were on the waiting list with 1,688 patients requiring
192 kidney transplantation alone.³²

193 ⁶ The Zonal Coordination Committee of Karnataka (ZCCK) is the
194 government body that oversees the transplantation process in the state of Karnataka.
195 Between 2007 and 2012, Karnataka has recorded 58 deceased organ donations only.
196 However, there was a huge gap between the number of organs donated and the
197 number of recipients waiting for a transplant.³³ In 2018, the state had registered only
198 90 organ donations and over 3,000 patients⁵ were waiting for organs in Karnataka and
199 have registered with Jeevasarthakathe.³⁴ Subsequently, the pace picked up further,
200 Jeevasarthakathe, the State Organ and Tissue Transplant Organization (SOTTO),
201 which is the nodal agency that facilitates cadaver organ donations, recorded 105
202 cadaveric donations were facilitated through Jeevasarthakathe (wherein 511 organs
203 and tissues were retrieved) in 2019. In 2020, only 35 donations were recorded
204 (retrieving 167 organs and tissues) and in 2021, only 70 cadaveric donations and
205 retrieval of 284 organs and tissues (including corneas and heart valves) were recorded
206 while as of August 2021, there were 5,056 patients were listed for organs
207 transplantation. Out of which, 3,756 patients require kidneys, and this was followed
208 by 1,084 patients who need liver transplantation. There was a requirement for 113
209 heart transplants, 48 lung transplants and there were 22 patients who require both
210 heart and lungs. In 2022, still the number of organ donations were very less as 151.³⁵
211 Although there has been a steady rise in the number of donations, the number of
212 patients in need of organ transplantation in Karnataka is also increasing, as of July

213 2022, 5,542 patients are waiting for various single-organ transplants (including 4,304
214 for kidneys and 1,113 for liver), 66 are waiting for multi-organ transplants. The
215 demand is high among patients with O blood group, out of the total 5,542 patients in
216 the wait list of single organ requirement, as many as 2,265 and patients with O blood
217 group. This is followed by those with B group with as many as 1,620 waiting for
218 organs. The lowest requirement is among those with AB blood group with 345
219 enrolled with SOTTO (jeevasarthakathe).³⁶

220 The Zonal Transplant Coordination Center (ZTCC) ⁸oversees organ
221 transplantation activities in Maharashtra.¹¹ Between 2012 and 2014, the state recorded
222 116 organ transplants.¹¹ In 2018, 135 donations were recorded.³⁷ In Mumbai, 70
223 kidneys were donated and transplanted, 40 donors donated liver, 26 heart and 10
224 lungs were transplanted, 3 pancreas and intestine transplantation were done In
225 2022.³⁸ According to ZTCC ⁵out of 2561 patients on waiting list for organ
226 transplantation,³⁹ among them ⁵over 1,600 individuals are on the waiting list for kidney
227 donation in the Pune region alone (Pune, Solapur, Satara, Kolhapur, Sangli, Karad,
228 Nashik, Dhule, Jalgaon and Ahmednagar), while around 700 are in the line for liver,
229 55 for heart and around 80 for multi visceral transplantation till may 2022.⁴⁰

230 ³India is struggling from acute shortage of organs for transplantation.
231 Though the number of transplants performed in India are steadily increasing, there is
232 wide gap between need and availability of organs in India. The rate of organ donation
233 is majorly affected by the knowledge, sociocultural views, and awareness about organ
234 donation among various population groups in society. The major restrictions for organ
235 donation among general population are lack of awareness about organ donation,
236 various myths about donation of organs, sociocultural and religious concerns, denial
237 towards the concepts of brain death and deceased ¹⁵organ donation, inability to know
238 about the process, lack of knowledge about institutional structures, organizational
239 support, and legal and ethical terms, which can be eliminated by appropriate
240 education and counselling so that eventually goals for higher donation rates could be
241 achieved. Since medical students are the ones who work in close proximity to the
242 community, they are the one who are in direct contact with potential organ donors. By
243 improving knowledge and awareness of medical students can enhance the odds of

244 positive effect of their counselling on potential donors and their families and can
245 affect their accessibility and willingness to donate their organs.

246 According to a study conducted in Kerala among 194 final year MBBS
247 students (third and fourth year), 61% of students were unaware that the “National
248 Network for Organ Sharing” exists in their area, and 48.5 percent of students did not
249 know how to register as an organ donor.⁴¹

250 Since medical students are the country's future doctors, and they are
251 the first to form relationships with potential donor's families, their positive attitude
252 and high level of knowledge will help to create a positive environment and encourage
253 organ donation. The medical curriculum has also recently included formal education
254 on the subject. Hence, this study aims to assess the knowledge and attitude towards
255 organ donation among medical students; both undergraduate and postgraduate, as well
256 as to identify the areas of missing knowledge and their possible associated factors, so
257 as to recommend measures to improve upon those areas.

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References

- 281 1. ² Organ Donation Day: National Health Portal Of India [cited on 2022 September
282 13]. Available from: https://www.nhp.gov.in/Organ-Donation-Day_pg
- 283 2. ¹⁷ Allocation Criteria For Deceased Donor Kidney Transplant. 24.08.2016. [cited on
284 2022 December 31]. Available from:
285 ¹² https://notto.gov.in/WriteReadData/Portal/News/434_1_UpdatedKidneyAllocationPolicyPublish.pdf
- 286 3. ² Global Observatory on Donation and Transplantation. WHO-ONT. 2021 [Cited on
287 2022 December 30]. Available from: <https://www.transplant-observatory.org/data-charts-and-tables>
- 288 4. International Registry on Organ and Transplant. Last update on 2022 Dec 15.
289 [Cited on 2023 January 3]. Available from: <https://www.irodat.org/?p=database>
- 290 5. "Need For Organ Donation In India - Organ Donation Information in India |
291 Donate Life" [Cited on 2022 December 29]. Available from:
292 ⁴ <https://www.donatelife.org.in/need-in-india>
- 293 6. Ranganath, T.S. ORGAN DONATION. *RGUHS National Journal of Public*
294 *Health* 2016;1(1)5.
- 295 7. ¹⁶ Dr Dharminder Nagar, An opt-out model for organ donation. Deccan Herald Last
296 updated on 2019 September 23 [Cited on 2022 December 29]. Available on:
297 ⁴ [https://www.deccanherald.com/opinion/panorama/an-opt-out-model-for-organ-](https://www.deccanherald.com/opinion/panorama/an-opt-out-model-for-organ-donation-763526.html)
298 [donation-763526.html](https://www.deccanherald.com/opinion/panorama/an-opt-out-model-for-organ-donation-763526.html)
- 299 8. World Organ Donation Day: A brief history. Last updated on: 2021 Aug 13.
300 [Cited on 2023 January 4]. Available from:
301 [https://www.hindustantimes.com/india-news/world-organ-donation-day-a-brief-](https://www.hindustantimes.com/india-news/world-organ-donation-day-a-brief-history-101628815156959-amp.html)
302 [history-101628815156959-amp.html](https://www.hindustantimes.com/india-news/world-organ-donation-day-a-brief-history-101628815156959-amp.html)
- 303 9. THE TRANSPLANTATION OF HUMAN ORGANS AND TISSUES ACT,
304 1994. Last updated on 2016 October 12. [Cited on 2022 July 21]

- 11
307 [https://main.mohfw.gov.in/acts-rules-and-standards-health-sector/acts/](https://main.mohfw.gov.in/acts-rules-and-standards-health-sector/acts/transplantation-human-organs-acts-and-rules)
308 transplantation-human-organs-acts-and-rules and [https://main.mohfw.gov.in/sites](https://main.mohfw.gov.in/sites/default/files/THOA-Rules-2014%20%281%29.pdf)
309 [/default/files/THOA-Rules-2014%20%281%29.pdf](https://main.mohfw.gov.in/sites/default/files/THOA-Rules-2014%20%281%29.pdf)
- 310 10. [The Andhra Pradesh Transplantation of Human Organs Act, 1995](#). Last updated
311 on 2010 August 16. [Cited on 2022 September 15]. Available from:
312 <https://jeevandan.gov.in/PDFs/GOMS184.pdf>
- 313 11. Navin S, Shroff S, Niranjana S. Deceased Organ Donation in India [Cited on
314 2022 December 28]. Available from: [https://www.mohanfoundation.org/organ-](https://www.mohanfoundation.org/organ-donation-transplant-resources/organ-donation-in-india.asp)
315 [donation-transplant-resources/organ-donation-in-india.asp](https://www.mohanfoundation.org/organ-donation-transplant-resources/organ-donation-in-india.asp)
- 316 12. July selected to be organ donation Month Last updated on: Nov 29, 2022. [Cited on
317 2023 January 4]. Available from:
318 [https://timesofindia.indiatimes.com/city/mumbai/july-selected-to-be-organ-](https://timesofindia.indiatimes.com/city/mumbai/july-selected-to-be-organ-donation-month/articleshow/95841202.cms)
319 [donation-month/articleshow/95841202.cms](https://timesofindia.indiatimes.com/city/mumbai/july-selected-to-be-organ-donation-month/articleshow/95841202.cms)
- 320 13. Koushal V, Sharma R, Kumar A. Impact of green corridors in organ donation: A
321 single-center experience. Indian J Transplant 2018;12:110-2 DOI:
322 10.4103/ijot.ijot_11_18
- 323 14. Time in which organs need to be donated after death. [Cited on 2023 January 6].
324 Available from: <https://www.donatelife.org.in/time-of-organ-donation>
- 325 15. Sheereen Fatima, Dr. Rahul Kunkulol, Ambekar Harshada Gangadhar, Shah
326 Megha, Vatsala Kunwar, Phalke Rucha Deepak et al. Awareness about the
327 concept of Green Corridor among medical student and doctors in a Rural Medical
328 College of Maharashtra, India. Int. j. clin. biomed. res.2018;4(3): 38-43.
- 329 16. [Green Corridor System - Organ Donation Information in India](#). [Cited on 2022
330 July 21] Available from: <https://www.donatelife.org.in/green-corridor-system>
- 331 17. Shroff S, Navin S. Rajasthan on the deceased organ donation map. Indian
332 Transplant Newsletter.Vol. 14 Issue No.: 43 (Nov 2014–Feb 2015)
- 333 18. Ali S. First heart transplant in Rajasthan, 32-year-old farmer recipient [internet].
334 Last updated: 2015 Aug 3. [Cited on 2023 January 2]. Available from:
335 [https://timesofindia.indiatimes.com/city/jaipur/first-heart-transplant-in-rajasthan-](https://timesofindia.indiatimes.com/city/jaipur/first-heart-transplant-in-rajasthan-32-year-old-farmer-recipient/articleshow/48322624.cms)
336 [32-year-old-farmer-recipient/articleshow/48322624.cms](https://timesofindia.indiatimes.com/city/jaipur/first-heart-transplant-in-rajasthan-32-year-old-farmer-recipient/articleshow/48322624.cms)

- 337 19. First liver transplant at Sawai Man Singh hospital [internet]. Last updated: 2017
338 February 19. [Cited on 2023 January 2]. Available from:
339 [http://timesofindia.indiatimes.com/articleshow/57227321.cms?utm_source=conte](http://timesofindia.indiatimes.com/articleshow/57227321.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)
340 [ntofinterest&utm_medium=text&utm_campaign=cppst](http://timesofindia.indiatimes.com/articleshow/57227321.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)
- 341 20. ACTIVE PACKAGES LIST. Last updated on: 2021 January 30. [Cited on: 2023
342 January 3]. Available from: [https://chiranjeevi.rajasthan.gov.in/#/scheme-](https://chiranjeevi.rajasthan.gov.in/#/scheme-package)
343 [package](https://chiranjeevi.rajasthan.gov.in/#/scheme-package).
- 344 21. Nation, Rajasthan get first organ donor memorial. Last updated on: 2020
345 November 26. [Cited on 2023 January 3] Available from:
346 [https://timesofindia.indiatimes.com/city/jaipur/nation-raj-get-first-organ-donor-](https://timesofindia.indiatimes.com/city/jaipur/nation-raj-get-first-organ-donor-memorial/articleshow/79417328.cms)
347 [memorial/articleshow/79417328.cms](https://timesofindia.indiatimes.com/city/jaipur/nation-raj-get-first-organ-donor-memorial/articleshow/79417328.cms)
- 348 22. Sharma P. Angdata Smarak – India's First Organ Donor Memorial Inaugurated in
349 Jaipur, Last updated on 2020 December 2. [Cited on 2023 January 3]
350 [https://www.mohanfoundation.org/activities/Angdata-Smarak-Indias-First-](https://www.mohanfoundation.org/activities/Angdata-Smarak-Indias-First-Organ-Donor-Memorial-Inaugurated-in-Jaipur-7289.htm)
351 [Organ-Donor-Memorial-Inaugurated-in-Jaipur-7289.htm](https://www.mohanfoundation.org/activities/Angdata-Smarak-Indias-First-Organ-Donor-Memorial-Inaugurated-in-Jaipur-7289.htm)
- 352 23. Cadaveric Organ Donation Figures in Rajasthan. [Cited on 2023 January 1].
353 Available from: [https://www.mohanfoundation.org/cadaveric-organ-donation-](https://www.mohanfoundation.org/cadaveric-organ-donation-figures.aspstate=Rajasthan)
354 [figures](https://www.mohanfoundation.org/cadaveric-organ-donation-figures.aspstate=Rajasthan).aspstate =Rajasthan
- 355 24. Rajasthan Deceased Donor Transplant Data. Last updated on 2022 May 04.
356 [Cited on 2023 January 1]. Available on: [https://sotto.rajasthan.gov.in /Home/](https://sotto.rajasthan.gov.in/Home/Index)
357 [Index](https://sotto.rajasthan.gov.in /Home/Index)).
- 358 25. Shroff S. Current trends in kidney transplantation in India. Indian J
359 Urol2016;32:173-4. DOI: 10.4103/0970-1591.185092.
- 360 26. Three Green Corridors created. Last updated on 2019 May 31. [Cited on 2022
361 December 31]. Available from: [https://www.freepressjournal.in/cmcm/three-](https://www.freepressjournal.in/cmcm/three-green-corridors-created)
362 [green-corridors-created](https://www.freepressjournal.in/cmcm/three-green-corridors-created)
- 363 27. Josephin S.M. T.N. gets a pat on the back for its transplant record. Last updated
364 on December 04, 2019. [Cited on 2022 December 30]. Available from:
365 [https://www.thehindu.com/news/national/tamil-nadu/which-state-tops-](https://www.thehindu.com/news/national/tamil-nadu/which-state-tops-transplants-in-india/article30153421.ece)
366 [transplants-in-india/article30153421.ece](https://www.thehindu.com/news/national/tamil-nadu/which-state-tops-transplants-in-india/article30153421.ece)

- 367 28. Organ Transplant Statistics. [Cited on 2022 December 31]. Available from:
368 <https://transtan.tn.gov.in/statistics.php>
- 369 29. Organ Transplantation Information. Total Active waiting list. [Cited on 2022
370 December 30]. Available from: <https://transtan.tn.gov.in/index.php>
- 371 30. ¹ Tamil Nadu to accelerate cadaver organ transplantation programme. Last updated
372 on July 31, 2022 [Cited on 2022 December 31]. Available from:
373 [https://www.thehindu.com/news/cities/Coimbatore/tamil-nadu-to-accelerate-](https://www.thehindu.com/news/cities/Coimbatore/tamil-nadu-to-accelerate-cadaver-organ-transplantation-programme/article65707171.ece)
374 [cadaver-organ-transplantation-programme/article65707171.ece](https://www.thehindu.com/news/cities/Coimbatore/tamil-nadu-to-accelerate-cadaver-organ-transplantation-programme/article65707171.ece)
- 375 31. Jeevandan Yearly Donations Hospital Wise up to date. [Cited on 2023 January 2].
376 Available from: https://jeevandan.gov.in/Hospital_Yearwise.htm
- 377 32. Rao U. Visakhapatnam: Teaching hospitals told to join Jeevandan. Last updated on:
378 Jun 26, 2022. [Cited on 2023 January 2]. Available from:
379 [https://timesofindia.indiatimes.com/city/visakhapatnam/teaching-hospitals-told-](https://timesofindia.indiatimes.com/city/visakhapatnam/teaching-hospitals-told-to-join-jeevandan/articleshow/92463559.cms)
380 [to-join-jeevandan/articleshow/92463559.cms](https://timesofindia.indiatimes.com/city/visakhapatnam/teaching-hospitals-told-to-join-jeevandan/articleshow/92463559.cms)
- 381 33. **Paul S.** Organ Donation in Karnataka. [Cited on 2023 January 2]. Available
382 from: [https://www.mohanfoundation.org/organ-donation-transplant-resources/](https://www.mohanfoundation.org/organ-donation-transplant-resources/organ-donation-in-karnataka.asp)
383 [organ-donation-in-karnataka.asp](https://www.mohanfoundation.org/organ-donation-transplant-resources/organ-donation-in-karnataka.asp)
- 384 34. Rao S. R. Organ transplant waiting list to go online with real-time updates. Last
385 updated on: 2018 Jan 13. [Cited on 2023 January 2]. Available from:
386 [https://timesofindia.indiatimes.com/city/bengaluru/organ-transplant-waiting-list-](https://timesofindia.indiatimes.com/city/bengaluru/organ-transplant-waiting-list-to-go-online-with-real-time-updates/articleshow/62479525.cms)
387 [to-go-online-with-real-time-updates/articleshow/62479525.cms](https://timesofindia.indiatimes.com/city/bengaluru/organ-transplant-waiting-list-to-go-online-with-real-time-updates/articleshow/62479525.cms)
- 388 35. Statistics. State Organ & Tissue Transplant Organization Karnataka. [Cited on
389 2023 January 2]. Available from: [https://www.jeevasarthakathe.karnataka.gov.in/](https://www.jeevasarthakathe.karnataka.gov.in/Website/English/Home.aspx)
390 [Website/English/Home.aspx](https://www.jeevasarthakathe.karnataka.gov.in/Website/English/Home.aspx)
- 391 36. ¹ Yasmeen A. Organ donations so far surpass last year's overall figure. Last
392 updated on 2022 July 16. [Cited on 2023 January 2]. Available from:
393 [https://www.thehindu.com/news/national/karnataka/organ-donations-so-far-](https://www.thehindu.com/news/national/karnataka/organ-donations-so-far-surpasses-last-years-overall-figure/article65636442.ece)
394 [surpasses-last-years-overall-figure/article65636442.ece](https://www.thehindu.com/news/national/karnataka/organ-donations-so-far-surpasses-last-years-overall-figure/article65636442.ece)
- 395 37. Rao S. Telangana tops in cadaver organ donations, Karnataka at 4th spot. Last
396 updated on 2019 Jan 9. [Cited on 2023 January 2]. Available from:

- 397 [https://timesofindia.indiatimes.com/city/bengaluru/telangana-tops-in-cadaver-](https://timesofindia.indiatimes.com/city/bengaluru/telangana-tops-in-cadaver-organ-donations-karnataka-at-4th-spot/articleshow/67449301.cms)
398 [organ-donations-karnataka-at-4th-spot/articleshow/67449301.cms](https://timesofindia.indiatimes.com/city/bengaluru/telangana-tops-in-cadaver-organ-donations-karnataka-at-4th-spot/articleshow/67449301.cms).
- 399 38. Statistics of "Mumbai" Deceased donor transplant. Year wise Organ donation.
400 Last updated on 2022 Dec. [Cited on 2023 January 2]. Available from:
401 <https://ztccmumbai.org/data1.html>
- 402 39. Zonal Transplant Coordination Center Pune. [Cited on 2023 January 2].
403 Available from: <https://ztccpune.org>
- 404 40. Bhusari P. More than 1,600 on wait list for kidney donation in Pune. Last updated
405 on: May 29, 2022 [Cited on 2023 January 2]. Available from:
406 [https://timesofindia.indiatimes.com/city/pune/more-than-1600-on-wait-list-for-](https://timesofindia.indiatimes.com/city/pune/more-than-1600-on-wait-list-for-kidney-donation-in-pune/articleshow/91862499.cms)
407 [kidney-donation-in-pune/articleshow/91862499.cms](https://timesofindia.indiatimes.com/city/pune/more-than-1600-on-wait-list-for-kidney-donation-in-pune/articleshow/91862499.cms)
- 408 41. Adithyan GS, Mariappan M, Nayana KB. A study on knowledge and attitude
409 about organ donation among medical students in Kerala. Indian J Transplant
410 2017;11:133-7.
- 411 42. Kaur A, Devgun P, Gill KP. A Cross-sectional Study to Assess the Knowledge,
412 Attitude and Practices about Organ Donation among the Medical Students of
413 Punjab. Ann Community Health 2020;8(4):1-4.
- 414 43. Dr Akhila Jose, Mrs. Mayamol T R , Dr Jayasree A K Knowledge and Attitude
415 towards Organ Donation among Medical Students of a Government Medical
416 College in Northern Kerala JMSCR 2020;08(03):288-294 DOI:
417 <https://dx.doi.org/10.18535/jmscr/v8i3.51>
- 418 44. Jyotsna Deshmukh, Anchlesh Tekam, Kanchan Ingle Organ Transplantation and
419 Organ Donation: Knowledge, attitude and willingness towards organ donation
420 among medical students National Journal of Research in Community Medicine
421 2020;9(1) DOI: 10.26727/NJRCM.2020.9.1.020-024
- 422 45. Rashmi S, Murthy MRN. Perception and prejudice about organ donation among
423 medical students in a tertiary healthcare, Mysuru. Int J Community Med Public
424 Health 2019;6:1437-41. DOI: [http://dx.doi.org/10.18203/2394-6040.ijcmph201910](http://dx.doi.org/10.18203/2394-6040.ijcmph20191045)
425 45

426 46. Tamuli RP, Sarmah S, Saikia B. Organ donation – “Attitude and Awareness
427 among undergraduates and postgraduates of North-East India”. *J Family Med*
428 *Prim Care* 2019;8:130-6.

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