

A REVIEW ON CADAVER DONATION W.R.T. ANATOMICAL STUDIES & ACTS

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ABSTRACT

Cadaver donation, anatomical donation or body bequest is the donation of a whole body after death for a research & education. Donated bodies are mostly used for medical education & research. They are used for Gross anatomy, surgical anatomy, and Surface anatomy & for furthering medical education. The Anatomy act provide for the supply of unclaimed bodies to hospital & teaching institution for purpose of anatomical examination & dissection & other similar purposes. In this article, the suitability of body donation, importance of body donation & various factors such as age, religion, culture, personality characteristics, donor attitudes etc. are discussed.

Keywords: Cadaver donation, Anatomy learning, Anatomy acts.

INTRODUCTION

Anatomy is a science which deals with the study of structure of human body. Teaching & research in anatomy is mainly based on cadaver dissection. Unclaimed bodies are not sufficient source of cadaver but bodies also come from body donation programs. Body donation is defined as the act of giving one's body after death for medical research & education. Thus a person can give back to society & give a student a chance to learn something that can influence generation to come. Donation is most often by altruism, conferring life on another. ^[1] Body donation is important for understanding the human body for advancement of science. Any person who wishes to donate his/her body may do so through a willed body donation program. They may be required, but not always, to make prior arrangement with the local medical school, university, or body donation program. Body donation is still relatively low; therefore in attempts to increase these donations, many countries have different programs and differing regulation surrounding the donation of the

body or body parts. Body donation is regulated by various acts according to each country & is considered one of the modern expressions of solidarity. Relevance of body dissection through the proper use of cadavers is of prime importance before learning living anatomy.

Aim: To Study the importance of cadaver donation for Anatomical studies & Anatomical acts.

Objective:

- 1) To study the importance of body donation for anatomical studies & research
- 2) Study of Anatomy act for cadaver donation in India as well as in other country.
- 3) Study of factors responsible for cadaver donation.
- 4) Study of importance of cadaver donation for improvement in medical technology & research in various diseases.

Material & Method:-

To study the literature regarding cadaver donation, Anatomical acts, factors responsible for cadaver donation & significance of cadaver donation from various texts.

DISCUSSION

Anatomy Act for Body donation:

Anatomy Act is a state act proposed by the legislature & published in the state Government gazette. The act regulates the use of dead bodies for medical purposes; anyone can donate for medical research & education^[2]

Age, disease or state of health does not necessarily eliminate in individual form being a donor, but may affect which organ or tissue is actually used. All donors screened for infectious diseases including HIV, Hepatitis B & C, Tuberculosis, Syphilis, Tetanus etc.

Donors who are known infected with any of these diseases are declined for donation due to risk to medical personnel.

The need for body donation remains critical due to basic & expanding needs in medical education & research, many individual have recognized & understood these needs & have donated their bodies.

In response to public interest for medical science, state legislatures have passed laws to support such generosity. In order to remove the discrepancies existing between any two or more such acts, suggested that a draft act should be made for all the states to use as model of guiding principles of Anatomy Acts.

Indian Anatomy Act:

In 1948 the Anatomy act was passed in all of India's states. This allows bodies to be donated by the donor & bodies to be claimed for a medical & research use if there no claim to one's body within a 48 hours time frame.^[3]

Similar to United States, India also has specific guidelines for accepting bodies for donation.

Donations of such cadaver are declined that are infected with HIV, Hepatitis (A, B, & C), donated organs, extreme BMI, or skin diseases.

Nowadays, many people in India donate their

bodies after death by signing a pledge form with two accompanying witness signatures.^[4]

Punjab Anatomy Act 1963 makes a provision for the supply of bodies of deceased persons to hospitals, medical teaching institutions for therapeutic purposes or of anatomical examination, dissection, surgical operation & research work.^[5]

The Act clearly provides that where a person having no permanent place of residence in the areas where his death has taken place, dies in any public place in a such area & his body is unclaimed, the authorized officer of that area shall take possession & should handover to the authorities in charge of an approved institution for the purpose specified above.

The Delhi Anatomy Act provides for supply of unclaimed bodies of deceased person to teaching medical institutions for anatomical examination & dissection.

It also provides for procedure for the disposal of unclaimed bodies on hospitals, prisons & public places.^[6]

The Mysore Anatomy Act (1957), later amended as the Karnataka Anatomy Act in 1998 & enacted by Karnataka states defines Unclaimed body as "the body of a person who dies in a hospital or public places or place to which members of the public have access, & which has not been claimed by any person interested within such time as may be prescribed."^[7]

Anatomy Act in other Country:

United States:

Body donation is not regulated through licensure and inspection by the federal government and most states; however, United States House Bill 5318 was introduced on July 31, 2014 under the Energy and Commerce Committee. If passed as written, Health and Human Services would oversee the industry. Any entity (including US Medical Schools) is

subject to this legislation if tissue crosses state lines.

The legal right for an individual to choose body donation is governed by the Uniform Anatomical Gift Act which has been largely adopted by most states.

Laws relating to the transportation and disposition of human bodies currently apply, regardless of the recent House Bill introduced.^[8]

The American Association of Tissue Banks (AATB) provides accreditation to non-transplant tissue bank research and education programs to establish that the level of medical, technical and administrative performance meets or exceeds the standards set by the AATB. Whole body donation and non-transplant tissue banking remains an industry with limited regulation, and while it is not a legal requirement, accreditation allows for individuals choosing to donate their body to medical research or education programs to choose a program with the highest quality standards.^[9]

The American Medical Education and Research Association (AMERA) is a peer-recognized national accrediting body in the United States to provide accreditation to organizations using standards developed solely for non-transplant organizations. This includes whole body donor organizations, university anatomical programs, bio-repository programs and end users of human tissue. AMERA encourages the industry to become accredited and involved in establishing standards that are relevant to non-clinical tissue organizations.^[10]

There are many private body donation programs in the US. Each of these private programs accepts bodies from certain surrounding areas. Most programs also have guidelines for bodies they will and will not accept. Generally programs will not accept bodies that are positive for Hepatitis (A, B, and C), HIV/AIDS,

history of illegal drug use, or fall within an extreme category for their BMI. The embalming process adds even more weight to the donor's body, so if they have a high BMI the programs may not take them because they cannot handle the weight of the donor after embalming.^[11]

United Kingdom:

Body donation in the UK is governed by the Human Tissue Authority (HTA) under the auspices of the Human Tissue Act 2004. The HTA licenses and inspects establishments, such as medical schools, which teach anatomy using donated bodies. Under the Human Tissue Act, written consent must be given prior to death; consent cannot be given by anyone else after death.

The minimum age to consent to donate your body in the UK is 17.^[12]

The Human Tissue Authority provides information to donors about where they can donate and answers many prevalent questions related to tissue donation on their website. The Human Tissue Authority provides the links to each establishment's information, but each establishment has its own guidelines for body donation. The HTA also provides the tools to find donation sites local to the person wishing to donate their body, or tissues.

Donors who have had an autopsy may be declined from a program. Certain programs also may decline donor's bodies if they have died abroad.^[13]

Factors of body rejection:

There are various factors for rejections of cadavers for Anatomical donations. Since donated bodies are used to study the normal structure of the whole human body, normally all donated bodies are not accepted. Some of the reasons for rejections are:

- 1) Autopsied body, 2) Decomposition, 3) Obesity, 4) Extreme emaciation, 5) Death

from a contagious or a communicable disease, 6) Suicide or Homicide, 7) Removal of organs & tissue.

Acceptance or rejection of donated bodies is a decision which will be made at the time of donation.

An institution has the right to reject a body donation for any reason by a law.

Role of Religious & Cultural factor in donation:

In India major religion consider that body & organ donation as a charitable act of giving & for medical teaching, research & transplants. Mostly states that it is an individual decision.

Most major religion support donation as an act of human kindness in keeping with religious teachings. People are often unaware of the attitude of their faith toward donation; they may be misled by old superstition or misreading of religious texts. Some people believe that donation conflict with their faith. They hesitate to give consent for donation.

Buddhist believes organ donation is personal decision & should be left on an individual decision. Because donation is noble act, Buddhism honors those people who donate their bodies & organ to advance medical science & to save lives.^[14]

The Hindus are not prohibited by religious law from donating their organs, donation is an individual decision but “*Dharma*” suggests that doing well for others is desirable.

Christians consider organ donation an act of love and a way of following Jesus' example

They believe in eternal life, and preparing for death should not be feared & believe that nothing that happens to our body, before or after death, can impact on our relationship with God.^[15]

Donor's attitudes towards body donation:

The attitude of donors plays an important role in body donation. A survey was conducted to ascertain attitudes of 218 donors towards body donation & reported that the notion of money incentives to promote donation was rejected.^[16]

The anxiety of disrespectful behavior toward cadavers was one of the reasons for not donating bodies.

Although Anatomist encourage cadaver donation, the attitudes of anatomists toward donating their own bodies for dissection is not well known.^[17]

The decision to become a body donor is influenced by factors such as: social awareness, cultural attitudes and perceptions of body donation, cultural attitudes and perceptions of death, religion, and perceptions of the body-mind relationship.^[18]

Studies indicate most donors are primarily driven by altruism and their desire to aid the advancement of medical knowledge and to be useful after death.

Other reasons include helping future generations, expressing gratitude for life and good health or for the medical field, to avoid a funeral or to avoid waste.^[19]

The offering of financial incentives as a way to increase donor numbers or as an acknowledgement for donors is generally considered to detract from the act of donation and serve as a deterrent.^[20] However, a US study showing a positive correlation between body donation numbers and funeral cover cost savings offered as compensation suggests that, in reality, the added incentive could be a persuasive factor for donors.^[21]

Other Use of donated bodies:

Many of the bodies donated to any organization are used for scientific research and medical training. Many bodies are used to teach medical students anatomy, but they are

also used to improve and create new medical technologies. Many programs that accept body donations have specific research affiliations; these can be viewed by looking at each programs website. These can include cancer research, Alzheimer's research, and research into improving surgeries.^[22]

Listed below are examples of research conducted with donated bodies:

- Arthritis
- Diabetes
- Cancer
- Knee/ Hip/Shoulder Replacement
- Paramedic training
- Tumor Removal
- Cardiovascular Diseases
- Treatment of Spinal disorders
- Neurological Conditions

Some programs accept whole bodies, but distribute different body parts based on need. This ensures a maximum benefit from donation. These programs can assist with research as shown above, technical training, or improvement/research of medical devices.

CONCLUSION

Body donation is a generous & unselfish act for those who wish to be useful to the living after death. The donor will help the medical students to further their learning & research.

Voluntary donation is not different from donation of organ including Eyes, Kidney, Liver, and Heart; only a mind vision is needed.

Decision of an individual to donate body for anatomical examination is a contribution towards the understanding & advancement of medical science. The decision of donation plays a crucial role in helping medical students for learning complex anatomy.

Government & NGO's should encourage & promote voluntary donation of cadaver & public should be educated & maximum awareness

of the importance of body donation be given to ensure that there is no shortage of human bodies in medical institutions.

REFERENCES

1. Delmas,V.(2001): Donation of bodies to science. Bull Acad NaH Med; 185(5): 849-56.
2. Patnaik, V.V.G. (2002): editorial. J Anat Soc India; 50(2): 143-144.
3. www.bombayhighcourt.nic.in
4. Wikipedia , body donation ,– reference no.9 (Detail remains)
5. www.lawsofindia.org/statelaw/3481/The_punjabanatomyact_1963.
6. Modi's Medical Jurisprudence & Toxicology. 22 edition; Butterworths. New Delhi. pp. 724-727. (1999).
7. The Mysore Anatomy Act, 1957(2002): Anatomica Karnataka; 1(3):66-69.
8. https://en.wikipedia.org/wiki/Body_donation
9. https://en.wikipedia.org/wiki/American_Association_of_Tissue_Banks
10. <http://www.ameraus.org/>
11. <http://www.nbcnews.com/health/health-news/donating-your-body-science-nobody-wants-chubby-corpse-f1C6436539>
12. Human Tissue Authority Body Donation FAQs in the UK
13. "Human Tissue Authority". <https://www.hta.gov.uk/faqs/body-donation-faqs>
14. NHS Blood & Transplant(GB) <https://www.organdonation.nhs.uk/about-donation/what-does-my-religion-say/buddhism/>
15. NHS Blood & Transplant(GB) <https://www.organdonation.nhs.uk/about-donation/what-does-my-religion-say/christianity/>

16. Richardson, R. & Hurwitz, B.(1995): Donors attitude towards body donation for dissection. *Lancet*; 346(8970) : 277-9
17. Sehiril.U.S., Saka,E. & Saki-kaya,O.(2004):Attitudes of Turkish anatomists toward cadaver donation. *ClinAnat*;17(8):677-81
18. Savulescu, J. (2003). Death, Us and Our Bodies: Personal Reflections. *Journal of Medical Ethics*, 29(3), 127-130.
19. Bolt, S., Venbrux, E., Eisinga, R., Kuks, J. B. M., Veening, J. G., Gerrits, P. O. (2010). Motivation for body donation to science: More than an altruistic act. *Annals of Anatomy*, 192(2), 70-74.
20. Ajita, R. & Singh, I. (2007). Body Donation and Its Relevance in Anatomy Learning – A Review. *Journal of the Anatomical Society of India*, 56(1), 44-47.
21. Harrington, D. E. & Sayre, E. A. (2007). Paying for Bodies, But Not for Organs. *Regulation*, 29(4), 14-19.
22. [https://en.wikipedia.org/wiki/Body_donation#cite/Life Legacy](https://en.wikipedia.org/wiki/Body_donation#cite/Life_Legacy)

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