

## A Crevice Look to the Indoors of Body Donation

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### ABSTRACT

The concept of body donation has evolved over centuries and there are still considerable discrepancies among countries regarding the means by which human bodies can be acquired and used for education and research. In many countries the act of body donation is guided by laws and ethical frameworks. This has evolved alongside the needs for medical knowledge and for improved teaching of human anatomy. They have well established donation programs to engage the donated bodies to teach human gross anatomy for dissection. In contrast, there are countries without donation programs where unclaimed bodies or perhaps a few donated bodies are used for dissection requirements. The wield of cadavers for dissection is unthinkable for cultural or religious reasons in many countries. The present review revealed that the medical professional who preaches the benefits of body donation fails to apply their professional knowledge in to practice on themselves or among their family members. There should be a convergent organisational structure to bridge the gap between theory and practice. Comprehensive research is performed in Western countries for the motivation towards body donation; however, there is still insufficient research on body donation in India to provide information on how to increase the body-donation rate. There are differences in education level and socioeconomic status between the willing donors in India and those from Western countries. The root level changes in attitude towards the donation programmes should be emphasised. Multi-focused awareness programs should be conducted after assessing the pitfalls of each program which has been already executed before.

**Key words:** Body donation, Cadaver, Dissection.

### INTRODUCTION

Dissection helps in developing a spatial and tactile appreciation for the fabric of the human body that cannot be achieved by virtue table concepts or computerised learning aids alone. The use of dissection to study human anatomy is the foundation for educational excellence among all health professionals, as it offers an ideal opportunity to learn the body's morphology in all dimensions. Despite the importance of body donation for medical education and the advancement of medical

science, cadaveric donation remains suboptimal worldwide. Body donation is important for medical education and academic research. However, there is a relatively different scenario in India when compared with international scenarios. The shortage of bodies for dissection along with disapprobation for the acceptance of unclaimed bodies persists worldwide. Indian population's lack of knowledge concerning the possibility of voluntarily donating their own bodies, must have pave the way to the body donation programs in India, by

following strict norms of central government. The present article deals the scenario by giving emphasis to multi-focus oriented awareness programmes as donation programs often faces cultural and religious impacts. Surprisingly, the attitudinal controversy of the responsible population underlines the need for a change in the mental setup which has to be started from the root level.

## **INTERNATIONAL SCENARIO**

### **Cultural and Religious Impacts on Body Donation**

The cultural and religious impacts on body donation persist throughout all countries from east to west. **Subasinghe K; 2015** reveals that the degree to which anatomy is integrated into the surrounding culture can also emerge as a significant factor towards body donation among the Srilankan population. **Kramer B; 2015** critically evaluated the roots of cadaver population among South Africa over time owing with a purpose to provide possible strategies to arrest the decline. Cadaver population censuses were influenced by a change in political climate and socioeconomic status. They also concluded that changes in sex and sample population group of the cadavers may have a future long-term effect on teaching and research. Jones TW;2014 gathered information from medical students of United States on current memorial ceremonies for body donors in anatomy programs and found out that a majority of human anatomy programs hold memorial ceremonies. These ceremonies are mostly student-driven with no conflict of interest and secular in nature. Alexander M et.al; 2014 found that ethnicity and religion affect attitudes of Australian chiropractic students towards body donation. The author suggested that anatomists and educators should prepare students for cadaver-based instruction to exhibit sensitivity towards cultural differences when informing different communities about body donation programs, to modify approaches while working with cadavers and in devising

thanksgiving ceremonies. Halou H et.al; 2013 evaluated the willingness of body donation in Greece to determine the characteristics of donors. The author found that strong religious beliefs among the study population as the main cause of unwillingness to donate their bodies to medical science. Remarkable efforts to encourage discussions about whole body donation can improve current low levels of donation. Bolt S et.al; 2010 explored the upward trends and motives for body donation among Netherlands population in a pre- assumed concept that body donation stems roots up from loneliness. Studies revealed that post-death benefits for the community, reluctant attitude towards death services and personal benefits proved to be more encouraging for body donation. These findings were contradicting to the pre-assumed notion. The author noticed that many donors have a supportive social network and meaningful social relationships. **McClea K; 2010** found absolutely no fundamental shift in donor attributes regarding religious and cultural aspects and it remains unchanged. Apart from that donors appear to be well aware of how their body will be utilised for medical purposes.

### **Disapprobation for the Acceptance of Unclaimed Bodies**

Surveys and studies points out the non willingness to accept the unclaimed bodies even though scarcity of the cadavers exists throughout the world. The procurance of the same is regarded only as a temporary solution. Riederer BM; 2016 suggests that good body donation practice should be adopted wherever possible, moving away from the use of unclaimed bodies of dubious provenance and adopting strategies to favour the establishment of successful donation programs. **Jones DG; 2012** concluded that anatomists should try to discontinue using unclaimed bodies as it is against the principles of ethical constraints beneficence and non-maleficence. Better awareness programmes will help anatomists to face challenges and difficulties in certain

cultural set-ups to establish relationships of trust with local communities and educate them how body donation can assist both the community and the profession. **Stimec BV; 2010** provided a meaningful whole-body procurement procedure with predetermined goals which included a satisfactory level of public awareness, the ethical constraints, proper processing and storage techniques and adequate legislation for the same. Acquisition of unclaimed bodies is suggested only as a temporary solution for the scarcity of the cadavers and should be discontinued when public awareness about the whole-body procurement procedure has reached a satisfactory level. **Gangata H; 2010** suggests for broader national awareness programmes which may take decades to materialise for body donations should be carried out in South Africa and Zimbabwe. At present, the cadaver scarcities of the country are met by donations and import from other communities. The lack of knowledge about body donation programmes and orthodox cultural and religious burial traditions appears to be the main barriers for bequests from black communities. The author points out the dangers in the use of unclaimed bodies which may disproportionately affect the vulnerable population of the country. **Anteby M; 2008** collected information's about the behavioural patterns of the potential donors as well as organizations which included profit, non-profit and academic sectors who procure the dead bodies to endow it on demand. This was aimed at increasing donations of United States population. The conclusions made were suggesting strict examinations of these organizations by donors, their families as well as authorities for creating an environment of secure donation.

### **Attitudinal Controversies of the Responsible Population**

The preachers fail to practice their self made theories and concepts about body donation among themselves. This is considered as an important issue which

should be considered with much alert. Attitudinal controversies among medical professionals about self body donation agreement will give a negative impact on society. This was oriented to improve the scenario of unwillingness towards body donation by medical professionals.

**Delaney MF; 2015** examined people's intention to register with a body bequest program for donating their deceased body to medical science and research by standard theory of planned behaviour predictors (TPB) among Australian students. The author assessed that attitudinal, subjective and moral norm were the significant predictors for partially supporting and extended TPB in understanding people's body donation intentions. Further, important underlying beliefs can inform strategies to target prospective donors. **Green C; 2014** noticed the changes in attitudes and opinions of junior as well as senior doctors regarding willingness and supports for whole body donation. The changes were observed when clinical experience exposure and current practice hours increases from the time of their dissection experience. **Arraez-Aybar LA; 2014** findings showed that anatomists' attitudes towards body dissection and donation depends on gender, extent of teaching experience and transcendental convictions. **Anyanwu EG; 2014** pointed out that most of the reasons for unwillingness towards body donation among students and professionals from the medical, health, and non-health relate disciplines of Nigeria were due to negative perceptions of the dissection room which resulted from poor and disrespectful management of the human cadavers. **Bolt S; 2012** found out that dearth of bodies as well as the social environment can negatively affect the willingness of anatomical professionals towards own body donation in Dutch. But, there were positive approaches towards the organ donation. **Perry GF; 2009** assessed age as a potential variable to determine whether it can influence the attitudes of young medical students towards body donations. The

findings demonstrated that age variable modulates and influences a priori attitudes towards whole body donation after a posteriori exposure and experience with dissection among younger medical students. Cahill KC; 2008 found that Irish students preferred unknown donated bodies for their anatomy tutorial dissections to known cadavers. The unwillingness to donate body observed among the students was having emotional background though they are considered as potential donor population.

### **Multi-Focus Oriented Awareness Programmes**

Multi-focused awareness programs should be conducted after assessing the pitfalls of each program which has been already executed before. Provisions to improve the body donation should concentrate on multi-directional tasks. Zhang L et.al; 2014 considered body donation programs as multiple responsibilities and roles that each institution must assume while adopting these programs. It is important for medical colleges to recognize these multidirectional tasks and roles while educating the public in order to promote body donation programs. The author suggests that the study can be an effective guide and encouragement for Chinese medical colleges in refining their own body donation programs in the future.

**Da Rocha AO** et.al; 2013 implementation of body donation programs among Brazilian population resulted in an enhanced public acceptance and possibility of making body donations proved by increased donor registrations as well as body donations. The author suggests improving the quality and quantity of the material available for educational purposes of body donation can attract the public towards the programs.

**McClea K**; 2013 suggests that body donation bequest programs should consider sending reminders to individuals who enquires information's and legal aspects but subsequently fail to register an acceptance deed to be a donor within a few months after commencement of programs. Chiu HY et.al; 2012 explored the complexity of

various motivational factors towards body donation and established the interconnectivity between them. The previous survey-based studies failed to achieve this moto. Cornwall J; 2012 collected the information's about the interrelations of various individual factors which influence the body donation process in different geographical locations who share similar characteristics. The author suggests the study aids for assisting the identification of potential body donors in new and established donation campaign programs. Ang ET et.al;2012 recommend the implementation of a body donation program which facilitates for better practical anatomical education by the use of body painting, clay and by plastination. Porzionato A et.al; 2012 suggests that the efficiency of body donation procedures and the quality as well as the output of medical education can be enhanced by the process management approach, the integrated involvement of medical, technical, and administrative staff in defining procedures, and the application of monitoring indicators. Akinola OB; 2011 foresee that support from an appropriate legislative act of parliament towards body donation awareness programs and for the procurement of acceptable cadavers for anatomical teaching and research can intrigue more donors. The study also suggests for establishing whole body donation awareness programs among Nigerian medical schools. Bolt S et.al; 2011 reports that conflict of interest in terms possible personal achievements can motivate body donation than focusing solely on altruistic motives in donor campaigns. This turns as a fruitful starting point for approaching potential donors by anticipating their needs. Wijbenga BS et.al; 2010 study observations provided a reliable model to construct a prediction for the number of incoming departed donors of body donation program for 5 years based on accusatorial prophecies. These numbers were then coordinated with pauses of partial donor registration. The new information acquired noticeably influenced final modeling. In

concordance with standard models of mortality, it was possible to formulate an augury for the incoming bodies for the fore coming years. When Chakraborty SK; 2010 assessed socio-demographic as well as key variables regarding importance and suitability for body donation it was concluded that co-operation and motivation from government officials as well as from public population is a requisite for voluntary donation of dead bodies. Maximum awareness of the importance of body donation can be given to the public for ensuring that future scarcity of cadavers has been foreseen and taken care of with maximum preference. Gunderman RB; 2008 discussed the reason behind the voluntary body donation and ethical issues answered by donors and procurers while donating the body to education and science. The authors regarded these two questions as major ethical appeals in body donation. Juan Pablo; 2014 communicated the necessity of undertaking government supported programs for body donation in Chile. This in-turn encourages medical education and for promoting health literacy among the general public which can aid to increase the number of donors. The author claims that dissection of anatomy can never be reproduced by artificial models.

## **INDIAN SCENARIO**

### **Cultural and Religious Impacts on Body Donation**

Among Indian population the impacts of culture and religion on acceptance of body donation is very high as it is a secular democratic country. Dattatray DD; 2016 revealed that in spite of mass awareness campaigns, the religious and humanitarian issues were the core elements for the public hesitation towards body donation. The author also suggests the need for proper handling of the cadavers by the people who works on for learning purposes. Anubha Saha; 2015 assessed the different barriers accosted by Institutions and donors for body or organ donation. Assessments indicated a remarkable gap between the

knowledge of donor and motivation of the family after death for body donation. The study suggests that proper guidance and education will help to overcome the existing barriers towards body donation. Mass media and other voluntary organisations were suggested to take an important step for this purpose. Rokade SA; 2013 reviews the history and the details about the procedures and procurements of body donation followed in India. The practical measures to overcome the scarcity of bodies in India and the world were to effectively deal with the donors' attitude, approaches of various religions towards donation and factors preventing people from body donation. Saritha S; 2012 views the social and religious concepts present in India can be a cause for the diminished enlightenment of the public towards body donation. Author impresses self- perturb towards unclaimed bodies and suggests the need for more awareness campaigns including medical exhibitions to edify the orthodox population.

### **Disapprobation for the Acceptance of Unclaimed Bodies**

Unclaimed dead bodies are widely utilised for medical education in India. However, efforts to discontinue the use of unclaimed bodies and focus oriented body donation awareness programs are in a prior considration in India. Dope SA; 2015 points out the drawbacks of the usage of unclaimed bodies and the need for the awareness programes about voluntary body donation; when the willingness and the concept of body donation were evaluated. Peddawad RG; 2015 strongly supports the urge to educate the people working in various medical colleges, hospitals and institutions about guidelines regarding the use of dead bodies for educational purposes. This helps them to handle the unclaimed dead bodies as there were loopholes and unawareness about Anatomy Act guidelines. He also points out the need for body donation campaigns and social awareness for the body donation. Sharma DK; 2014 observes the limitations of the usage of unclaimed bodies and the drawbacks of the cadaveric

dissection replacement to computer-based education techniques for medical studies. He suggested focus oriented body donation awareness programs which even included the kith and kin of the donors who have already donated their bodies to spread the gracious and ideal act of body donation. This can help to meet the scarcity of cadavers for medical education in India. Ajita R; 2007 learned the suitability as well as the importance of body donation, various socio-demographic factors and donor's attitudes. The author overviewed that hands-on training of dissection on human bodies are important to learn anatomy than virtue table conceptual learning. Even though procurement of unclaimed bodies for anatomy dissection purposes has been legalised by 'The Anatomy Act', awareness about body donation can reduce these procurements.

#### **Attitudinal Controversies of the Responsible Community**

The attitudes of the medical professionals were not matching with their theories and efforts they put to attract the public towards body donation programs in Indian society also. Mwachaka PM; 2016 assessed the opposition attitudes of medical students and surgical residents towards self-body donation for anatomy learning. The cultural and religion barriers proved to be the cause behind this non-willingness among the study participants. The same group responded positively towards body donation awareness program for the public. Aneja PS; 2013 evaluated awareness, attitudes, beliefs of doctor's towards their willingness for body donation in an ultimate goal to develop a positive change in society's attitude towards body donation. The results were controversial as the study population was not eager to consider such fate for their own dead carcass on the dissection table. Dissection does modulate the attitudes of doctors towards donation. Ballala K; 2011 assessed preparing and educating medical students and professionals regarding knowledge, attitude and practices about body donation is

essential before assigning them for communal awareness programs to the general public for the bequest of the whole body after death.

#### **Multi-Focus Oriented Awareness Programmes**

The existence of strict orthodox community with varied culture and concepts in India points the need to conduct multi-focused body donation awareness programs. Vasudha RN; 2016 observed an increased number of male cadavers among the donated human bodies when a database were made retrospectively. Though the voluntary donation statistics shows an increase in number, awareness programs with prior emphasis on educating females about the importance of body donation for the medical education are required. Ghosh SK; 2016 points out the importance of dissection based teaching in anatomy assisted with supplementary innovative learning methods. This can give a good impact for the developing world towards body donation programs as well as improved access to cadavers so as to meet the scarcity of the corpse. Pundge SJ ; 2014 pointed out that properly cored awareness programs can attract more people towards body donation which in-turn can increase the census. One should sign in an agreement form with clear motives and principles rather than doing it with reckless thoughts. Appaji AC; 2012 indicated the necessity to implement multi-task orientated awareness programmes for voluntary body donation agreements. Author foresees that the poor learning process can be due to the scarcity of cadavers for which body donation is only a suitable solution. **Rokade SA**; 2012 revealed that the lack of proper guidance and assistance regarding body donation procedures creates barriers for potential donors. Proper addressing of the queries related to prospective donors' concerns and awareness campaigns can change the mindset of the wider Indian society towards body donation. The practical measures help to overcome the current shortage of donated cadavers. Rath G; 2006 observed that for

developing a structural and palpable appreciation of the human body framework dissection is considered as an essential tool. This devilment is quite difficult to achieve by prosections, computerised learning aids or virtue table dissections.

## CONCLUSION

For commencement and maintenance of anatomy curriculum in medicine and health sciences based on cadaveric dissection body donation awareness programmes and its management are essential. Factors which influence body donations can therefore affect dissection-based anatomy teaching. Successful donation programs should be highlighted in the present status by emphasizing those aspects of the programs that can make them affluent. Modified approaches towards body donation suitable for different geographical areas with varied heritage and cultural differences should be given primary priorities. This includes dimension of body donation willingness focused on direct approach, respect for autonomy, respect for life, followed by the knowledge dimension by awareness programmes and finally, promoting ethics services on commitment agreements. The practical measures for the preservation of a donated human body in a more dignified manner should be improved. Multifocused constraints should focus on the relationship of people in different cultural environment and their satisfaction ratings, attitudes about body donation.

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