



Review Article

Teaching human anatomy without cadavers: Indian scenario in 2020

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ARTICLE INFO

Article history:

Received 18-09-2020

Accepted 22-09-2020

Available online 17-10-2020

Keywords:

Procurement

Cadaver shortage

Body donation

ABSTRACT

Human anatomy is learned through cadaveric dissection invariably in all medical colleges of India. The scarcity of cadavers for academic purpose exists almost in all the states of India. Deep rooted misconceptions need to be eradicated which is possible through socio-economic and cognitive development of the population. Police department are no longer reliable source of cadavers. NGO's, body donation societies, charitable trust, regional local bodies, etc. are working towards creating awareness with little success. Requisite and pertinent revision in policies of state government is needed to integrate body donation concept in public health services. This article reviews the existing situation of cadaver availability and struggle in procurement of cadavers in several regions of India. The article also presents the various challenges both financial and administrative in the procurement of cadavers in India.

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1. Introduction

It is universally understood that human anatomy is best learned through cadaveric dissection. This is practiced invariably in all medical and nursing colleges of India. The scarcity of cadavers for academic purpose exists almost in all the states of India. Both government and private medical colleges are facing similar condition. The scenario is worst in Ayurveda and dental colleges.

Several studies have been previously conducted in India on awareness and willingness for body donation. They have revealed similar findings that despite having awareness about organ and body donation, actual willingness has been rarely shown by the population of India.

Highly educated individuals, male and younger population have surprisingly shown less willingness for body donation compared to lesser educated, women and older population of India.¹

Common suggestions provided were establishing body donation societies in institutions and regions, conducting

awareness camps, etc. But despite establishing body donation society, the issue remains unsolved.

Every year, before the commencement of the academic session, the issue of cadaver scarcity and its procurement remains one of the agenda of discussion in dean meetings. The purpose of this article is to analyze the present situation of scarcity of human cadavers for academic purpose in medical institutions and to discuss realistic solutions.

2. Social and Religious Belief

Recently conducted studies (Hiwarkar et al,² 2016; Bharambe et al,³ 2015; Pundge et al,⁴ 2014; Panshewdikar et al.⁵ 2018) stated that awareness about body donation is present among medical professionals but is less amongst the general population. Our study in north Karnataka region (Charmode SH et al.,⁶ 2018) revealed that awareness about organ and body donation is present amongst medical, dental and nursing students but few are willing to register for body donation. In the general population, there is lesser awareness and least willingness for body donation. Women have shown more willingness for body donation.¹

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Conclusions indicated that anxiety and doubts about the fate of their bodies after the donation is the main reason for showing unwillingness amongst the non-medical students, non-medical professionals and the general population.⁶ Misconceptions about body donation are deeply rooted in population in rural areas. Whereas the population of urban area is aware of organ and body donation but are ignorant about the procedure and criteria for the same. Highly qualified professionals of medical and non-medical fields are well aware and also willing for organ donation but need time for deciding over body donation. Fear of its illegal use of own body is also one of the prime reasons. North Karnataka lacks significantly behind in socio-economic development compared to rest of Karnataka state. Hence the mindset of the general population here won't see much change till the overall development of this region materializes.

Non-government organizations like Federation of organ and body donation, Rashtriya Dehaangdaan Jagruti Samiti, etc. are striving to spread awareness for body donation in the general population. But due to deeply rooted misconceptions and extreme anxiety and fear for body donation, the majority of the general population is staying away from such awareness camps and gatherings.

Residents of old age homes showed willingness for body donation initially but later the management of old age homes did not allow the residents to get registered citing administrative reasons. Muslim community comprises a significant proportion of the general population of North Karnataka. The religious barrier prevents the population of this community from registering for body donation.

Hence general population of north Karnataka lacks significantly in awareness and require large scale and aggressive efforts from social bodies and institutions both at the political and local level.

3. Local Police and Administrative Challenges

Four medical colleges including our college exist in Kalburagi. Amongst them, Gulbarga Institute of Medical Sciences, Gulbarga, run by the state is also facing scarcity of cadavers despite being attached to the district hospital.

Local police headquarters have stated that all unclaimed bodies arriving at police quarters need to undergo postmortem. Cadavers underwent postmortem can't be used for academic purpose due to obvious reasons.

Local police departments are lacking in basic infrastructure i.e. cold storage, transport vehicles, mortuary, etc. This makes reporting and storage of unclaimed bodies in police custody difficult and by the time police enquiry concludes, the body is already partially decomposed making it unfit for academic use.

4. Body Donation Societies in The Region

To counter this issue, body donation society was established in Department of Anatomy of ESIC MC Gulbarga on 8th February 2018. We have 102 announced registrations till date.

It would take minimum 4-5 years of immense efforts in the form of awareness programs in the region to ensure significant registrations thereby a regular flow of cadavers to our medical college.

Mahadeo Rampure Medical College (another college in Kalburgi) is also equipped with much elderly and very well-known body donation society compared to the former.

5. Present Scenario in Kalburgi

We are facing extreme scarcity of cadavers in majority of medical colleges in Kalburgi. Purchasing embalmed human cadavers is the common practice. Source of cadavers are colleges from western and southern Karnataka or neighboring states. Price of single embalmed human cadaver range from 10,000 to 50,000 rupees (INR). These charges are framed by the institute who provides the dead bodies and vary from institute to institute. These charges include the embalming and handling expenses. Transportation is separate and borne by the receiving institute.

Awareness programs are being conducted sporadically in various parts of north Karnataka by NGO's like Dr. Ramannawar Charitable Trust, Mohan Foundation, Dadhichi Deh Dan Samiti, Dera Sacha Sauda, etc. and body donation societies mostly originating from Maharashtra. But the response is not very enthusiastic except when spiritual leaders or popular personalities make guest appearance.

Much more involvement of spiritual leaders of Karnataka (state) or central level is essential in body donation awareness camps and programs.

Superintendent of police is being communicated by all the medical colleges requesting for change in the policies pertaining to unclaimed bodies.

6. Present Scenario in Neighboring States

State of Maharashtra on the contrary is having extremely high level of awareness regarding body donation in urban as well as rural areas. The credit goes to several NGO's, body donation societies, Federation of organ and Body donation and brigade of social workers tirelessly putting efforts since last two decades.

Public health framework and infrastructure of Maharashtra is far more stabilized and advanced. Organ and body donation concept have been integrated with public health policies and programs of state government. At various levels of public health services in Maharashtra like primary health center, rural hospital, sub-district,

district and tertiary hospitals, organ and body donation unit have been established. Organ and body donation awareness programs and camps are carried as regularly as routine medical health services.

As a result, medical colleges in almost all parts of Maharashtra are flooded with donations (cadavers). At many colleges supply of donated bodies exceeds their storing capacity. Such colleges are the common sources of cadavers for medical colleges in northern Karnataka.

Recent protests from local governing bodies in various districts of Maharashtra have led to the cessation of such inter- state purchase or transaction of cadavers. This has made the matter worse as the sources are shrinking.

7. Scenario in North Indian States

‘Dadhichi Deh Dan Samiti’ and ‘Dera Sacha Sauda’ are two non-profit organizations functional in north India, working tirelessly towards spreading awareness of voluntary body donation among masses. They are the main sources of cadavers to medical colleges in north India.

8. Situation amid Covi-19 Pandemic

Currently the nation is under national lockdown and only the online classes are ongoing. But whenever the situation regains normalcy, the cadaver availability will be tremendous for obvious reasons but Covid-19 infected human bodies can't be embalmed says health ministry and hence can't be used for medical education purpose.

9. Conclusions and Solutions

1. Aggressive campaigning of body donation awareness is need of hour.
2. Excessive use of television, media/press, internet, newspaper in campaigning is required.
3. Development of skilled manpower capable of spreading organ and body donation awareness through various methods.
4. Voluntary/excessive participation of popular personalities, social workers, spiritual leaders, Brahma-Kumari's, etc in awareness programs.
5. Integration of organ/body donation concept/facility within existing state public health services at various

levels.

6. Last but not least, socio-economic and cognitive development of population of north Karnataka should be focused on.

10. Source of Funding

None.

11. Conflict of Interest

None.

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Cite this article: Charmode S, Mohanty A, Kumar S, Mishra V. Teaching human anatomy without cadavers: Indian scenario in 2020. *Indian J Clin Anat Physiol* 2020;7(3):250-252.