

STUDY OF KNOWLEDGE, ATTITUDE AND PERCEPTION REGARDING MEDICOLEGAL AUTOPSY AMONG MALAYSIAN HINDUS: A FOCUS ON HINDUISM

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ABSTRACT

Autopsy plays a vital role in determining the cause of death. The awareness and knowledge about medico-legal autopsy is still questionable even among the well educated people. The aim of this present study is to investigate the knowledge, attitude and perception regarding medico-legal autopsy among Malaysian Hindus. A cross sectional design was used in order to achieve the research objective more precisely. A total of 200 Malaysian Hindus aged above 18 years were participated in the study. A questionnaire was designed to determine the knowledge, attitude and perception regarding medico-legal autopsy among them. The investigation provided ranges of result showing the varied knowledge among the Malaysian Hindus. The results were analysed statistically using frequency and percentage and presented as tables and figures. Surprisingly 28% of the respondents did not know the meaning of autopsy/post-mortem and remaining 72% of the participants have the knowledge of autopsy. It is shown that 70.5% of the respondents have agreed that medico-legal autopsy is the procedure in establishing the cause and manner of death accurately in clinical and forensic cases and 29.5% of the respondent disagreed this statement. The result revealed that based on the cultural belief, 72.5% of the participants are allowing autopsy while remaining 27.5% are objecting autopsy. Although the majority of the respondents are aware and accepting of medico-legal autopsy, considering the refusal rate, steps are needed to increase the awareness and confident on medico-legal autopsy among Malaysian Hindus.

Keywords: Medicolegal autopsy, Knowledge, Attitude, Perception, Malaysian Hindus.

No:of Figures: 6

No:of Tables: 3

No:of References:22

INTRODUCTION

Autopsy, also known as the post-mortem examination, is the dissection of a dead body (Madedinet *al.*, 2014). The autopsy is beneficial in determining the cause of death, the time of death, validity of therapeutic modalities, potential medico legal issues surrounding death, and providing data on disease and injury (Brooks & Dempsey, 1991). Autopsies are performed by pathologists, forensic medicine doctors who have received specialty training in the diagnosis of diseases by the examination of body fluids and tissues. In academic institutions, autopsies are also requested for teaching and research purposes. A clinical autopsy is the final step in the identification of a person's illness or cause of death meanwhile the medico-legal autopsy plays an important role in the administration of justice (Ravi *et al.*, 2013). Literature reviews indicated that the autopsy rate is declining globally (Prageneshet *al.*, 2013). The result of the research conducted in Canada (Wood & Guha, 2001), France (Showstocket *al.*, 1983), China (Zhu & Zhang, 2004), Zambia (Lishimpiet *al.*, 2001) and USA (Mc Phee & Bottles, 1985) presented similar declining trends in autopsy rate. Many people treat the body as the only symbol of the deceased, the icon of the dead person's life. Autopsy destroys this great symbol (Vance, 1990). Under the order of the legal authority, the medico-legal or forensic autopsy is usually conducted in certain cases involving doubtful, unexpected, uncertain, abnormal, litigious or criminal deaths. But in some way, this procedure is still under the umbrella of misconceptions, myths and

emotions by the normal people (Rajesh *et al.*, 2013). Furthermore various customs, beliefs, and practices surrounding death are customary to all cultures and religions and have developed disagreement regarding anatomic dissections and post mortem examinations (Boglioli and Taff, 1990). The attitudes of the public have become an important factor for its decline (Wei-Qianget *al.*, 1998).

Malaysia is a multicultural and multi confessional country. As of the 2010 Population and Housing Census, 61.3% of the population practices Islam; 19.8% Buddhism; 9.2% Christianity; 6.3% Hinduism; and 1.3% traditional Chinese religions. The remainder is accounted for by other faiths, including Animism, Folk religion, Sikhism and other belief systems (Meredith L. Weiss, 2015). The present study was aimed to study the knowledge, attitude and perception regarding medico-legal autopsy among Malaysian Hindus. Additional aim was to determine the factors that influencing the autopsy refusal by Malaysian Hindus.

Materials and methods

Study design

A cross-sectional survey was designed and conducted in order to achieve the objectives and to define the problem more precisely. The cross-sectional design is the best way to use because the research attempts to analysis the data collected from a Hindu population in Malaysia. A sample of 200 Hindu volunteers aged above 18 years old were randomly chosen and informed consent were also obtained (Rajesh *et al.*, 2013).

Data collection

The study subjects were clearly explained about the purpose and importance of this valuable research. The primary data were obtained from the self-administered survey for this study. The questionnaires were distributed to the Malaysian Hindus participants aged above 18 years old to determine their knowledge, attitude and perception regarding medico-legal autopsy.

Statistical analysis

The procured data were compiled, organized and analysed statistically. The

descriptive results were presented as figures and tables using frequency and percentage. In the present investigation various features viz. knowledge, attitude, perception regarding autopsy in addition to refusal rate were analysed statistically and presented in tables 1-3 and figures 1-4.

Results and discussion

Figure 1 shows that 144 respondents (72%) demonstrated satisfactory knowledge of autopsy whereas 56 respondents (28%) did not have the basic knowledge about autopsy.

Fig 1. Bar graph showing respondents' knowledge in autopsy

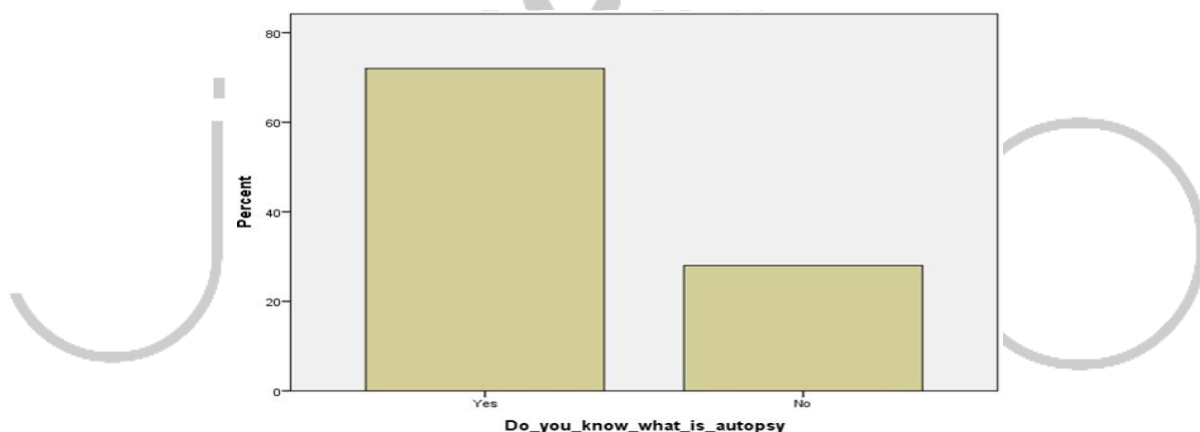


Fig 2. Bar graph showing respondents' knowledge in medico-legal autopsy

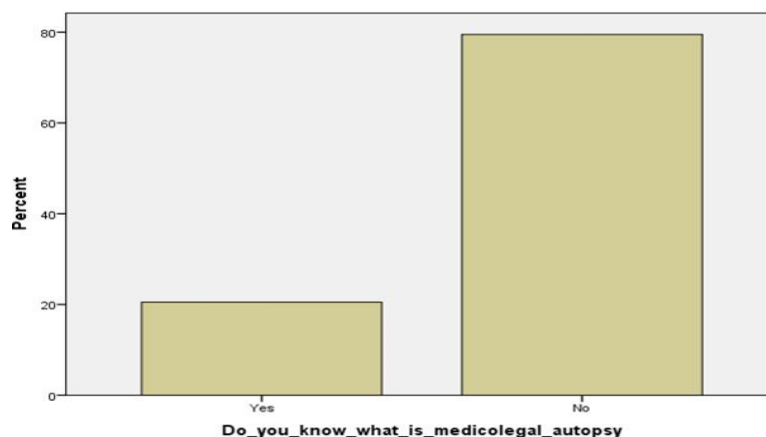


Figure 2 shows the respondents knowledge in medico-legal autopsy. Only 41 (20.5%) respondents have the knowledge in medico-legal autopsy and the remaining 159 (79.5%) respondents did not know about medico-legal autopsy, even though some of them were educated.

Fig 3.Bar graph showing attitude towards family members’ consent to autopsy

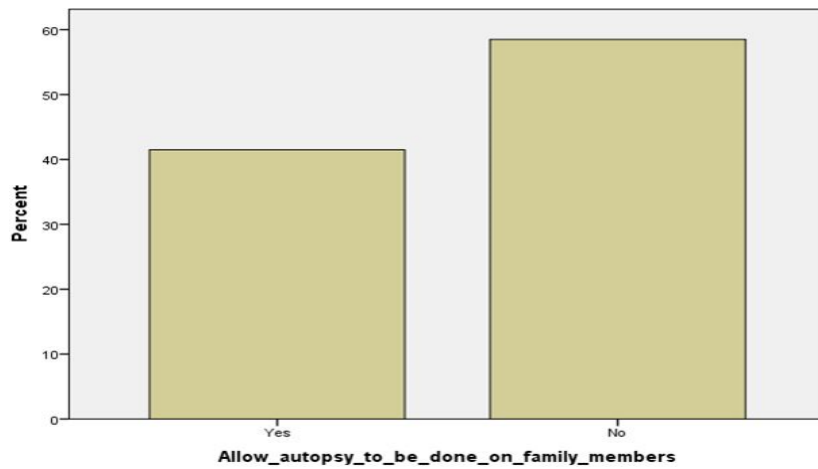


Figure 3 presents that 83 (41.5%) respondents would consent to autopsy on their deceased family members. The remaining 117 (58.5%) respondents would not consent to autopsy on deceased family members. This may be due to body

disfigurement in autopsy, removal of visceral organs for chemical analysis and also to cause delay in their religious funeral arrangements. This finding is in accordance with the previous study (Joon, 2014).

Fig 4.Bar graph showing the consent to autopsy by Malaysian Hindus

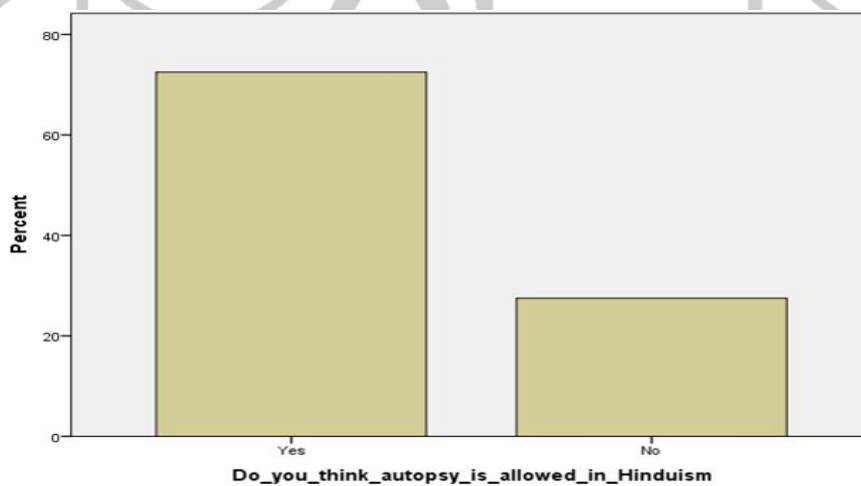


Figure 4 shows that 145 (72.5%) respondents have accepted for autopsy while 55 (27.5%) respondents have the view that autopsy is not allowed in Hinduism. Hindus believe that disturbing the body of the deceased either in the

form of autopsy or any other means consider disturbing their soul and inhibits the soul from moving onward. Anyhow the investigation shows that the acceptance of autopsy rate is comparatively higher than refusal

rate because of general awareness and higher level of education. A similar study conducted on medical students by Khoo and Joon showed that 7.5% of them opined that post-mortem examination is a disrespect to human body. Also 2.5% of the students opined that post-mortem examination is a harassment to the relatives of the deceased (Khoo and Joon, 2010).

Autopsy may be classified into Medico-legal (ML) autopsy and clinical autopsy. Medico-legal autopsy or forensic autopsy is to answer and help the law enforcing

agencies to solve the crime. It is a backbone in the administration of justice. Whereas a clinical or pathological autopsy or academic autopsy is to study the disease process in situ or cause of death. Both the autopsies are following the similar procedure but differ in some aspects (Kotabagiet al., 2005). A questionnaire was also used to assess the knowledge about medico-legal autopsy and clinical autopsy among the participants. Table 1 shows that 69 (34.5%) respondents knew what clinical autopsy is and 30 (15%) respondents have the knowledge of medico-legal autopsy.

Table 1. Frequency and percentage distribution of respondents' knowledge in clinical and medicolegal autopsy (yes or no)

Variable	Definition of clinical autopsy		Definition of medicolegal autopsy	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Yes	69	34.5	30	15.0
No	131	65.5	170	85.0

Simultaneously another questionnaire was used to assess the knowledge in medico-legal autopsy examination procedure and related information. There are three types of questions were posed to

assess their knowledge in medico-legal autopsy. Table 2 presents the frequency and percentage distribution of respondents' knowledge on medico-legal autopsy procedure and its significance.

Table 2. Frequency and percentage distribution of respondents' knowledge on medico-legal autopsy procedure and its significance

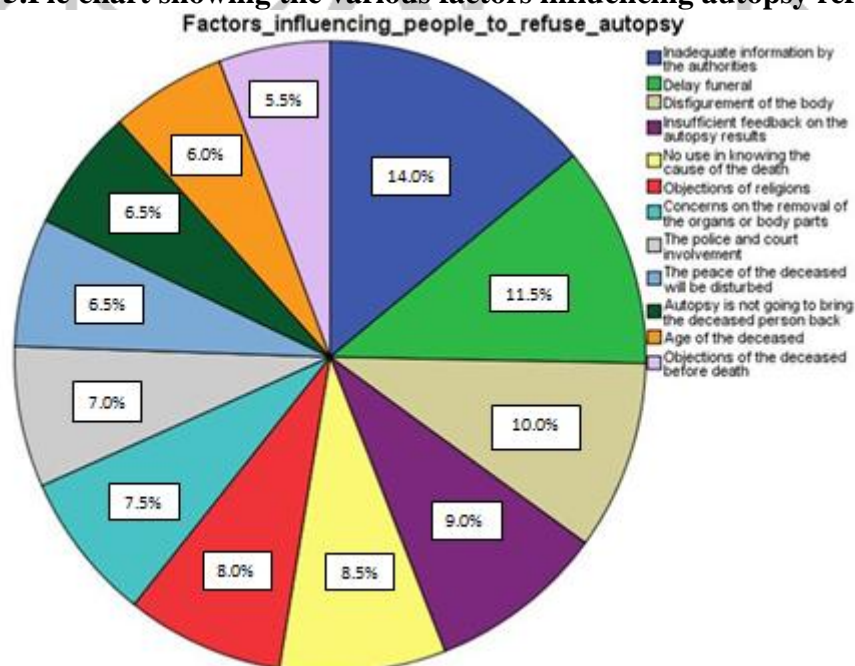
	Yes		No	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Medico-legal autopsy can tell us the cause of death	141	70.5	59	29.5
Medico-legal autopsy involves external body examination	82	41.0	118	59.0
Medico-legal autopsy involves internal body examination	123	61.5	77	38.5

Table 2 shows that 141 (70.5%) of the respondents have agreed that medico-legal autopsy would tell us the cause of death while 59 (29.5%) respondents disagreed this statement. Also 82 (41.0%) respondents knew that autopsy would involve external body examination but 118 (59.0%) respondents did not know this fact. While 123 (61.5%) respondents knew that medico-legal autopsy would involve internal examination but the remaining 77 (38.5%) respondents were unaware of this fact. This may be due to the lack of exposure to autopsy related information. This finding is in accordance with the result findings of perceptions of relatives toward medico-legal investigation and forensic autopsy in Haryana state, India (Rajesh et al., 2013).

As per Indian law, in medico-legal autopsy the preservation of viscera for

chemical analysis and histopathological examination is mandatory irrespective of religion (Jadeepet et al., 2013). Similar finding was observed in the research conducted by Joon (Joon,2014). Globally it is an undisputed fact that people are being influenced by many factors for their autopsy refusal. Figure 5 shows the multiplereasons for which family members would refuse to give consent for autopsy on a deceased relative. Inadequate information provided by the authorities is the main factor for autopsy refusal as per 28 (14%) respondents. This is followed by causing delay in funeral process as per 23 (11.5%) respondents. In Hindu culture, they consider dead body as a respectable person and take care of the dead body until is cremated or buried. They believe that autopsy can cause damages not only to the body but also to the soul. It raises emotional feelings with regard to human mortality and dignity.

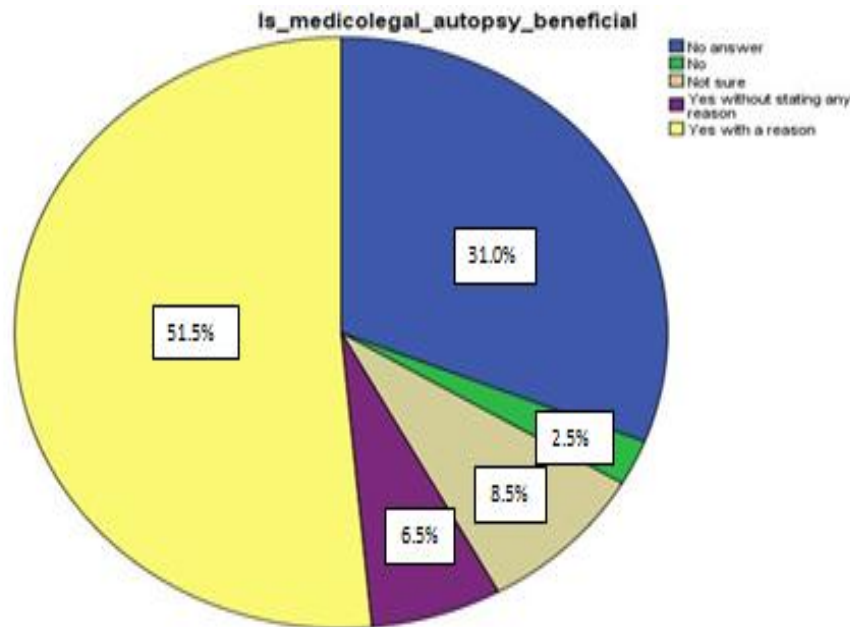
Fig 5. Pie chart showing the various factors influencing autopsy refusal



Disfigurement of the body, religious objections, non-considering the age and lengthy period of police and court involvement are some of the factors

influencing autopsy refusal by Hindus. These findings are coincided with the research finding in a previous study (Pragneshet al., 2013).

Fig 6. Pie chart showing the respondent’s opinion on the benefits of medico-legal autopsy



Medico-legal autopsy forms an important part of the duties in criminal justice system. It is conducted to ascertain the cause of death, manner of death, time since death, to establish the identity of the deceased and so on. The consent from the relatives of the deceased is not required to perform medicolegal autopsy (Nadesan, 1997). The study revealed that most of the respondents have neither adequate knowledge about autopsy nor counselled another family members about autopsy. Figure 6 shows the respondents' knowledge and opinion on the benefit of medico-legal autopsy. The majority of the respondents have agreed and accepted the importance and benefit of medico-legal autopsy.

reason (purple color), c) not sure (grey color), d) no (green color) and e) leave blank (blue). The result shows that 103 (51.5%) respondents have ticked, yes with reason, accepted the benefits, 13 (6.5%) of them ticked, yes without any reason, 17 (8.5%) respondents ticked, not sure, 5 (2.5%) respondents ticked, no and the remaining 62 (31.0%) respondents, left blank without any tick. The present study indicated that majority of the Malaysian Hindus are aware of the importance of medico-legal autopsy. Beginning in the 1950s, hospital autopsy rate started falling from an average of around 50% of all deaths to 10% in the late 1990s. Currently, the rates are even lower at non-academic hospitals. In 1970, the Joint Commission for Accreditation of Hospitals dropped the requirement that a hospital needed an autopsy rate of 20% to be accredited. The decline in hospital autopsies has continued throughout the

UK in recent years (Angus et al., 2015).In order to ascertain the Hindus autopsy rate in Malaysia, we requested information from Forensic Unit, Government Hospital, Sungai Buloh,

Selangor state, Malaysia for the years between 2007 and 2014. The hospital authority provided the information and is presented in Table 3.

Table 3. Trend in autopsy rate on Hindus in Forensic Unit, Government Hospital, Sungai Buloh, Selangor state, Malaysia between 2007 and 2014

Year	2007	2008	2009	2010	2011	2012	2013	2014
No of autopsy	45	49	60	55	70	53	71	66

autopsy and mostly religious

Table 3 shows that the autopsy rate from the year 2007 to 2014 did not show any continuous decline trend but shows only fluctuation in figures. This is because of the actual cases reported during these years. Autopsy is practiced in Islamic countries, but due to social issues based on some religious beliefs autopsy is unfavorable among public, only a few Arabic countries have published their experiences in the field (Madedin & Magdy, 2014).

Conclusion

The findings of this study revealed that even though the knowledge and attitude toward medicolegal autopsy among Malaysian Hindus are generally positive, a few had true concept. Malaysian Hindus with autopsy knowledge did not show interest in autopsy and thus leading to autopsy refusal. The important factors influencing autopsy refusal in this study include inadequate knowledge on autopsy, body disfigurement after the autopsy, insufficient feedback in autopsy result, considered “no use” in conducting

consent. Hence it is important to find out the most appropriate ways and means to raise the awareness and to form positive attitude among the people towards medicolegal autopsy. Currently virtual autopsy procedure is being adopted in some of the countries which may reduce the above hurdles and to strengthen the confidence on medicolegal autopsy among the population.

Conflict of interest

The authors have no conflict of interest to declare. The authors did not receive any specific funding for this research.

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References

- Angus T, Michael O, Nick N** (2015). Hospital autopsy: Endangered or extinct? *J Clin Pathol*.10: 1-4.
- Bhullar DS, Gorea RK, Aggarwal AD** (2004). Medico-legal autopsy by panel of doctors: Present scenario. *J Indian Acad Forensic Med*.26(3): 71-73.
- Bierig JR** (2001). Informed consent in the practice of pathology, *Archives of Pathology and Laboratory Medicine*.125: 1425-1429.
- Boglioli LR, Taff ML** (1990). Religious objection to autopsy: an ethical dilemma for medical examiners. *Am J Foren Med Pathol*.11: 1-8.
- Brooks JP, Dempsey J** (1991). How can hospital autopsy rates be increase 1? *Arch Pathol Lab Med*.115: 1107-11.
- Jadeep CJ, Bhaskar NP, Kalpesh AS, Rakesh NT** (2013). Knowledge and Attitude of Medical Students on Forensic Autopsy in Ahmedabad City. *J Indian Acad Forensic Med*. 35(1):26-28.
- Joon JK** (2014). Perceptions of medical students towards autopsy as an educational tool. *JContMedi Edu*. 2(1): 57-62.
- Khoo, JoonJoon** (2010). Third-Year Medical Students' Views on Autopsies. *Pathology*. 42: 71.
- Kotabagi RB, Charati SC, Jayachandar MD**(2005). Clinical autopsy vs medicolegal autopsy. *Medi J Armed Forces India*. 61: 258-263.
- Lishimpi K, Chintu C, Lucas S and et al** (2001). Necropsies in African children: Consent dilemmas for parents and guardians, *Archives of Disease in Childhood*. 84: 463-467.
- Madedin M, Magdy AK** (2014). Autopsy in Islam and current practice in Arab Muslim countries. *J Forensic and Legal Med*. 23: 80-83.
- McPhee SJ, Bottles K** (1985). Autopsy moribund art or vital science? *American J Medicine*. 78: 107-113.
- Meredith L. Weiss** (2015). *Handbook of Contemporary Malaysia*. Routledge Publisher, Taylor and Francis group, New York.
- Nadesan K** (1997). The importance of medico-legal autopsy. *Malays J Pathol*.19 (2): 105-109.
- Pragnesh P, Gunvanti B, Rathod** (2013). Study of knowledge, attitude and perception regarding medico-legal autopsy in general population. *Int J Med Pharm Sci*. 3(6): 1-6.
- Rajesh DR, Mukul C, Abhishek S, Anu B, Prasanna M, Adiba S** (2013). Perceptions of relatives toward medico-legal investigation and forensic autopsy: A cross-sectional survey from rural Haryana. *J of Med Soc*. 27: 173-176.
- Ravi R, Avishek K, Behera C** (2013). Attitudes of medical students towards medico-legal/ clinical autopsy. *J Indian Acad Forensic Med*. 35(4): 358-364.

Showstock JA, Shroeder SA, Matscunnet MF (1983). Changes in the use of medical technologies 1972–1977, The New England Journal of Medicine. 306: 706–712.

Vance RP (1990). An unintentional irony: the autopsy in modern medicine and society. Hum Pathol. 21(2):136-144.

Wood MJ, Guha AK (2001). Declining clinical autopsy rates versus increasing medico-legal autopsy rates in Halifax, Nova Scotia: Why the difference? - A

historical perspective, Archives of Pathology and Laboratory Medicine.125(7): 924–930.

Wei-Qiang Z, Yin-Hui F, Angela N (1998). Public attitudes towards the autopsy in China. Pathology. (2):92-94.

Zhu KQ, Zhang SJ (2004). Analysis of autopsy cases in 50 years, ZhonghuaNeiKeZaZhi. 43(2): 128–130.

