

AUTOPSY: Knowledge and Perception of undergraduate medical students in current teaching system

*Naz R, **Fatima M, ***Zameer S, ****Tariq S, *****Rubeen R, ***** Ahmed A, Abro Q F, Ahmed A

Abstract:

Objective: To evaluate their acquaintance about autopsy, appropriate way of teaching and to appraise their views for the procedure of autopsy and recognition of Forensic as profession.

Methodology: A cross sectional questionnaire-based study was done in 2015 to 2016, in a public university running modular system. Data were collected by convenient method, from students of 3rd year and ahead. More than 250 forms were distributed and only 193 completed and analyzed by SPSS 17.

Results: Out of 193 students, 165 students claimed to recognize the “autopsy” and 28 not understand the procedure. Only 20 students observed more than 4 autopsies. Out of 193, 179 believed that Forensic education should not be scrapped from the medical syllabi. For teaching methodology 123 preferred a live autopsy and 64 students appreciated watching videos and only 6 favoured books. About 167 students stated autopsy as mandatory in all unsuspected deaths, and 172 agreed for usefulness in medical education but 111 found it disrespectful to the dead body. Around 166 students consider forensic not a prospective profession and 93 suggested its limited scope in Pakistan.

Conclusion: Students were aware of the value and necessity of autopsy as a medicolegal procedure. Adequate time must be fixed for viewing autopsy procedures to insure their complete competency. There is need for continuing efforts to improve the teaching of autopsy within a modular system.

Keywords:

Autopsy, Undergraduate Medical Education, Forensic Medicine, Forensic Education

Introduction:

The word autopsy has its origin in the Greek word ‘autos’ meaning oneself and ‘opsis’ meaning sight, so the word literally means see for oneself. It can be defined as the detailed scrutiny of the external surface and internal contents of the body after opening its cavities. It is further classified into clinical and medicolegal autopsy. Hospital / clinical autopsy is the complete and thorough scientific examination of a dead body that includes dissection, to determine the cause of death and or the nature of diseases in the human body.¹ On the other hand, medicolegal autopsy is performed in pursuance of law to establish the cause and manner of death and to rule out any foul play.² The knowledge, skills and value of autopsy in an educational system has long been established.³ Usual method of teaching and learning is by receiving theoretical knowledge through lectures and skills and values practically thru watching autopsies. In such away medical students become more proficient in their observational skills and also acquire a better understanding of anatomy and clinico-pathological correlations.⁴ Through autopsy they have a chance to learn about legal and ethical issues relating to death, death certification and autopsy protocol.⁵ Although the benefits of autopsy are numerous, the autopsy rate throughout the world has decreased dramatically. This is perhaps due to the success of new diagnostic techniques and investigations.^{4,6} Lack of consent for autopsy from relatives of the deceased person is another reason for this decline.⁷ Since autopsy can make an important contribution to medical education, decline in hospital autopsy rates threatens this role.⁸ Medical students who had gone through the subject of Forensic medicine including autopsy it was required to reveal their understanding about autopsy and their perceptions of its

teaching manner in current modular system. Our aim by this study was to gather the views and perception of undergraduate medical students about autopsy, its need of education and means of education in current teaching system. We were also interested to appraise their personnel views for dead body handling, the ways and means of procedure of autopsy and how they recognize Forensic medicine as profession.

Methodology:

It was a cross sectional study done during 2015 to 2016, with the students of public sector university running modular teaching system. Those students who have gone through the core knowledge of autopsy and have got the opportunity to see the event of autopsy procedure and must have completed semester V and VI (3rd Year) were included. So only students of 3rd year and onward were included and students of prior years (1st and 2nd year) were excluded. Data were gathered by convenient method, through filling a questionnaire about the understanding of autopsy and its teaching in a modular system and their personal views. More than 250 forms were distributed and only 193 completed and received which were analyzed further.

In the questionnaire, the question comprised of demographic data of students, questions related with knowledge and learning of autopsy and manner of Teaching autopsy in modular system and their Personnel responses for procedure, in relation of dead body handling and their recognition as profession for Forensic medicine. The collected data was subjected to analyzed by SPSS version 17.0 for calculating the frequency, percentage and chi square test for significance at various level.

Results:

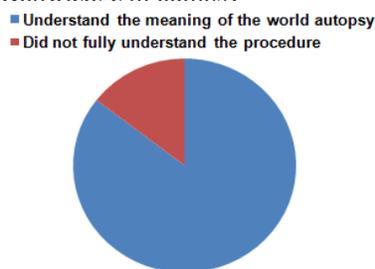
The results compiled by the study revealed that out of a total number of 193 students, 87 were males (45%) and 106 were females (55%) and the mean age of the respondents was 22 years. Student's views and perceptions were grouped in three main categories; a) knowledge of autopsy, b) methodology of teaching and c) personnel response of medical students for procedure, in relation of dead body handling and their recognition as profession for Forensic medicine

Knowledge of Autopsy: In response to the question that “do you fully understand the meaning of autopsy and its protocols” 165 students (85.49%) claimed to understand the meaning of the word “autopsy” and for procedure 28 (14.5%) reported that they did not fully understand the procedure (Fig. 1). Only 20 students (10.36%) had observed more than 4 autopsies in their entire 3rd year of Forensic education, and 32 (16.58%) had not witnessed any autopsies. Most the respondents 141 (73.05%) had however, seen 2-3 autopsies during the course (Table 1).

Table 1: No. of autopsies watched during 3rd year

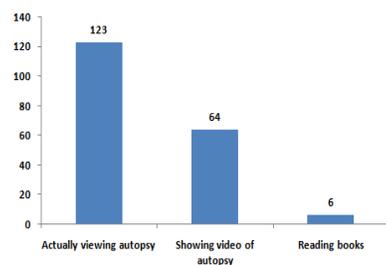
No. of Autopsies	No. of Students
More than 4 autopsies	20
2-3 autopsies	141
No autopsy	32

Fig. 1: Knowledge of autopsy



Methodology of teaching: Viewing it on a live basis was preferred by 123 (66.83%) students as compared to watching videos. 64 students (33.16%) appreciated to watching videos of autopsies being performed as a teaching method. Only 6 students responded that the topics learned through autopsy can be learned through book reading (Fig. 2).

Fig. 2: Preferred teaching methodology



Personnel response of medical students for procedure, in relation of dead body handling and their recognition as profession for Forensic medicine:

The students had a wide range of opinions on autopsy. The results showed a consensus of 167 students (86.52%) who

believed in carrying out a mandatory post mortem examination in all kinds of unsuspected death scenarios and 172 students (89.11%) agreed that autopsy is a useful and necessary knowledge and procedure in medical education. 126 (65.28%) agreed that postmortem examination is done to investigate the cause of death, while 35 (18.13%) thought autopsy is a mere legal formality (Table 3). When asked if undergrad students should observe autopsies, 119 (61.65%) replied in the affirmative while in general; 171 (88.6%) thought that solely attending a postmortem examination proved beneficial as a forensic student. On the other hand, 111 (57.51%) did deem it disrespectful to the dead body. A stark majority of 179 (92.74%) believed that Forensic education should not be scrapped from the medical syllabi. Nevertheless, more than half, 106, (54.92%) did not see any role of autopsy in the health care delivery system. Specialization in forensic medicine was not popular among 166 students (86.01%) and the strongest reason given by 93 (48.18%) was that Forensic medicine had limited scope in Pakistan.

Table 3: Personal response of medical students for the procedure of autopsy, in relation of dead body handling and their recognition as forensic medicine specialist

Personal Views	Students Responses
Autopsy is a useful and necessary knowledge and procedure in medical education	172 (89.11%)
Autopsy is a mere legal formality	35 (18.13%)
Mandatory post mortem examination in unsuspected death	167 (86.52%)
Post-mortem examination is done to investigate the cause of death	126 (65.28%)
Solely attending a post-mortem examination proved beneficial as a forensic student.	171 (88.6%)
Students should observe autopsies: affirmative in general	119 (61.65%)
Autopsy Procedure Disrespectful to the dead body	111 (57.51%)
Forensic education should not be scrapped from the medical syllabi	179 (92.74%)
No Specialization in forensic medicine	166 (86.01%)
Forensic medicine had limited scope in Pakistan	93 (48.18%)

Discussion:

The autopsy has long been recognized as a valuable educational experience and the gold standard by which post mortem diagnosis are made.⁹ The uses and importance of autopsy go far beyond the traditional uses of teaching pathophysiology and clinical correlations with the gross and microscopic anatomy of disease and visual skills. The potential role of autopsy in medical education regarding legal/ judicial proceedings, vital statistics, epidemiological investigations as well as in the understanding of medical uncertainty, fallibility and grief also cannot be ignored.^{7,8} The autopsy plays a major role in training students for uncertainty which is the process by which students learn about some of the uncertainties of medicine and develop ways of coping with them.¹⁰

The educative importance of post-mortem examination is so unmistakably valued by the students and most students concurred that post-mortem examination is an instructively helpful and important method. These perspectives of students are tantamount to different studies which have noticed the perspectives of students on autopsy.^{6,11,12}

Greater number of students concurred about need and convenience of post-mortem examination in medical education and its esteem has likewise been valued by the students in medicinal curriculum. These perspectives are practically identical to different studies containing the outlook about post-mortem examination.^{13,14} One of the study has cited that despite the fact that students are prepared to view the necropsy as helpful in clinical practice, a single illustration does not illuminate what its uses are.¹¹

Out of a total of 193 students, 87 were male (45%) and 106 were female (55%). There is no measurable distinction in the perspectives of male and female students on anything in the present study perhaps because they all had comparative educational background and financial status. Most of the respondents knew what an autopsy entails as 165 students (85.49%) claimed to understand the meaning of the word "autopsy" while only 28 (14.5%) reported that they did not fully understand the procedure (Fig. 1). However, it is quite necessary that each and every medical student should be able to discern what an autopsy is and its relevance to medical curriculum as doctors with presentation to the post-mortem experience might be more open to requesting a post mortem examination for their patients if required They might be more learned and be better prepared to answer inquiries from the dispossessed family.⁹

About 141 (73.05%) of students had seen 2-3 autopsies in third year, only 20 students (10.36%) had observed more than 4 autopsies in their entire 3rd year of Forensic education, and 32 (16.58%) had not witnessed any autopsies. Similar findings were observed in a study by Ahmed N et al, where 87% agreed upon need of watching more autopsies.¹⁵ A viable explanation for these results could be that in the current teaching system the time allotted for forensics teaching is 100 hours. This gives students very little time to focus on subject which do not have enough credit hours to warrant attendance. In common with other studies, there was general agreement amongst our students that attending autopsies was a useful experience, and that attendance at multiple autopsies improved the benefits derived from them.^{11,16}

Our study highlights that students believe that autopsy is highly beneficial for learning basic sciences, such as anatomy and physiology, particularly about the more vital appearance of organs and tissues. Students also agree that visual observation of post-mortem examinations is very important. They also specified that physically attending such sessions is of more benefit to them than watching autopsy videos or other teaching tools.^{3,6,17} A stark majority of 179 (92.74%) (Table 3) believe that Forensic education should not be removed from the medical

syllabus, which indicates a healthy outlook of students towards the subject in general. Concurrent findings are observed in another study conducted in Faisalabad.¹⁴

When 111 students asked about their religious perspective about autopsy believed that autopsy is disrespect to the dead body and they felt uncomfortable when they participated in autopsy. (Table 3) similar findings are seen in study conducted in turkey.¹⁸

Specialization in forensic medicine was not popular among 166 students (86.01%) and the strongest reason given by 93 (48.18%) was that Forensic medicine had limited scope in Pakistan. Comparative findings are seen in other studies with different reasons.^{14,15}

Literature review has highlighted the potential importance of autopsy in undergrad education, yet its unmistakable quality has lessened in late decades because of decrease in examination rate and medical students in a few institutions may qualify while never entering a mortuary.^{13,14} The declining post-mortem examination rates had been reported by a few authors in various purviews including England/Wales, Canada, France, China and Zambia.^{19,20} The disposition of medical teachers ought to urge the students to wind up noticeably more keen on watching post-mortem examinations. By utilizing the imaginative innovation in instructing post-mortem examinations to the medical students.¹⁴ Autopsy provide important learning open doors for students of Forensic Medicine to refresh their clinical learning and pathological findings about strides required in strategies of post mortem examinations.^{21,22}

Conclusion:

It was ensured that students were aware of the value and necessity of autopsy as a medicolegal procedure and adequate time must be allotted during clinical rotations for viewing autopsy procedures. Our findings accentuate the need for continuing efforts to improve the teaching and training of medical students with regards to autopsy with forensic within an integrated modular system to overcome the essentiality of subject as per required to the professional needs and impact.

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*Ramlah Naz, Assistant Professors, Forensic Medicine Department.
**Mehreen Fatima, Assistant Professors, Forensic Medicine Department.
***Smbreen Zameer, Department of Pathology, Dow Medical College, Dow University of Health Sciences Karachi.
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- ****Summaiya Tariq, Senior Women Medico-Legal Officer & Visiting Faculty of Liaquat College of Medical and Dentistry Karachi
*****Rukhsana Rubeen, Professor of Biochemistry, Dow International Medical College, Dow University of Health Sciences Karachi
*****Aysha Ahmed, Fiza Qambar Abro, Amna Ahmed, Students' of 4th year M.B.B.S. Dow Medical College, Dow University of Health Sciences Karachi