

# Medical Students' Perceptions regarding autopsy as an educational tool

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## ABSTRACT

**Aim:** To determine the cognizance and viewpoint of medical students regarding the autopsy and the subject of Forensic Medicine & Toxicology.

**Study design:** The study design is observational cross-sectional study.

**Place of study:** Rai Medical College, Sargodha

**Methods:** MBBS 3<sup>rd</sup> year Students were analyzed before and after autopsy examination after completing the autopsy visits of MBBS 3<sup>rd</sup> year students with the dedicated members of the faculty, were participated in the study to share their views and perception regarding the subject on an especially designed questionnaire with 5-point Likert scale. Perception of the students regarding autopsy examination usefulness of the subject in medical education, their personal distaste for the procedure; staff attitudes; and exploration of alternative teaching methods. The data was analyzed to determine simple frequency distribution and mode of the students' responses. The difference between male and female students' responses was calculated by using student t tests. All analyses were carried out using SPSS Version 22.

**Results:** Students perceptions revealed that autopsy is very essential part of medical education and substitutes of it like videos and printed material can not be helpful in understanding of medicolegal and judicial and medical correlations. Teaching staff and supportive staff attitude is quite helpful in learning process. Advanced equipment for medicolegal autopsy is essential as compared to old one. Visit to the scene of crime by forensic autopsy surgeon is very essential component in an investigation.

**Conclusion:** Value able learning skills based on autopsy, legal, judicial procedure cannot be academically learnt elsewhere.

**Keywords:** perception, autopsy, educational tool

## INTRODUCTION

Scientific examination of dead body is called Forensic autopsy or Medicolegal autopsy. It is carried out under the laws of State only on the requisition of a legal authority responsible for the investigation of sudden, suspicious or unnatural death. The legal authority is usually a police officer not below the rank of sub inspector or an Executive Magistrate<sup>1,2</sup>. Surgeon Medicolegal Punjab given directives about the medicolegal and autopsy examination conduct in which the female and male doctors working on a regular or contract basis in the emergencies of all rural health centers, THQs, teaching hospitals and department of Forensic Medicine are lawful to conduct the autopsy<sup>3</sup>. The use of the autopsy in teaching undergraduate medical students is a well-known worldwide practice Autopsies are used for teaching anatomical and forensic pathology to under- and postgraduate students<sup>4,5</sup>. In starting of the 20<sup>th</sup> century influential Oslerian philosophy guided that in medical education the role of autopsy is fundamental and insisting on the students that they should be learnt to conduct the autopsy apart from attending it. Unfortunately, in 20<sup>th</sup> century, rate of autopsies and to teaching medical students declined worldwide<sup>6,7,8,9</sup>. A qualitative study on the usage

and curriculum, indicating that autopsy is involving or dependent on a number of factors, and can be an especial assistance as teaching tool in anatomy and for better understanding the clinicopathological, clinicophysiological associations and along with that it will be help in clinical teachings in the setting of department of Forensic medicine which also help in leading to death certification<sup>10</sup>. In our study the prime objective of our study to determine the interpretation, beliefs, & understanding of medical students regarding the autopsy and about the subject of Forensic Medicine & Toxicology has been tried to be discover as students are contemplated to be helpful in the augmentation of medical education and for the improvement of humanity or clinical approach or to ascertain the cause of death in future.

## MATERIALS & METHODS

Study was conducted at Rai medical college, Sargodha and 100 MB&BS third year medical students were voluntarily participating in present study and divided into three groups for observing the autopsy and its procedure. Institutional ethical committee approved the study. Autopsy was observed in DHQ hospital Sargodha and each student stood next to the autopsy table. The views of students were analyzed before and after autopsy on an especially designed questionnaire with 5-point Likert scale. Perception of the students regarding autopsy examination usefulness

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of the subject in medical education, its understanding the abilities, teaching staff attitude, personally take up as a carrier, feeling anxieties, methodically unfriendly skill, involvement of a more than one number of autopsy surgeons, their personal distaste for the procedure, Hygiene and Sanitation and exploration of alternative teaching methods were analyzed in a questionnaire form. The data was analyzed to determine simple frequency distribution and mode of the students' responses. The difference between male and female students' responses was calculated by using student-t test. All analyses were carried out using SPSS Version 22.

## RESULTS

One hundred medical students participated in our study giving their opinion in a questionnaire form out of which 48 males and 52 females. As such no any statistical variation among the viewpoint of male and female students on any questionnaire during the study.

Autopsy is essential technique in medicolegal as well as in medical education of our country and majority of the students 67% agree on that view point and 26% strongly agreed that it is an essential component of medicolegal and in medical education. The abilities and understanding regarding the Forensic Medicine without autopsy put a heavy burden on understanding of the subject and 50% students agreed and 8% strongly agreed that we can't enhance our abilities and understanding of the subject. 10% students disagree with the statement and only 4% strongly dis agreed with the statement. Observation of autopsy is a very useful and worthwhile experience for almost all students in which 71% agreed and 19% strongly agree with the statement. Trained teaching staff attitude always helpful for students and gives inspiration in autopsy learning process and 55% students agree and 12% strongly agreed. 8% students disagree and 5% strongly disagree with the statement. Students felt anxieties while observing autopsy 36% agreed and 9% strongly agreed accepting that they felt anxiety while observing autopsy, remaining students 32% disagree and 5% strongly disagree and did not feel any anxiety. Witnessing autopsy is not a disgusting and unfriendly skill and 39% students disagree and 9% strongly disagreed with the statement that they have revulsion for witnessing autopsy and it was methodically unfriendly skill for me. In Pakistan only Government hospitals and Institutes are authorized for autopsy and for observing the autopsy at another institution is quite hectic for the medical students of private institutions but majority of our students 58% disagree and 9% strongly disagree with the statement supporting the statement that it is not a waste of time but it is part of training. Our students pointing out that videos of autopsy examination cannot be helpful as compared with the live autopsy examination, and

41% disagree and 7% strongly disagree that videos of autopsy examination cannot be a better alternative. Observing autopsies of different cases are more helpful for students to understand the subject and its importance in judicial and in medical education. Our students 65% agree and 13% strongly agree and supporting the statement that for subject's better understanding autopsy of different medicolegal cases should be observed.

To understand the importance of practical medicolegal examinations it should be highlighted that without viewing the medicolegal procedure of different cases at autopsy table everyone cannot learn about medicolegal examinations and majority of our students 51% agree and 11% strongly agree on that viewpoint. Hygiene and sanitation is also an important factor for proper conduction of autopsy procedure to prevent the forensic expert and medicolegal staff from viral and bacterial diseases. In such regard Students 46% agree and 42%strongly agree on the point that Sanitation and hygiene of autopsy room must be maintained.

In Pakistan only one forensic specialist involves in any autopsy case due to their lack number of specialists and lack of training programs for junior doctors. Only in Standing medicolegal board in which more involvement of autopsy surgeons in this regard students 56%agree and 31% strongly agree that due to more involvement of autopsy surgeons there is very less chance of omitting any sort of minor as well as major evidence. In Pakistan majority of the hospitals and mortuaries have lack of instrumentations and if they have, they are very old one it is essential for the ease of autopsy surgeon it should be replaced with the modern one. Students 46% agree and 37% strongly agreed that instrumentation should be replaced with modern one.

Visit to the scene of crime is very essential before autopsy examination to rule out the exact probability of evidence of any medicolegal cases. Unfortunately, there is no such rule in Pakistan to visiting the scene of crime to forensic specialist. In our students' point of view, it should be done before every autopsy performed at division and district, provincial levels and because they agree 59% and 24% strongly agree with the opinion that Forensic Medicine team should visit the scene of crime. In modern world the role and scope of Forensic medicine is not limited but unfortunately in Pakistan majority of the private medical colleges and other colleagues who are sitting in PMDC want to get rid of it from the MBBS curriculum due to their personal gains. Almost 38% agree and 8% strongly agreed candidates supporting this opinion that opinion.

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Autopsy is a valuable and essential technique in medical education and in medicolegal process.	13.829	99	.000	1.970	1.69	2.25
I cannot enhance my abilities and understanding regarding the Forensic Medicine without observing the autopsies	16.984	99	.000	2.060	1.82	2.30
Observing autopsies, a useful and worthwhile experience	14.024	99	.000	1.770	1.52	2.02
Observing autopsies influenced me to take up forensic medicine as my career	21.425	99	.000	2.520	2.29	2.75
Trained teaching staff's attitude inspired me autopsy learning process	15.668	99	.000	2.040	1.78	2.30
I felt anxieties while observing autopsy	18.567	99	.000	2.150	1.92	2.38
I have revulsion for witnessing autopsy and it was a methodically unfriendly skill for me	21.179	99	.000	2.410	2.18	2.64
Observing autopsies at another institution is a waste of time and my study schedule suffered.	21.423	99	.000	2.240	2.03	2.45
Videos of autopsy examination can be a better alternative than actually viewing of autopsies	19.844	99	.000	2.300	2.07	2.53
For Subject's better understanding, Autopsy of different cases should be observed by students.	14.450	99	.000	1.860	1.60	2.12
I cannot learn the important medicolegal cases by reading books only, without viewing actual autopsy or its examination	16.968	99	.000	1.950	1.72	2.18
Hygiene and sanitation of autopsy room should be maintained properly	16.909	99	.000	2.480	2.19	2.77
More involvement of autopsy surgeon can be helpful during autopsy	15.654	99	.000	2.150	1.88	2.42
Primitive instruments should be replaced with modern instruments in the autopsy room	16.864	99	.000	2.410	2.13	2.69
Active participation of students should be encouraged during autopsy	16.000	99	.000	2.150	1.88	2.42
Forensic Medicine Team should visit the scene of Crime for proper analysis	15.088	99	.000	2.050	1.78	2.32
Forensic medicine is Not a well-paid job	20.339	99	.000	2.380	2.15	2.61
Scope in Pakistan is minimal	18.637	99	.000	2.280	2.04	2.52

## DISCUSSION

Role of autopsy in a curriculum cannot be neglected and it can be educated successfully after observing the autopsy<sup>11,18</sup>. Observing the autopsy enhances cognizance of increasing number of patients with different medical conditions with skepticism in clinical medicine<sup>12</sup> and such expertise cannot be obtained elsewhere. In Pakistan our students observed the autopsy only in MBBS 3rd year but it can be taught within the 1st professional and 2nd Professional of medical education which helps students in adoptive logical reasoning with integration of various materials with problem solving (13). Autopsy potential value is greater in undergraduate's medical education but its fame has been reduced in recent decades and majority of the medical private institute's students pass out from their institutes without observing ever any single autopsy procedure in mortuary<sup>14</sup>. The motives for such decline due to insufficient exercise of doctors, inadequate curriculum duration & designing, challenging departmental needs inadequate number of hospital autopsies, modern diagnostic technologies and very difficult to get consented from relatives of the deceased<sup>11,18</sup>. In our student's viewpoint autopsy procedure cannot be learnt with only books or watching videos and it cannot be alternatives to

observing autopsies on an autopsy table. In support of this study showed that there is no benefit of only lecture on the particular subject to the freshly graduated doctors (15). Another study showed that autopsies exposure should be mandatory for medical graduates<sup>10</sup>. It not only to ascertain the cause and manner of death and helping to the legal and judicial system, it also helps to provide a broad view for understanding the other medical subjects and medical concepts of pathology, clinicopathological correlations and as well as anatomy which is further helps in rectification of arguments among the antemortem diagnosis. In our study students evidently fully cognizant regarding its needs and expediency. Another study at Ohio where 85% of the students were of opinion that it should be an obligatory and essential part for undergraduates medical students<sup>16,18</sup>. Only 21% of students were of the opinion that they want to opt forensic medicine as career but large number of students don't want it take up as career and reluctant because of going to the court and they want to do the specialization in other subjects. Similar results also found in study of India<sup>17</sup>.

## CONCLUSION

Autopsy is essential tool in medical education and in medicolegal system as well as in subject of Forensic Medicine & Toxicology. Viewing autopsy can help students to learn many different aspects of anatomy, pathology and clinicopathology along with legal and ethical issue.

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