

Original Research Article

Autopsy - Perception and Attitudes of Undergraduate Medical Students in South India: A Questionnaire Survey

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Abstract

Background: Autopsy is a investigative procedure that has been in use since several years. Even though It helps in arriving at a decision regarding the cause of death, its use is declining recently, which should be a cause of concern.

Aim and objectives: To determine the perception and attitude of undergraduate medical students towards autopsy.

Materials and methods: 300 undergraduate medical students, 200 females and 100 males were given a questionnaire and asked to fill the form anonymously. The data obtained was statistically analysed.

Results: Most of the students (235, 78.33%) were of opinion that autopsy procedure is necessary. Many of them stated that they gained knowledge from the autopsies they watched (246, 82%) and there is a need for casualty posting of Forensic Medicine for trauma, poisoning and other medico-legal cases (230, 76.66%).

Conclusion: Knowledge and attitude has a main role in improvement in the field of Forensic medicine and Toxicology.

Key words

Autopsy, Consent, Medico-legal, Medical students, Forensic Medicine.

Introduction

Autopsy in Greek means "to see with one's own eyes". Autopsy is a scientific study of a dead body and is categorized into clinical and medico-legal autopsies. It plays a crucial role in finding out the cause and the time of death, possible medico-legal issues surrounding death, providing data on disease and injury and also in administration of justice. Doctors with poor knowledge in autopsy may result in injustice [1, 2].

Recently the autopsy percentage is declining sharply all over the world and in China, autopsy has been scrapped out from the curriculum. According to Medical Council of India, our teaching curriculum should allow the compulsory witnessing of medico-legal autopsies by 2nd and 3rd year medical students, so that they can view and understand the diverse changes in tissues and organs [3, 4].

Apart from the hospital facilities and duty schedules, the limited curriculum by various medical councils is responsible for this decline in autopsies in medical institutions. Keeping in mind that autopsy helps students to understand various pathological conditions in several patients thereby making them a better clinicians in future, we carried out this study. Previously very few studies have been carried out regarding perception and attitudes of undergraduate medical students in south India [3-5].

Materials and methods

A questionnaire based cross-sectional study was conducted in SVS Medical College, Mahabubnagar, Telangana state, India for a period of one year (June 2015 to May 2016) after obtaining approval from Institutional Ethics Committee. A proforma with questions related to the autopsy and the speciality of Forensic Medicine and Toxicology was prepared and given to 400 medical students. 357 students returned the filled questionnaire proforma, with 57 incomplete forms. The study was carried out in 300 undergraduate medical students. A good

rapport was established with them. They were explained the purpose of study and prior written informed consent was obtained from all of them. They were informed about the confidentiality of the information collected, so as to get more reliable answers from them.

Results

Questionnaires were distributed to 400 medical students. Out of which, 357 students returned the filled questionnaire proforma, making the overall response rate of 89.25%. Fifty seven proformas were not considered for the study analysis, as they were found to be incomplete and lacking internal consistency. Finally the data of 300 participants were collected and included in the study. The data obtained was tabulated in a Microsoft Excel spreadsheet and analyzed statistically for number and percentage for all questions using SPSS Version 16. The data obtained is shown in **Tables 1-6**.

Table - 1: Gender wise distribution of participants.

Gender	No. of Participants	%
Female	200	66.66%
Male	100	33.33%
Total	300	100%

Discussion

Medical students must have adequate knowledge about autopsies as they are future clinicians, pathologists or forensic medicine experts. Attitude and understanding of the procedure will increase the autopsy rate. Reduction in autopsy rate is causing a worry to medical educators. Many factors contribute to this decline, like development of latest diagnostic techniques, inadequate training of students and objections of relatives to give consent for carrying autopsy [6-8].

In our study, all the participants witnessed at least ten autopsies each. We observed that 200 (66.66%) participants were female students and 100 (33.33%) were male (**Table - 1**). This gender

disparity might be due to more girl students preferring medical education and now a days this trend is seen almost in every medical institute in India [9, 10].

Table - 2: Response to Questions by students.

SNO	Question	Number & Percentage YES			Number & Percentage NO		
		TOTAL	M	F	TOTAL	M	F
1	Is autopsy necessary at all	235 (78.33%)	89 (89%)	146 (73%)	65 (21.67%)	11 (89%)	54 (27%)
2	Is there any utility of using viscera for histopathological examination and toxicological analysis for medico-legal autopsy	204 (68%)	72 (72%)	132 (66%)	96 (32%)	28 (28%)	68 (34%)
3	Does conducting Post mortem examination help in reaching the culprit of crime	186 (62%)	64 (64%)	124 (62%)	114 (38%)	36 (36%)	76 (38%)
4	Was the reaction of the students comfortable on the first exposure to post-mortem examination	110 (36.66%)	32 (32%)	78 (39%)	190 (63.33%)	68 (68%)	122 (61%)
5	Do you think the number of autopsies you watched were enough	120 (40%)	45 (45%)	75 (37.5%)	180 (60%)	55 (55%)	225 (112.5%)
6	Would you recommend that medical students should watch more autopsies	180 (60%)	55 (55%)	225 (112.5%)	120 (40%)	45 (45%)	75 (37.5%)
7	Given a chance would you have chosen not to watch autopsy at all	66(22%)	18(18%)	48(24%)	134(44.66%)	82(82%)	152(76%)
8	Whether post mortem examination causes disfigurement of body	168 (57%)	66 (66%)	102 (51%)	132 (43%)	34 (34%)	98 (49%)
9	Whether doing Post mortem examination is disrespect to human body	84 (28%)	20 (20%)	64 (32%)	216 (72%)	80 (80%)	136 (68%)
10	Should autopsy be scrapped from the medical curriculum	76 (25.33%)	26 (26%)	50 (25%)	224 (74.66%)	74 (74%)	250 (125%)
11	Would you like to specialize in Forensic Medicine	65 (21.66%)	36 (36%)	29 (14.5%)	235 (78.33%)	64 (64%)	171 (85.5%)
12	Did you learn anything from the autopsies you watched	246 (82%)	78 (78%)	168 (84%)	54 (18%)	22 (22%)	32 (16%)
13	Is there a need for casualty posting specifically of Forensic Medicine for trauma, poisoning and other medico-legal cases	230 (76.66%)	76 (76%)	154 (77%)	70 (70%)	24 (24%)	46 (23%)
14	If the need arises, will you allow post mortem examination on you or your relatives	144 (48%)	62 (62%)	82 (41%)	156 (52%)	38 (38%)	118 (59%)
15	Should medical students actively participate in performing autopsies?	159 (53%)	59 (59%)	100 (50%)	141 (47%)	41 (41%)	200 (50%)

Table - 3: Reasons for Not Specializing in Forensic Medicine.

SNO	REASONS	NUMBER OF STUDENTS	PERCENTAGE OF STUDENTS
1	Not interested in Forensic Medicine	96	32%
2	Interested in other specialties	172	57.33%
3	Not lucrative	4	1.33%
4	Scope in India is minimal	8	2.66%
5	It is not feminine	6	2%
6	No reasons	14	4.66%

Table - 4: Suggestions for Improvement in Autopsy Procedure.

SNO	SUGGESTIONS	NUMBER OF STUDENTS	PERCENTAGE OF STUDENTS
1	Improvement in hygiene and sanitation in autopsy room	188	62.66%
2	More involvement of autopsy surgeon during autopsy	62	20.66%
3	Replacement of primitive instruments with modern ones in the autopsy room	205	68.33%
4	Active participation of students during autopsy	42	14%
5	Show more respect towards dead body	89	29.66%

Table - 5: The purpose of doing Post mortem examination.

SNO	PURPOSE	NUMBER OF STUDENTS	PERCENTAGE OF STUDENTS
1	Done to know the cause of death	284	94.66%
2	Mere legal formality	57	19 %
3	Harassment to the relatives of the deceased	12	4%
4	Helpful in reaching the culprit of crime	258	86%

Table – 6: Reactions to the first autopsy watched by the students.

SNO	Reactions	Male	Female	Total
1	Comfortable	10(10%)	12(6%)	22(7.33%)
2	Slightly uncomfortable	35(35%)	105(52.5%)	140(46.66%)
3	Moderately uncomfortable	46(46%)	65(32.5%)	111(37%)
4	Very uncomfortable	9(9%)	18(9%)	27(9%)
	Total	100(100%)	200(100%)	300(100%)

All the students were in between 17 to 21years in the study, as the usual age of admission into medicine is from 17 years. This is in accordance

to previous studies by Brieger and Ekanem and Akhibe [6, 7].

78.33% of participants agreed that autopsy is necessary. Our results are in contrast to the findings of Ekanem and Akhigbe, in which 54% students agreed the need of autopsy [7] whereas 80% of participants agreed in the study by Bharathi [8].

In our study, 68% of the students agreed that there is utility of using viscera for histopathological examination and toxicological analysis for medico-legal autopsy whereas Bharathi and Nihal Ahmad found that 99% and 96% of their participants agreed for the same respectively [8, 10].

In our study, 62% agreed that conducting post mortem examination will help in reaching the culprit of crime. However Bharathi found 97% agreed to the same question [8].

Only 36.66% of students answered that they were comfortable on the first exposure to post-mortem examination. This is similar to the findings of Ehsan et al who found 36.5% students to be comfortable, whereas only 21% were comfortable in the study by Nihal Ahmed [9, 10].

40% of the students think that the number of autopsies they watched were enough. Whereas Rautji, Ekanem and Nihal Ahmad found that 72.3%, 57% and 62.3% of the participants agreed for the same respectively [3, 7, 10].

60% of the students recommend that medical students should watch more autopsies. This is in contrast to other studies by Rautji, Ekanem and Nihal Ahmad who found 47.7%, 74% and 87.67% of their participants agreeing that more autopsies should be witnessed by medical students respectively [3, 7, 10].

For the question if given a chance would they chose not to watch autopsy at all, 22% answered as yes whereas only 16% and 17% chose not to watch autopsy in studies by Ekanem and Nihal Ahmad respectively [7, 10].

57% students were of the opinion that post mortem examination causes disfigurement of body. This is in contrast to other studies who gave variable response of 65% and 27% by Ekanem and Nihal Ahmad respectively [7, 10].

28% of the participants agreed that doing post mortem examination is disrespect to human body. This is in contrast to findings by Ekanem and Nihal Ahmad who found 14% and 9% of students agreeing that performing post mortem examination is disrespect to human body respectively [7, 10].

To the question that, should autopsy be scrapped from the medical curriculum, 25.33% students said yes. Previous studies regarding same question gave variable results with Nihal Ahmad [10] finding 97.66% students agreeing to scrape autopsy from curriculum and Rautji [3] finding that only 6% favoured scraping autopsy.

21.66% of the students answered positively that they would like to specialize in Forensic Medicine and Toxicology speciality. To this question also earlier studies gave variable responses. Rautji [3] and Ekanem [7] found 66% and 17% of the participants favouring to specialise in Medicine speciality respectively.

82% of the students were of opinion that they learned subject after witnessing autopsies. Rautji [3] found that in their study 80.7% learned after witnessing autopsies, whereas 97.66% gave positive response in the study by Nihal Ahmad [10].

To the question that is there a need for casualty postings specifically of Forensic Medicine for trauma, poisoning and other medico-legal cases, 76.66% gave positive response. However 84% gave positive response in the study by Nihal Ahmad [10].

To the question that if the need arises, will they allow post mortem examination on them or their relatives, 48% said they will allow. This is similar to the findings of Rautji who found 49%

of students responding positively [3]. Whereas Nihal Ahmad found 55.6% positive response in their study [10].

53% students were of opinion that they should actively participate in performing autopsies. This is similar to the findings of Rautji [3], who found 55.3% giving positive response and in contrast to the findings of Ekanem [7] who found only 24% favouring active participation in performing autopsies (**Table - 2, Graph - 1**).

To the question, the reasons for not specializing in forensic medicine, we found that 57.33% students were interested in other specialties, 32% students were not interested in forensic medicine, 8% were of opinion that scope of the speciality in India is minimal (**Table - 3, Graph - 2**). Whereas Nihal Ahmad found that 60% students were interested in other specialties, 30% were not interested in forensic medicine and 3% were of opinion that the speciality is not lucrative [10]. Rautji in their study found that 53% students were interested in other specialties, 29% not interested in forensic medicine and 6.4% were of opinion that the speciality is not lucrative [3].

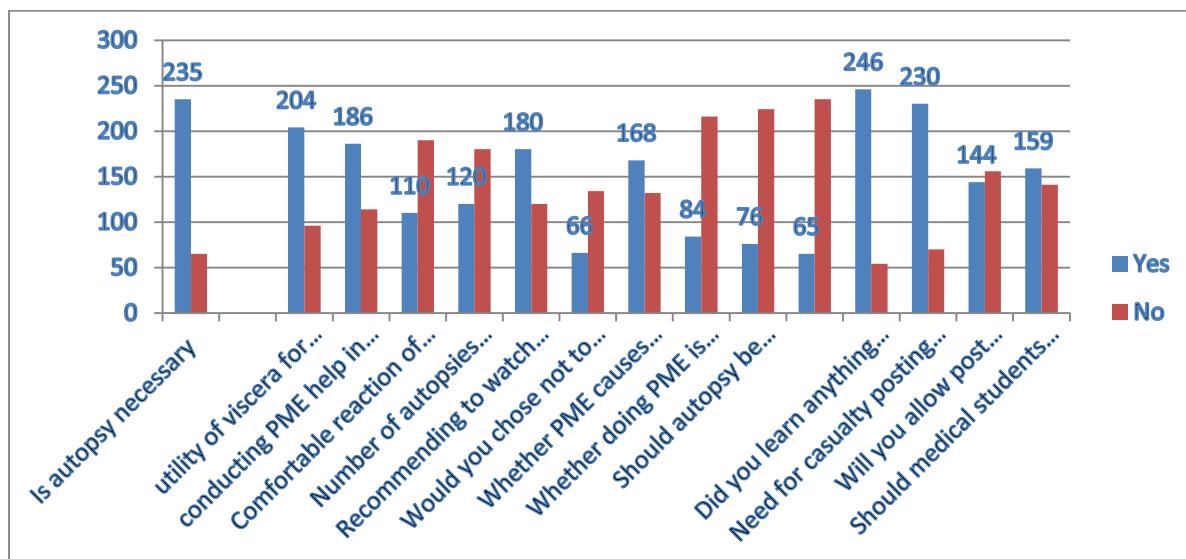
To the question, the suggestions for improvement in autopsy procedure, 68.33% suggested that replacement of primitive instruments with

modern ones in the autopsy room will improve the procedure, whereas Rautji [3], found 74% of the students giving the same response. In our study, 62.66% answered that improvement in hygiene and sanitation in autopsy room will improve the autopsy procedure and autopsy rate, whereas Rautji [3], found 50% gave the same response. In our study, 36.33% students suggested to show more respect towards dead body, whereas Rautji [3], found 74% to give the same response (**Table - 4**).

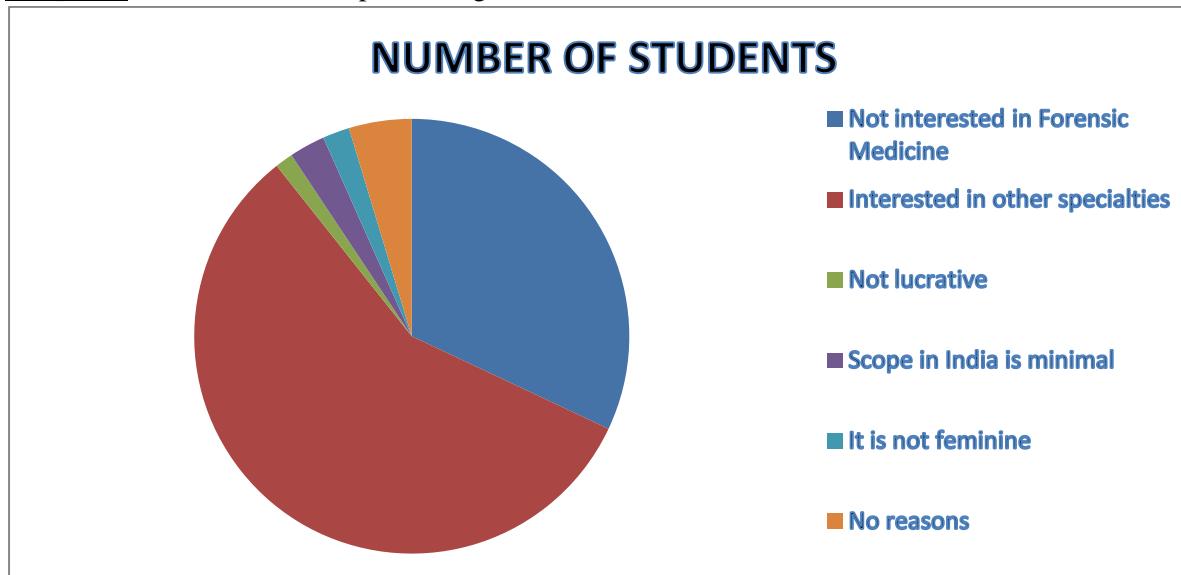
To the question, the purpose of doing post mortem examination, 94.66% were of opinion that post mortem examination is done to know the cause of death, whereas 86% thought that it is helpful in reaching the culprit of crime, 19% believed that it is a mere legal formality and 4% were of view that it is harassment to the relatives of the deceased (**Table - 5, Graph - 3**).

When students were asked about their reaction when they watched autopsy for the first time, only 10% revealed that they were comfortable whereas 22% were comfortable in the study by Ekanem [7]. 35% of the students were slightly comfortable in our study and 37% in the study by Ekanem [7] were slightly comfortable. In our study 37% were moderately uncomfortable and 31% in the study by Ekanem [7] (**Table - 6**).

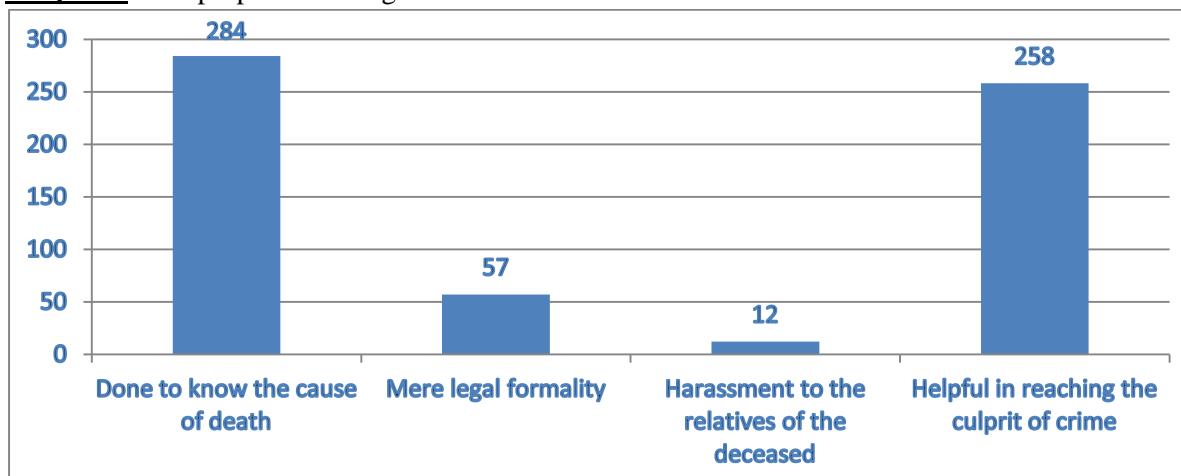
Graph - 1: Response to Questions by students.



Graph - 2: Reasons for Not Specializing in Forensic Medicine.



Graph - 3: The purpose of doing Post mortem examination.



Conclusion

We carried out a study to find about the perception and attitudes of undergraduate medical students in south India regarding autopsy. The findings of our study showed that medical students have a reasonable awareness and positive attitude about autopsy procedure and forensic medicine speciality. We suggest for increased training in the autopsy procedure as well as improving the facilities. We also suggest to revise the forensic curriculum by increasing the number of teaching and practical hours thereby the students will be able to make observations and come to conclusions in criminal matters or Medico-legal cases.

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