Original Paper

Knowledge and Attitude of 3rd Year Medical Students regarding Post Mortem Examination

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Abstract

Introduction: Post mortem examination is a process which is required to establish the exact cause of death in sudden, suspicious or unnatural cases. It determines the mode, manner and time passed since death.

Objective: To explore the knowledge and attitude of 3rd year medical students regarding post mortem examination at the very beginning of their para clinical course study.

Materials and Methods: This descriptive cross sectional study was performed at Armed Forces Medical College, Dhaka during the period of July to September 2016. One hundred fifteen 3rd year students were selected by purposive and convenient method and asked to respond anonymously to a 18 item selfadministered, predesigned, pretested multiple choice questionnaire which dealt with their views on autopsy practice, the knowledge procedure, attitude and perception towards post mortem examination. Ethical permission of authority concerned and verbal consent was obtained from every respondent students.

Results: In this study, 108(93.91 %) students gave positive answer about the requirement of autopsy in unnatural death cases. A large number of students 57(49.56%) did not know about the types of autopsy, but more than half 67(58.26%) knew about virtual autopsy. Seventy two (62.61%) answered that heart is the organ sent for histopathological examination and majority 71(61.74%) could identify the viscera sent for chemical analysis. But most of them 65(56.52%) had wrong idea about the laboratory for chemical analysis. Also 70(60.87%) thought that formalin is used for preservation of viscera. Majority students 88(76.52%) answered that autopsy is performed to detect the cause of death. Greater part of respondent 98(85.22%) also said postmortem examination is neither harassment to victim's relatives and nor disrespect to a dead body.

Most of the students 113(98.26%) answered that observation of post mortem examination should be part of MBBS course curriculum and all 115(100%) gave positive response about utility of this chapter in their course studies. Forty one (35.65%) came to know about autopsy from medical books, followed by 35(30.44%) from newspaper/ story books. Almost all 113(98.26%) did not watch any autopsy before their admission to medical college. A greater part of students 74(64.35%) did not know whether autopsy cause any disfigurement of dead bodies. In present study 102(88.69%) students showed positive attitude to have post mortem examination of relatives if required. Majority of samples thought post mortem is not required in putrefied body and 93(80.87%) answered that body can be preserved at mortuary cooler after post mortem when required.

Conclusion: Post mortem is an integral part of Forensic Medicine course curriculum. Teaching professionals should give more emphasis to make this chapter more interesting to the medical students.

Key-words: Post mortem examination, Medical student, knowledge, Attitude.

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Introduction

The word post mortem comes from "post" means "after", "mortem" means "death"[1]. It is also called "autopsy" which comes from the Greek words "Autos" means "self" and "opis" means "view" or "to see for oneself". The other name of autopsy is necropsy. ("Necros" means "dead body")[1,2].

Post mortem is a special type of scientific examination of a dead body carried out under the law of state; in which all the body cavities are opened and all the organs are examined, because the evidence contributory to the cause of death may be found in more than one organ. It is usually performed in a case of sudden, suspicious, unnatural, medically unattended, unexplained, litigious death. The objective of autopsy includes - identification of a dead body, estimation of the time past since death, identification of the manner and mode of death, interpretation of the significance and effect of injuries, determination of the presence of any disease, detection of poisons, even interpretation of the significance of medical or surgical treatments.

A model autopsy procedure has been produced by United Nations within the context of investigation of human rights abuses called the-'Minnesota Protocol '(The United Nations Manual on the Effective presentation and investigation of extra legal, arbitrary and summary execution). It can be used to deal with difficult, controversial or sensitive cases[3].

Material and Methods

This descriptive cross sectional study was performed at Armed Forces Medical College, Dhaka during the period of July to September 2016. One hundred fifteen 3rd year students were selected by purposive and convenient method and asked to respond anonymously to a 18 item self administered, predesigned, pretested multiple choice questionnaire which dealt with their views on autopsy practice, knowledge procedure, attitude and perception towards post mortem examination. The survey consisted of several questions related to post mortem procedure. The questions were distributed at the very beginning of 3rd year course curriculum, when the post mortem chapter of Forensic Medicine book was not taught to them. Ethical permission of authority concerned and verbal consent from every respondent student was obtained who was informed that the researcher would maintain confidentially and anonymity of identity and the collected information would be used for research purpose only. The data received from this questionnaire were later on analyzed.

Results

In this study, 108(93.91 %) students gave positive answer about the requirement of autopsy in unnatural death cases (Table-I). A large number of students 57(49.56%) did not know about the types of autopsy, but more than half 67(58.26%) heard about virtual autopsy. Seventy two (62.61%) answered that heart is the organ sent for histopathological examination and majority 71(61.74%) could identify the viscera sent for chemical analysis.

But most of them 65(56.52%) had wrong idea about the place for chemical analysis. Also 70(60.87%) thought that formalin is used for preservation of viscera. Majority students 88(76.52%) reported that autopsy is performed to detect the cause of death. Greater part of respondent 98(85.22%) also said postmortem examination is not harassment to victim's relatives and not disrespect to a dead body. Most of the students 113(98.26%) answered that observation of post mortem examination should be part of MBBS course curriculum and all 115(100%) gave positive response about utility of this chapter in their course studies.

Forty one (35.65%) learned about autopsy from medical books, followed by 35(30.44%) from newspaper/ story books. Almost all 113(98.26%) did not watch any autopsy before their admission to medical college. A greater part of students 74(64.35%) did not know whether autopsy cause any disfigurement of dead bodies. In present study, 102(88.69%) students showed positive attitude to have post mortem examination of relatives if required. Majority of samples thought post mortem is not required in putrefied body and 93(80.87%) answered that body can be preserved at mortuary cooler after post mortem when required.

Table-I: Format of Questionnaire (n=115)

Sl No	Question	Answer				
1	Post mortem examination is required in all unnatural death cases	Yes 108(93.91%)	No 7(6.09%)			
2	Type of post mortem examination include medico legal and clinical.	Yes 52(45.22%)	No 6(5.22%)	Don't know 57(49.56%)		
3	Virtual autopsy is a new form of post mortem examination	Yes 67(58.26%)	No 5(4.35%)	Don't know 43(37.39%)		
4	For histopathological analysis which organ is send to laboratory?	Heart 72(62.61%)	brain 13(11.31%)	Kidney 10(8.69%)	liver 6(5.22%)	Not known 14(12.17%)
5	For Chemical analysis which organs are preserved?	Stomach, liver, kidney 71(61.74%)	Only Liver 16(13.91%)	Only Kidney 10(8.69%)	Only Intestine 14(12.17%)	Not known 4(3.49%)
6	For Chemical analysis where the specimen are sent?	Pathology dept 65(56.52%)	Govt Chemical examiners lab 47(40.87%)	Not known 3(2.61%)		
7	Do you know which preservatives are used for collection of viscera samples?	Formaline 70(60.87%)	Saturated salt solution 15(13.04%)	Alcohol 12(10.43%)	Savlon 9(7.83%)	Don't know 9(7.83%)
8	Cause of post mortem examination is?	Detection of the cause of death 88(76.52%)	Legal formality 21(18.26%)	Identify and arrest the culprit 5(4.35%)	Not Known 01(0.87%)	
9	Do you think post mortem examination is harassment to victim's family?	Yes 17(14.78%)	No 98(85.22%)			
10	Do you think autopsy is disrespect to a dead body?	Yes 17(14.78%)	No 98(85.22%)			
11	From where did you first know about autopsy?	TV/ movie 21(18.26%)	Newspaper/ magazine/ story books 35(30.44%)	Internet 12(10.43%)	Medical curriculum books 41(35.65%)	Relatives/ friends 6(5.22%)
12	Do you think students should watch post mortem examination as their part of course curriculum?	Yes 113(98.26%)	No 1(0.87%)	Don't know 1(0.87%)		
13	Is the autopsy chapter required to be discussed in details in the under graduate Forensic Medicine course?	Yes 115(100%)	No	Don't know		
14	Do you wish to have autopsy of your relative if necessary?	Yes 102(88.69%)	No 7(6.09%)	Don't know 6(5.22%)		
15	Have you watched any autopsy before your admission to medical college?	Yes 2(1.74%)	No 113(98.26%)			
16	Do you think there is disfigurement of the dead body by autopsy?	Yes 19(16.52%)	No 22(19.13%)	Don't know 74(64.35%)		
17	Do you think post mortem is required in a putrefied body or mutilated body?	Yes 16(13.91%)	No 92(80%)	Don't know 7(6.09%)		
18	How the body is preserved after post mortem?	In mortuary cooler 93(80.87%)	Submerged In formalin tank 7(6.09%)	Embalming 2(1.74%)	Don't know 13(11.30%)	

Discussion

Autopsy is the process which is required to establish the exact cause of death in unnatural cases. It determines the mode of death and manner of death. The knowledge of physiological processes in disease states is better illustrated with autopsies[4].

The first medico legal autopsy was done by Bartolomio De Varignana[2] in Italy in 1302. In this Subcontinent the first medico legal autopsy in India was performed by Dr Edward Bulkley[5] on 28th August 1693. Mainly autopsy are of three types: medico legal, pathological or clinical or hospital and anatomical[6].

The first organized treatise on pathological findings at autopsy was "The seats and causes of diseases investigated by anatomy", published in 1761 by Giovanni Batista Morgagni when he was 79 years old. At the end of the nineteenth century, Osler established autopsy as one of the cornerstones of his approach to both medical training and clinical method[7-8].

In the first half of the twentieth century autopsy rates steadily increased. In the 1960's and 1970's, many of the advances in cardiovascular surgery developed by DeBakey and his team were pioneered using cadaveric testing[9-10]. The second half of the 20th century and the beginning of 21st century saw continued decline in autopsy rates[10-11]. Over the past three decades, there has been a 40-50% drop in autopsy rates across the world[11]. In the United States, autopsy rates fell from the reported high of 41% in the 1960's to between 5% and 23% at present[12-13]. The most commonly cited factors accounting for this phenomenon include physician discomfort in requesting permission from the family, cost containment measures, risk of blood borne pathogen transmission, as well as the perceived absence of the curricular/ educational value of autopsies[14-15]. By far the biggest factor hindering autopsies is lack of consent from the relatives of patients[16-17]. Curriculum reform, technological alternatives such as multimedia/ audio visual system; legal, financial, religious factors have also contributed to the declining use of autopsy as a teaching tool[18]. In this study, 108(93.91%) students gave positive answer about the requirement of autopsy in unnatural death cases. Most of the students, 113(98.26%) answered that observation of post examination should be part of MBBS course curriculum and all 115(100%) gave positive response about utility of this chapter in their course studies.

This result coincides with previous study done by Verma SK[19] where students opted for compulsory attendance of post mortem examination as a part of undergraduate teaching. The previous study by Botega et al[20] Brazil and Conran et al[21] in Ohio, USA also showed that more than 85% students gave opinion in favour of mandatory autopsy observation. Joon Joon[22] in the study at Malaysia also showed that 77.5% students recommended for making autopsy session compulsory during undergraduate medical training. Victor James[23] in his study also showed that 88% students recommended for post mortem observation during their study period. Although the use of autopsy as an educational tool is in decline and there is evidence that many undergraduates and junior doctors have never attended an autopsy[24]. But at the same time, the medical student's emotional reactions must be borne in mind. A bad memory during post mortem observation can affect them in future. Unfortunately this aspect is neglected in medical training. Literature reviewed had showed that the reaction of students to forensic autopsy procedure encompass psychological and emotional components[25]. In undergraduate course curriculum the training of post mortem examination on dead bodies might evoke strong emotional reactions in students that could counter act the intended learning goals[26]. In China medico legal autopsy has been squeezed out of the regular medical education curricula in order to accommodate increasing amount of modern medicine education during teaching technique reform[27].

Most of the students, 65(56.52%) had wrong idea about the place for chemical analysis. Also 70(60.87%) thought that formalin is used for preservation of viscera. In Bangladesh all the viscera are sent to Chief chemical examiners laboratory at Institute of Public Health (IPH) building in Mohakhali for analysis. This laboratory is out of public view and an isolated/restricted establishment. Since pathology department is well approached by students for all required tests and can be found in all medical colleges or hospitals, they had a misconception about

the chemical analysis of viscera at this department. During 1st and 2nd year MBBS course, the students always see formalin is used to preserve viscera; this practical exposure gave them idea about formalin as preservative in mortuary. For practical purpose saturated common salt solution is used there, because it is cheap, easily available and a very good preservative. On the other hand formalin is expensive and causes tissue hardening which is not suitable for poison detection procedure.

Majority, 108(93.91%) opted for requirement of post mortem in all unnatural death cases, 98(85.22%) answered that post mortem is neither harassment to victim's relative nor a disrespect to a dead body, 102(88.69%) gave positive opinion about doing autopsy of relative if required. This coincides with study done by Sanner in Sweden[28] where 90% students gave positive opinion and also reflects the positive attitude of medical students towards the necessity of autopsy. Only 17(14.78%) students opted that post mortem examination is harassment to the relatives of the deceased and is disrespect to a dead body which coincides with the study done by Joon Joon[26].

Newly invented virtual autopsy procedure, which was developed by Richard Dirnhofer, former Director of Forensic Medicine, Berne and continued by his successor, Michel Thali and colleagues at the University of Berne's Institute of Forensic Medicine, Switzerland[29-31] is known to majority 67(58.26%) of the respondents. Probably a review article on Virtual autopsy[32] written by this author played a positive role in this regards, which also indicates medical students of this college pass a lot of time reading articles and journals in college library.

Conclusion

The data of present study supports the previous studies conducted with a quantitative methodology and recommend that forensic autopsy has great value in teaching curriculum of medical education. Since it represents the opinion of students in a selective Medical College, broader study on this aspect can be done later on by researchers. Teaching professionals should give more emphasis to make this chapter more interesting to the medical students. At the same time the infra structure for morgue in medical colleges needed to be improvised and modernized. Virtual autopsy, the new technology of forensic investigation can be started in our country on project basis with provision to include this chapter in medical teaching curriculum.

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