

An Experience on Facts about Teaching Forensic Medicine to Undergraduate Medical Students in South Africa

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Abstract

South Africa is struggling with an enormous amount of forensic pathology services because there is an extreme pressure on forensic pathologists to deal with the high number of medicolegal autopsies in the country. There are only five dozen forensic pathologists in South Africa who have to handle at least 80 000 autopsies per year. Medical officers, who have only received training as undergraduates in medical school, are expected to conduct these autopsies. Therefore, undergraduate teaching and training must be strong enough so that these young graduates can handle cases without any compromise in the quality of the outcome. This report is going to highlight the necessity of teaching forensic medicine at undergraduate level in South African medical schools. It will also discuss the shortcomings in medical school teaching programmes.

Keywords: *forensic medicine, pathology, clinical & community*

Background

The number of murders in South Africa increased by 303 from 21,022 in 2018/19 to 21,325 in 2019/20.¹ On average, 58 people were murdered every day. South Africa is ranked at number one in Africa in terms of unnatural deaths.² This rate is higher than the African continental average of 139.5 per 100 000 of the population and nearly twice the global average of 86.9 per 100 000 of the population.³ South Africa has also one of the highest rates of rape in the world, but this barely seems to surprise anyone. It is extremely disturbing, especially when children and elderly women are raped.⁴ Homicide is an extreme form of violence contributing to loss of years of expected life. More than 20 years after the end of apartheid, South Africa continues to experience excessive levels of violence.⁵ The criminal use of firearms is widespread and is an important reason why the country has the third highest homicide rate

in the world.⁶ South Africa's homicide rate is 31.1 per 100 000 of the population, which is about three times higher than the African region.⁷ There only five dozen forensic pathologists in South Africa who are delivering a service to 58 million population.⁸ The case load is 80 000 medicolegal autopsies in South Africa.⁹ Rape has increased to 53,293 in 2019/20 from 52,420 in 2018/19.¹ The majority of these cases are dealt with by a medical officer (appointed by the health department) who only has undergraduate training in forensic medicine.

There are only approximately fifty to sixty qualified specialist forensic pathologists in South Africa.⁸ There are hundreds of medical practitioners who are disposing these high number of autopsies, who are simply a graduate in forensic medicine. The resources in previously disadvantaged area mortuaries are limited with poor hygienic conditions. These are mainly in rural areas of South Africa. The history of

apartheid of South Africa is known to everyone where there was prevalent abuse of services of forensic medicine, described in the book *An Ambulance of the Wrong Color*, published by University of Cape Town press in 1999. This book exposes the widespread human rights abuses by health professionals and the apartheid government.¹⁰ South Africa cannot forget the death of Steve Biko who died in detention in 1977. The doctor told the author in a meeting that he obeyed the instructions of the police. It is an issue of ethics with life and death.¹¹ It is difficult to estimate how many of deaths and disabilities were caused during the apartheid era. The South African Truth and Reconciliation Commission have revealed some cases only such as missing man of Nelson Mandela University Mission Vale Campus, was reburied in a dignified manner in 2007.¹² This report will highlight the facts in forensic medicine teaching and services in South Africa. It will also provide some solutions.

Discussion

The history of South African human rights abuses during apartheid was under-investigated, poorly researched, and therefore grossly under-published. The available literature is very scarce. Forensic Medicine specialty is stigmatized not only by fellow professionals, but also by public.¹³ It has observed that there has been minimal change in the level of forensic services especially in black homelands area, and thus they are still left as disadvantaged.¹⁴ It is always under-resourced in service delivery in South Africa.¹⁴ There used to be problem-based teaching of forensic medicine in rural medical school to undergraduate medical students in their 4th year of curriculum by trained teachers.¹⁵

The purpose of keeping this specialty independent is twofold. Firstly, it will audit the work of hospital and region to which the services are rendered. Secondly, it will also improve the quality of care by giving feedback to the clinical staff who managed the patients.

It will also help to policy makers regarding number of unnatural deaths in the region, so the policing can improve accordingly. The author has demonstrated a maternal mortality case in a rural hospital along with medical students. The staff of the hospital presented their findings and students presented an autopsy report. It was concluded that this kind of medical misadventure will never be get repeated. After that, the author has not received a single case of maternal mortality from that hospital. This high number of maternal deaths must be reduced through auditing and publishing these forensic cases.¹⁶ So, there is always scope to improve the hospital services at rural hospitals.

Merging forensic medicine with pathology means one is reducing focus on the subject, and that is a disaster. Medicolegal autopsy is an unbelievably valuable tool which is under-utilized in South Africa both in teaching as well as for research purposes.¹⁷

It is difficult to compare the importance of specialty with developed countries as medicolegal problems are different. South Africa is ridden with a lot of forensic pathology in community. There are high number of unnatural deaths, sexual assault, drunk and driving cases in hospitals.

The author tries to emphasize is that forensic pathologists must cover all the aspects of medicolegal services so that they can effectively teach this to undergraduate students.

There are examples where medical officers committed life threatening errors in their judgment due to a lack of knowledge of forensic medicine. An example as follows,

“There was matric schoolgirl was raped in middle of night. She resisted but the rapist cut her wrist to subdue her. The girl was brought to hospital causality and the doctor on duty refer her to orthopedic center, as he thought it is a tendon injury and repair must

do orthopedic department. The orthopedic center was about 10 kms and patient was taken there. She was admitted in orthopedic center. She keeps on bleeding from radial artery whole night, and next morning, orthopedic surgeon came, and he refer the patient to rape crisis center. Patient in collapsing condition to a rape crisis center with lot of difficulty. Sister was clever enough and recognize the problem of hypotension and taken patient to the same causality and immediately drip started, and patient saved.”

The casualty doctor considered tendon repair to be the most important; the orthopedic surgeon underestimated the bleeding from the radial artery and saw it best to refer the patient to the rape crisis center. This is something of a life and death situation and can only be emphasized in teaching of forensic medicine. The specialty of forensic medicine is undermined and stigmatized but it is an excellent learning platform to educate and train undergraduates. This specialty may not be much useful in developed countries where medicolegal cases are too little. However, the number of cases presented in South African hospitals that needs forensic knowledge in their management, is large. The author has examined some autopsy reports written by the medical officers where there was only give a cause of death. In most of cases the cause of death is obvious such as gunshot, stab injury and blunt force trauma which can be even identified by a layman, then where is needed to mutilate bodies by autopsy.

This is another case where lack of knowledge led to death of child,

“A child who had a coarctation of aorta, felling difficulty in walking. The doctor who attended the patient in a rural hospital ask for X-ray of lower limb. He shows non-united epiphyseal center of head of femur and diagnosed as fracture. Consider it as a suspected case of child abuse and referred to orthopedic center. Patient was remained for two days

and then died in hospital. Autopsy was carried out along with anatomical pathologist and found that it is a case of coarctation of aorta which is a correctable condition.”

Unfortunately, forensic medicine teaching and training is shrinking in South Africa as some medical schools are even running their course on an ad-hoc basis without any proper staff – like a factory worker who comes in on a shift, completes his duty in order to get a salary. The Health Professions Council must take cognizance of this kind of medical school in the country. This kind of deteriorating trend in teaching has started in last few years. Medical schools need a duly well-established department of forensic medicine as teaching and learning of undergraduates is a dynamic process and revolves around interactive teaching. Merging forensic medicine with National Health Laboratory services is another mistake that some medical schools have made, as it is just like attempting to fit a square into a round hole. They consider that forensic pathology is like anatomical pathology. Forensic pathology has some larger ramifications, and clinical implications which has proven beyond reasonable doubt in a court of law.

The undergraduate medical students must be trained in writing case reports, because through this they will grasp the fundamentals of research and the value of carrying out research from their early age. Forensic medicine is the only specialty which has account with from patient admission to burial or even sometimes exhumation. Motivate students to get documents, correlate present findings by the students in clinicopathological meetings and then get it published. This exercise is not carried out in most of the rural medical schools because either the department is not academic, or their hierarchy is not having research mind. It has been said that if you want to destroy a country, one does not need a bomb or long-range missile, just lower the level of teaching

at universities.¹⁸ Remember, to break the trend of inactivity or lethargic position is challenge, because people get their bread without doing anything. The author has experience of how most staff in a medical school who were non-academic. Those who do some research work, get trouble as there is culture of non-academic. Therefore, it is important to not appoint a head who is not having interest in research. The quality of forensic services is crucial as wrong decisions are dangerous and can mislead the judgement.¹⁹ This is because the effect of services is not directly visible to the public. In some rural schools, almost everyone is called a professor, without any scrutiny in their appointment. Some of them are even not registered as a specialist, yet they hold the position of professor.

Integrating forensic medicine with other subjects means diluting the scope of forensic medicine both in teaching as well as in training of students. Forensic medicine teaching is necessary for their critical thinking skills, and will help in auditing of cases, so that any mishaps in medical and surgical management could be identified. It forms part of improving the clinical care in hospitals as treating doctor will take this feedback. Most of the forensic pathology is related to trauma, which is referred from surgical departments. It is an import to have clinico-pathological meetings where clinical findings are given by the clinicians and pathology is demonstrated by a forensic pathologist alongside students. It depends on the culture of the hospital management and their academic interest in the discussion, but it is a very fruitful and educational exercise to all staff of the hospital.

Conclusion

There is a necessity for forensic medicine in South Africa as it is a driver of clinical teaching, ethics, and research in medical schools. It is not only a Health Professions Council requirement but also a need of public especially in rural areas of South Africa. The infrastructure and platform must improve for clinic-

pathological meeting so that clinicians will also get benefit as patient care improves.

Ethical Issue

The report has been prepared to highlight the problems in the teaching of forensic medicine in the undergraduate medical curriculum. It is not intended to bring down any person or any institution. The author has ethical permission for the case report publication (approved project No. 4114/1999) from the Ethical Committee of the University of Transkei, South Africa.

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