

**-Opinion Article-**  
**THE CAUSE OF DEATH – SHOULD IT BE REVISITED  
IN SRI LANKA?**

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**ABSTRACT**

The cause of death statement serves a legal record which has many implications. The determination of the cause of death should be considered not an end but a beginning. A fresh look at the subject should not be considered a waste of time at all. It is prudent to suggest a coordinated effort to rectify deficiencies in the determination, documentation and analysis of the cause of death statements in this country with the participation of all stake holders including clinical and forensic doctors, members of the judiciary including inquirers and magistrates and personnel from Registrar General's Department.

**Keywords :** *Cause of death, Mortality statistics, Medical audit, Descriptive form, Prescriptive form.*

**INTRODUCTION**

The cause of death statement serves as a legal record of death which is essential for death registration, court procedures, inheritance of property and insurance matters etc. It is also a source of mortality statistics which have an important role to play in national health planning, medical research and medical auditing<sup>1,2,3</sup>. Therefore the accuracy and clarity of the cause of death appearing in the statement should not be underestimated<sup>1,2,3</sup>.

In Sri Lanka, the cause of death can be determined and the declaration of the cause death can be provided by a medical practitioner when a patient whom he has attended recently, dies due to a known natural cause<sup>1,4</sup>.

Further, a medical practitioner can give the cause of death when an autopsy is performed under an order from an inquirer into sudden death or a magistrate<sup>1,5</sup>.

In both these instances, the medical practitioner should exercise utmost care in arriving at the cause of death due to its legal, social and medical implications<sup>1,2,3</sup>.

According to the Birth and Death Registration Act non- medical personnel such as Inquirers into Sudden Deaths, Estate Superintendents and Grama Niladaris, are also empowered to formulate the cause of death statements in some instances<sup>4</sup>. Out of them, Inquirers into Sudden Deaths and magistrates have "the option "of getting assistance from medical personnel in arriving at the cause of death by ordering a postmortem examination. This option is at the discretion of the inquirer. Estate superintendents are supposed to report to the medical practitioners of the estate. Others, especially Grama Niladaris seem to be able to act in providing cause of death without medical assistance or guidance<sup>4,5</sup>.

**DISCUSSION**

The necessity to review this situation will become clearer when the complexity associated with formulation of the cause of death is considered. A proportion of apparently natural deaths for which doctors have already given causes of death are subjected to autopsy either as pathological autopsies or for medico-legal purposes world over. Comparing the results of these cases,

discrepancies between the clinical cause of death and the autopsy cause of death have been recognized. At times there have been total disagreement even about the basic illness. It has also been pointed out that some medical practitioners are not clear about the formulation of the cause of death statements<sup>2,6,7</sup>.

Though it seems that there is no in depth study done in Sri Lanka on this subject, the situation must be the same considering the universality of this phenomenon<sup>6,7</sup>. If such discrepancies and misunderstanding exist even among medical personnel, the accuracy of the causes of death decided by non-medical personnel is questionable. Therefore correct understanding of the scientific basis and complexities in the determination of cause of death is a must for all concerned stake holders before embarking on the formulation of the cause of death statements or their interpretation.

The cause of death has been defined as “the injury, disease or the combination of the two responsible for initiating the train of physiological disturbances, brief or prolonged, which produced the fatal termination”<sup>8,9</sup>. It should not be a mechanism or mode of death such as heart failure, cardio-respiratory failure, coma, shock etc<sup>1,2,9</sup>.

In 1967 World Health Assembly under the auspices of the WHO, the Cause of Death was defined slightly differently as “all those diseases, morbid conditions or injuries which either resulted in or contributed to death and circumstances of the accident or violence which produced any such injury”<sup>9</sup>. It has gone a step ahead to accommodate the circumstances of injury in the cause of death opinion. This definition seems to be more suitable in forensic cases as it is necessary to determine the responsibility of the offender in violent deaths in legal proceedings. But when similar injuries can be caused by different circumstances and the case histories are doubtful, it is safe not to include the

circumstances as a definite fact in the cause of death statement itself but to give the opinion as to whether the circumstances suggested in the history is a probability<sup>3,10,11</sup>.

The prescriptive format for recording the cause of death is the same in most countries, and follows the WHO guidelines. Basically it has two parts;

- Part I for the documentation of the direct cause of death.
- Part II for the documentation of other serious conditions present that may have indirectly contributed to death.

The Part I is usually divided into three subsections (“a”, “b”, “c”), although as many more subsections as necessary may be added. These subsections are used to indicate the precise sequence of events, in which “a” is due to “b”, “b” is due to “c” etc. They should be given in a causative order. The cause documented on Part I, Subsection “a” is considered the immediate cause and it can be complications and sequelae of the underlying cause<sup>1,2,9</sup>.

The last line is *the underlying* or *the proximate cause*. In between there can be one or more intermediate causes. Obviously the exact number of subsections will depend on the particular case: however, the last condition cited must be the underlying or proximate cause of death. The primary pathological cause of death used for certification and statistical purpose will be the bottom line in Part I (i.e. the underlying cause)<sup>1,2,9</sup>.

Diseases and injuries which are competent enough to be listed as underlying or proximate causes of death should be etiologically specific. Most are found in the list of *International Classification of Diseases*<sup>2,9</sup>. But it should be remembered that the term “Cause of Death” means different things to different people. For example attorneys customarily reserve the term “proximate cause of death” for a

negligent act alleged to have caused or contributed to death. (Example – In a traffic fatality the underlying medical cause of death might be a laceration of the aorta, while proximate cause of death in the eyes of the plaintiff attorney is negligent engineering design of a mechanical system)<sup>12</sup>.

In a cause of death statement, vague terms and abbreviations must be avoided. Although old age/senility is a legally acceptable cause of death, it can be used only if the deceased is older than 70 years of age at the time of death, and should never be used if a more specific pathology is present<sup>13</sup>. If more than one potentially fatal pathological diseases or lesions are present either the one considered by the doctor to be the most likely cause of death should be used in the last line in Part I, and the others can be listed in Part II, or a joint cause of death should be used in Part I, and is perfectly acceptable<sup>13</sup>. But the pathologist must be extremely logical and scientific in this decision making process in medico-legal cases due to its far reaching legal and social implications when a natural fatal pathologies or senility coexist with fatal injuries and when medical negligence charge is a possibility. In those cases the vital question is whether the natural condition or the injury is responsible for the death. At times the combined effect may be responsible for the death<sup>12</sup>.

In Sri Lanka, instead of WHO format, the cause of death given as a phrase or in descriptive format is widely used and accepted. (Example – In a case of stab injury to the chest which penetrated the heart, resulting in bleeding the cause of death may be given as hemorrhage due to a penetrating injury to the heart)<sup>14</sup>. Such descriptive form rather than a prescriptive form is recommended for complicated cases by experts on forensic pathology<sup>3,11</sup>.

By analyzing the above mentioned facts it is clear when the phrase “Cause of Death” is used without any adjective such as proximate, underlying etc, it means the

Underlying or Proximate Cause of Death and it must confirm to the Definition of Cause of Death given above.

If available information is sparse but not meager that an undetermined cause of death is in order, the term “Probable” can be used before the Cause of Death opinion to convey the idea that the degree of certainty is not great, and the opinion can be changed by information made available in the future<sup>12</sup>.

Pathological findings encountered in an autopsy falls into five categories<sup>12</sup>. Some pathologies are not compatible life and in the absence of any other significant pathology it can be given as the cause of death with absolute certainty. Such pathological findings are categorized as Class I and constitute only about 5% of cases. (eg. Ruptured heart, brain stem bleeding, decapitation etc.)

Class II pathologies includes findings which are accepted by any competent pathologists as severe enough to cause deaths under normal circumstances. But in these cases the history, the circumstances and often toxicological data have to be considered before reaching conclusions (eg 70% obstructions to a main coronary artery, cervical compression etc.)

Class III includes pathologies which can be considered fatal taken with the circumstances of the death (eg. A person with a hypertrophic heart falling dead while lifting a weight etc). In these cases through analysis of the history and circumstances and toxicological evaluation becomes much more important before coming to a conclusion. Class IV includes cases with no significant anatomical findings but associated with witnesses or well documented histories of diseases which are known to causes deaths (eg. Epilepsy). But the conclusion must only be arrived after excluding all other possibilities including toxicological evaluation.

If no anatomical, chemical, biological or historical cause is found (Negative autopsy) it falls into Class V and may remain "undetermined"<sup>12</sup>. But it is not a waste of time and resources as it serves in excluding certain criminal causes. Other than in Class I cases, ancillary investigations especially toxicology to exclude poisoning is indicated depending on the circumstances before arriving at the cause of death<sup>12</sup>.

This point can further be clarified when the role of the autopsy in the formulation of cause of death opinion is considered. A pathologist who thinks only as an anatomist will limit his ability to formulate a cause of death opinion to a greater extent compared to a pathologist who thinks as a physician. Furthermore the pathologist must think as a detective in the autopsy room and as a pathologist or a physician in the scene of death for best results<sup>12</sup>.

In Sri Lanka under Sections of Chapter XXX of the Criminal Procedure Act No. 15 of 1979, deaths due to suicides, accidents, homicides and deaths in a mental hospital, a leprosy hospital, police custody and prisons and any suspicious death should be subjected to an inquest in spite the fact that the doctors concerned know the cause of death. In those circumstances, doctors are not supposed to fill the declaration of death form as specified under the Birth and Death Registration Act<sup>1,4,5</sup>.

In addition, as per the Ministry of Health Circular No. 01-25/2011 dated 19/09/2011, it is mandatory to refer maternal deaths for inquests. The same circular in combination with a circular instructing to Inquire of Sudden Deaths by the ministry of justice has made it compulsory to do postmortem examination for maternal deaths<sup>15</sup>. Any violation may have legal and disciplinary consequences.

At times especially if there is a delay between the initial incident and death as well as in deaths occurring due to late complications of

trauma or poisoning etc., some doctors fail to appreciate the scientific basis of cause of death formulation and fill the certificate of cause of death using the intermediate or immediate causes<sup>2</sup>. This is incorrect scientifically and may have adverse legal implications too. Another important issue to be addressed regarding the cause of death is whether what is stated in the cause of death statements by doctors is understandable to other stakeholders such as inquirer into sudden deaths, magistrates and the registrars of birth and deaths who are non-medical people in most instances and may not have formal training in appreciating the cause of death statements<sup>4,5</sup>.

It is especially so when the cause of death is given in descriptive form in complicated cases. This may result in final analysis of causes of deaths less accurate and thereby not achieving the desired purposes of painstaking efforts in determining the causes of death.

## CONCLUSION

Considering all these facts it can be concluded that arriving at a cause of death, penning it down and understanding it is not a simple task. Therefore it is prudent to suggest a coordinated effort to rectify deficiencies in the determination, documentation and analysis of the cause of death statements in Sri Lanka with the participation of all stakeholders including clinical and forensic doctors, members of the judiciary including inquirers and magistrates and personnel from registrar general's department<sup>2</sup>.

It should also be highlighted the necessity for a serious and well planned research on the clinical and autopsy causes of death in Sri Lanka. If these facts are neglected, at the end, medical statistics and records will not reflect the reality and decisions made based on it will not serve the purpose.

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