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Measures of Mortality

Death Spectrum

For an improved version of this topic, see Fourth Edition (2018) of the book Medical Biostatistics, which has a large number of new topics and expanded discussion. This book available at <https://www.routledge.com/Medical-Biostatistics/Indrayan-Malhotra/p/book/9781498799539> (list price US\$129.95) or go to <https://www.amazon.in/Medical-Biostatistics-Chapman-Hall-CRC-ebook/dp/B077S4XKDW> for discounted price

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Health profession is making every effort to prevent mortality from any cause. Few realize that the probability of death is one—it can only be postponed and not denied. All causes of deaths cannot be eliminated. In fact, various causes tend to compete with one another. Depending upon the biologic, environmental and demographic factors, the causes only change hands. If one does not die of tuberculosis, he may die of cancer, or in an accident. If one does not die in infancy, he may die at the age of 100 years. Perhaps duration of survival is more important than the cause of death.

Over a period of time, the spectrum of causes of death and age at death, which I am calling death spectrum, has undergone a dramatic transition. Due to various health promoting steps, infant deaths have substantially decreased and correspondingly deaths due to chronic ailments such as cancers, diabetes and coronary artery disease have increased. This transition is the direct result of better health and increased longevity.

This raises the question whether some causes of death are more desirable than other. Medical science seems to have completely ignored this issue. The thrust all around is to control all the causes. That simply is not possible. Time has come to debate which causes should in fact be promoted for death *in old age* and which should be controlled. Indrayan [[see here](#)] has emphasized this aspect. In his opinion, more people prefer sudden death in old age instead of protracted slow death, which necessarily will be painful. There is no condition yet that would

bring slow death but would still be not painful. A disease such as Alzheimer's may not cause physical pain but is an intense psychological trauma. In his opinion, myocardial infarction (MI) could be the most desirable cause of death in old age since it causes sudden death in many cases. But sudden death has negative features also. The person does not get time to meet the near and dear ones, to pass on the messages, or to settle the accounts. Since the concern here is with death in old age, one can counter-argue that the person should do all this at the time of reaching the old age, say at 80 years or earlier, and not when death approaches.

If the contention that MI is the most desirable cause of death in old age is accepted, the whole research around the world will have to be reoriented. The risk factors for such deaths in old age have to be identified not for control but to nurture so that the chances of death by this desirable cause increase and correspondingly for other painful causes such as cancer decrease.

Perhaps a choice should be available to decide to die suddenly or slowly. The choice will be exercised not at the time of death but during the lifetime by controlling risk factors of one type and promoting the other types that increase the chance of death by the promoted factors.

All this is for deaths in old age only. Deaths in young age by any cause, including MI, have to be averted as much possible. Thus, there is a need to differentiate between risk factors of death in old age from a preferred cause and risk factors of death in young age—the former to be promoted and the latter to be controlled. This kind of orientation is currently missing from medical research.