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Original Research Article

Evaluation of Perceptions of Postgraduate Medical Residents About Effectiveness of Workshop on Medical Certificate of Cause of Death.

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Key words

Medical Certification of Cause of Death (MCCD), Error, Post-graduate medical residents, Workshop.

Abstract

A Medical Certificate of cause of death (MCCD) is an official document furnished by the medical practitioner where sequence of events, the time interval between the onset of the cause of death and death, and personal details of the deceased are primarily recorded. The format of medical certificate of the cause of death recommended by the World Health Organization (WHO) is being used worldwide to document the sequence of events leading to death. Medical Certificate of Cause of Death [MCCD] is a vital document to be filled by attending physician following International Classification of Disease [ICD]. There are several studies those have reported major and minor errors by physician while completing the MCCD and recommended need for proper training program. In this study, a workshop was conducted by Forensic Faculty to train postgraduate residents from the stream of medicine. After the workshops, postgraduate resident doctors' perceptions about different aspects of MCCD were evaluated. The study was also aimed to assess their knowledge and awareness about rules, regulations and format of MCCD. Subsequently, their anonymous responses were collected in a structured proforma and analysed.

1. Introduction

A cause of death certificate is an official document furnished by the medical practitioner where sequence of events, the time interval between the onset of the cause of death and death, and personal details of the deceased are primarily recorded. The importance of quality cause-of-death information has been emphasized extensively in the past.¹⁻⁴ The format of medical certificate of the cause of death recommended by the World Health Organization (WHO) is being used worldwide to document the sequence of events leading to death.⁵ This form consists of the direct cause of death

(immediate and antecedent causes of death) and other significant conditions contributing to death but not related to the direct cause of death. Medical Certificate of Cause of Death [MCCD] is a vital document to be filled by attending physician following International Classification of Disease [ICD].⁶

MCCD is used for several purposes like mortality statistics, disposal of the dead body, settlement of the deceased's estate, compensation, insurance and also useful for public health epidemiology.⁷

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These statistics are used for surveillance of infectious diseases, undertaking control measures and to understand the trend and changing mortality pattern. This aids in monitoring the effectiveness of immunization and other prevention programme.^{8,9} Cause specific mortality rates are key indicators of the health trends in the population. They help in assessing the effectiveness of public health programme and provide feedback for future policy and implementation. They are essential for better health planning and management and deciding priorities of health and medical research programme.¹⁰ Thus it is vital in the interests of the international health scenario that the data in the MCCD is complete and reliable.

In India, the registration of each birth and death is an important moral obligation on physicians. Medical Certificate of Cause of Death (Form number 4 for Institutional deaths and form number 4A for non-institutional deaths - Registration of Births and Death Act) is to be completed in the format as per ICD.¹¹ Health care providers, specially registered medical practitioner must be aware of guidelines, prevailing rules and format for MCCD as it is a legal proof of occurrence of death.

Any errors in the information reported in cause of death certificates may even result in the failure of prospective health policies. The major errors include missing underlying cause of death, competing potential underlying causes of death, and improper sequencing of the events. Minor errors include improper use of abbreviations, mentioning mode or mechanism of death, and ignoring time interval between onset of the cause of death and death. Such errors relate to the poor quality of death certificates.¹²⁻¹⁵

Despite the development of guidelines on medical certification of the cause of death by the WHO, errors in death certificate documentation are not uncommon and are reported across the globe. This study highlights the importance of MCCD by imparting training to the post-graduate residents in the field of medicine so that they can be able to minimize errors while furnishing MCCD.

2. Material and method

The study was conducted at Pramukhswami Medical College and S.K. Hospital, Karamsad – a Rural based tertiary Health Care Centre in central part of Gujarat (India). Department of Forensic Medicine has conducted two workshops about various aspects of

MCCD; one for third year postgraduate medical residents and another for second year postgraduate medical residents. These workshops were planned to upgrade the existing knowledge of the residents who are routinely involved in completion of MCCD. They were sensitized in this workshop on MCCD by explaining important aspects of issuing Death Certificates such as:

- A Death Certificate with cause of death must be issued only when the medical practitioner is completely satisfied with the cause of death.
- In case the Medical Practitioner is not satisfied with the cause of death, s/he must only certify the fact of death and inform the Police/ Magistrate.
- Death Certificate must be issued free of cost.
- Death Certificate must not be withheld for unbilled amount of hospitalization.
- Refusal to issue a legitimate Death Certificate is a punishable offence.
- Only single copy of a Death Certificate must be issued to the relatives of the deceased. If a second copy is issued, then the copy must be marked as DUPLICATE.
- A signed blank Death Certificate must never be issued.
- Death Certificate must be handed over to the nearest relative of the deceased after recording the thumb impression of the person receiving, his/her relationship with the deceased and signatures on the Doctor's Copy.
- A duplicate copy of every Death Certificate issued, must be with the doctor in his/her records.
- Death Certificate is essential even in case of a stillborn or premature newborn or normal newborn.
- The other requisites for issuance of Death Certificate are the same as for a Medical Certificate.

At the end of this workshop, their voluntary and anonymous responses were collected in a partially validated written feedback form. Maintenance of privacy and confidentiality was ensured.

3. Results

Total 61 medical residents submitted the responses as tabulated (Table 1).

Table 1: Students' responses on attributes regarding MCCD workshop [n = 61].

Attributes	Number of responses on Likert Scale					
	1	2	3	4	5	Total
The program met my expectations.	0	0	9	31	21	61
The information was presented at an appropriate learning level for this stage in my career.	0	0	6	34	21	61
I gained knowledge about how to fill Medical Certificate of Cause of Death.	0	0	5	26	30	61
The workshop help me in better understanding about what not to write in MCCD.	0	0	3	35	23	61
I learned concepts that will help me to differentiate mode of death with cause of death.	0	3	4	30	24	61
I gained knowledge regarding the approach for cause of death in Medico-legal cases.	0	1	4	32	24	61
I now understand the importance of timely filling of Medical Certificate of Cause of Death.	0	2	3	28	28	61
Hand-on activities help me in better understanding and clarifying the concepts of MCCD.	1	0	10	32	18	61
The workshop build my confidence to fill Medical Certificate of Cause of Death as per ICD.	0	1	10	29	21	61
I get adequate time for discussion.	0	2	12	27	19	60
I would recommend this program to colleagues.	0	1	4	28	28	61

4. Discussion

Since 2003, medical certification of death was made compulsory for public and private hospitals in Delhi (India).¹⁶ It was remarkable that over 62% of the death records in Delhi (between 2004 and 2013) included cause of death.¹⁷

In a study from Iran the researchers analyzed a total of 236 death certificates and identified specific types of major error in 110 (47%) cases.¹⁸ The minor errors were identified in 168 (71%) which included repetitive phrases in different lines, entry of modes of death etc. Similarly in Palestine, Qaddumi et al. noted that two-third of the death certificates (out of 547) had at least one major error.¹⁹ Common major errors among those were absence of the underlying cause of death and incorrect sequence of causes of death, followed by no acceptable cause of death, and mention of competing causes of death.¹⁹ Whereas, they noted common minor errors such as absence of the time interval between the onset of the cause of death and death; use of abbreviations and symbols, followed by mention of irrelevant information, and illegible writing.¹⁹

A study from Beirut reported that 58% of the death certificates did not mention a cause of death and the certificates were not signed by medical practitioners in 51% cases.²⁰ These studies from the

middle-east countries spotted improper use of abbreviations and symbols and non-conveyance of a cause of death.^{19,20,21} These studies suggested the need of structured training program and workshop to address common lacunas and also a training for physician about procedure for furnishing details in MCCD.

Another study from India evaluated that 93% of the death certificates were having some kind of errors.²² It also showed a statistically significant association between work experience and completeness of the certificate.¹¹ Major errors such as inappropriately conveyed underlying cause of death and inaccurate cause of death such as no or multiple irrelevant causes, irregular sequence, etc. were reported in Australia.²²

In our study, almost 50% of the medical residents perceived that they gained knowledge about proper filling of the certificate. There was a significant clarity in their perception regarding their understanding about the common errors, approach and its importance while filling the death certificate. They considerably felt adequate time for discussion in the workshop. Here, the students perceived that a single workshop can bring significant improvement in filling of Medical Certification of Cause of Death. It has already been established that a multifaceted

educational intervention training of junior medical residents on appropriate completion of a death certificate was effective in a residency-based pediatric program.²³ To achieve maximum understanding and clarity among medical postgraduates, many such workshops should be conducted on quarterly or yearly basis.

5. Study limitations

Our study has several important limitations; the sample size was small and limited to a unit in a tertiary care center; henceforth, a study with a large sample size testing this intervention in other settings might affect the obtained results; although, this might also introduce variability in the nature of the delivered intervention. The study design limits our capability of testing individual participant's performance and the factor(s) that influence performance. Future evaluation of this intervention is recommended to examine whether any factor(s) influence positive change.

6. Conclusion

Inappropriateness in the medical certification of the cause of death compromises the formulation of effective public health policies and proper identification of the disease trends, continuous education would be imparted to the medical practitioners in this regard. Medical practitioners even at the end of their undergraduate medical course are possessing a considerable scope of improvement in filling death certificates. The cause of death certification is already included in undergraduate medical curriculum; however, its teaching and learning has not been appropriately weighed. Efforts are recommended to arrange workshops on various issues on the cause of death certificate. Such trainings are perceived timely and valuable for medical residents.

Ethical approval

The study was conducted after obtaining approval from the Institutional Ethics Committee at H M Patel Centre for Medical Care and Education.

Conflict of interest

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. We confirm that the manuscript has been read and approved by all named authors

and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

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