Original Article

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Assessing Knowledge, Skill and Attitude of Medical Professionals with Relevance to Medical Certificate of Cause of Death

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Abstract

In the study, evaluation of information for completion of non medical variables of Medical Certificate of Cause of Death (MCCD) like deceased's name, age, sex, date and time of death, doctor's signature and date of verification etc. filled in mock death certificates was done. We also studied and assessed the awareness, skill, attitude and knowledge amongst medical professionals (MPs) in documenting MCCD completely and accurately. Name, sex and age of the deceased were correctly and completely mentioned by 77.21%, 90.48% and 89.12% physicians respectively. Exact date and time of death was reported by 87.07% and 88.10% doctors respectively. Doctor's signature column was filled by 75.51% physicians while date of verification was mentioned by only 63.95% doctors. This study reflects inadequate knowledge, practice, training and lack of awareness about importance of MCCD; carelessness and negligence on the part of certifying doctors.

Keywords: MCCD; WHO; Death Certificate; Awareness; Attitude; Medical Professionals.

Introduction

Death is an inevitable event in every person's life. However, structure of the modern society has necessitated death to be authenticated by the medical professional. Therefore the medical professional has to bear and carry out this responsibility with all fairness and pragmatism. Issuing a certificate of death is one of the onerous duties of a medical professional, which may have medico-legal implications [1].

Medical Certificate of Cause of Death [MCCD] scheme was proposed by World Health Organization (WHO) as an imperative tool to obtain scientific and reliable information in terms of causes of mortality. It was accepted by the Government of India with suitable incorporations made in the Registration of Births and Deaths Act, 1969 [2]. MCCD under Civil Registration System, in India, has statutory backing under sections 10 (2) and 10 (3) of the Registration of Births and Deaths Act, 1969. According to this scheme, a medical person attending the deceased in his/her last illness, after death of a person shall fill in form no. 4 for institutional deaths and form no. 4A for non-institutional deaths [3].

Every medical professional is obligated to issue MCCD in the unfortunate event of death of his patient. Incomplete or inaccurate entries in these certificates pose difficulties in obtaining reliable information pertaining to causes of mortality. Routine mortality statistics including age, sex and cause of death, are extracted from death certificates using WHO guidelines [4]. The purpose is to permit systematic recording, analysis, interpretation and comparison of morbidity and mortality data collected in different countries or areas at different times [5].

Death Certificate is believed to be very poor and inaccurate in most of the health institutions in India [6]. Unfortunately, errors in death certificate are common [7,8,9] and range from incomplete certificates and illegible handwriting to inaccurate causes and manners of death [7,8,10]. Also seen is

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the use of medical abbreviations [8] rendering the certificate unintelligible to the general public.

MCCD issued in Form 4/4A consists of two sections i.e. medical part and nonmedical part. In nonmedical part, the certifying doctor has to fill the details of identification data of the deceased like Name, Sex, and Age etc. Also it is mandatory to fill the date and time of the event i.e. death accurately. After completion of the Part I and Part II (medical part) the certifying doctor is supposed to fill the columns like doctor's signature with name and date of verification [2,3].

Considering these background the authors felt the need and have made a sincere attempt to contribute a little more with an aim to study/assess the awareness, attitude and knowledge amongst MPs in documenting MCCD completely and accurately. We also evaluated information for completion like name, age, sex, date and time of death, Doctor's signature and date of verification filled in mock death certificates.

Methodology

The present prospective cross-sectional survey based study was conducted amongst the MPs working in a tertiary health care teaching hospital in Maharashtra. Prior approval of Institutional Ethics Committee was obtained to conduct the study and doctors in various departments were approached to participate in the study with their written informed consent. 294 MPs participated in the survey. A standardized questionnaire and MCCD form along with a mock patient data (Case scenario 1) was given to the MPs participating in the survey. They were asked to write most appropriate answer to the questionnaire and fill up the mock MCCD form. Percentage of correct response was calculated and the results were tabulated and analyzed using Epi_info 7 software.

Case scenario 1 (Mock patient data for filling MCCD form): Ratan Ramesh Raykar, a 60 years old resident of Mahesh Nagar, Pimpri, Pune, was suffering from Bronchial Asthma since 15 years, Diabetes Mellitus since 10 years and Ischaemic Heart Disease since 2 years. He was admitted in ICU of Dr. D. Y. Patil Medical College & Hospital on 11/12/2013 at 7 am with complains of severe chest pain radiating to left shoulder and sweating since 6 am. He also had vomiting once. ECG revealed T-wave inversion and ST-segment elevation suggestive of Myocardial infarction. On 12/12/2013 morning his condition deteriorated, landed into cardio-respiratory arrest and died at 8 am. Issue a Medical Certificate of Cause of Death in the prescribed format.

Results

Name being the major identification factor of a person (deceased) was completely written by 77.21% physicians whereas 22.11% were ignorant/ overlooked in writing the name. However 2 physicians wrote it incompletely by using initials. Gender information literally makes it easier to classify the diseases and find out the influence of gender over these diseases and further mortality statistics. It was written completely by 90.48% physicians, 8.16% of them left it blank while 1.36% used abbreviations as either M or F. It is a known fact that many diseases manifest as the age advances and extremes of ages are more vulnerable to many diseases, hence it becomes very important to state the accurate age of the person/deceased in MCCD form. 89.12% physicians mentioned the age correctly, 8.16% of them left it blank and 2.72% mentioned the age incorrectly.

Exact date of death was mentioned correctly and completely by 87.07% physicians, 1.70% of them left this column blank and 11.22% physicians wrote it incorrectly or incompletely. Time of death plays a vital role in indicating the severity of the disease from time of onset of symptoms. It was written correctly by

Table 1: Completeness found in MCCD

Sr. No.	Non medical variables of MCCD	Completeness Found in Mock MCCD forms					
		Correct/Complete response		Incorrect/Incomplete response		No Response	
		No.	Percentage	No.	Percentage	No.	Percentage
1.	Name of the deceased	227	77.21	2	0.68	65	22.11
2.	Sex of the deceased	266	90.48	4	1.36	24	8.16
3.	Age of the deceased	262	89.12	8	2.72	24	8.16
4.	Date of death	256	87.07	33	11.22	5	1.70
5.	Time of death	259	88.10	30	10.20	5	1.70
6.	Doctor's signature	222	75.51	--	--	72	24.49
7.	Date of verification	188	63.95	--	--	106	36.05

88.10% doctors, incorrectly by 10.20% while 1.70% of them did not mention the time.

75.51% physicians signed in the doctor's signature column, at the same time, as many as 24.49% of them were ignorant in putting their signature. Date of verification was written correctly by 63.95% physicians and 36.05% of them left it blank. (Table 1)

In the second part of the study knowledge and awareness of doctors regarding MCCD was assessed by giving them questions related to MCCD. The first question was regarding use of standard form in case of death at home which was answered correctly by 24.83% doctors, 20.75% of them were incorrect and 54.42% physicians marked this column as do not know.

In response to the question regarding standard form to be filled in case of hospital death, it was answered correctly by 26.19% doctors, incorrectly by 24.49% and 49.32% physicians did not know the answer to this question.

Whether a physician can charge fee for issuing MCCD; was correctly answered by 58.16% physicians, 19.73% of them were incorrect and 22.11% physicians marked this column as do not know.

Question related to refusal or delayed issue of MCCD was correctly answered by 70.41% doctors, incorrectly by 5.44% whereas 24.15% did not know the answer.

The cause of death is recorded as per the sequence adopted by WHO. 50% physicians answered this question correctly, 15.99% were wrong and 34.01% of them did not know the answer. (Table 2).

Table 2: Knowledge and awareness regarding MCCD

Sr. No	Question	Correct response		Incorrect response		Do not know	
		No.	Percentage	No.	Percentage	No.	Percentage
1	If patient dies at Home, MCCD is issued in which form?	73	24.83	61	20.75	160	54.42
2	If patient dies at Hospital, MCCD is issued in which form?	77	26.19	72	24.49	145	49.32
3	Can Medical Professional charge fees for preparing & issuing MCCD?	171	58.16	58	19.73	65	22.11
4	Can Medical Professional refuse or delay issuing of MCCD if he / she have not received professional fees for treating patient before death?	207	70.41	16	5.44	71	24.15
5	In MCCD, the cause of death is recorded as per the sequence adopted by which body?	147	50.00	47	15.99	100	34.01

Discussion

In the present study variables related to identification were filled out correctly in 77-90% of the death certificates. Agarwal et al. revealed that such preliminary components of the certificate viz. full name, age, sex, address were correctly entered in all the cases [11]. Shah VR and Bala DV reported that these variables of identification information were filled correctly in 95-100% MCCDs [12]. While El-Nour et al. reported these variables to be filled in correctly in 92.8% certificates [13]. In a study [14] out of 353 death certificates (DC) studied, 3 DCs were written without mention of sex of the deceased. Age of the deceased was not written by certifier in 9 DCs while in 9% DCs identity/name was not mentioned correctly or completely.

Ganasva AS et al. reported completeness in terms of filling up of name and age was 95.1% and 91.2% respectively, while gender was mentioned in 54.3% of the forms. Date and time of death was mentioned in almost all the forms [15]. In this study the information on age and sex was missing in 8.16% and 8.16% of the death certificates, respectively. Our findings are similar to the findings of Gupta et al. who reported that information of age and sex was missing in 5.35% and 8.7% of the death certificates respectively [16]. Our finding is consistent with the study by Maudsley G, William EM who stated that the major factors deficient in death certification is lack of 'routinized orientation' and proper attitude of the certifier i.e. the doctor [9]. This may be due to 'doctor being in a hurry' or 'lazy attitude of doctor' or may have overlooked this section. This picture points towards 'attitude' of certifier. Other investigators have also derived similar results [17]. Although there is a need to change this mindset, it cannot be done by a single individual.

The doctor certifying death is required to put his signature, mention his/her full name & designation along with date and preferably should use his/her seal bearing registration number, at the bottom of the certificate. In the present study forms were completed

with signature of the doctor in almost 75.51% while date of verification was present in 63.95% forms. In earlier study all the certificates bear signature but only 10 (3%) certificates had the seal with registration number of the physician [11]. In Ganasva's study the forms were completed with name and signature in almost 99.5% while date of verification was present in only 34% [15]. El Nour et al. had observed 18% of certificates were not signed by doctors, while in 82% of the death certificates signature of doctors was present [13]. In Beirut, almost 50% of certificates did not contain signature of certifier. [18] 15% of error was omission of doctor's name and signature at the end of the DC [14]. Swift B and West K of Dept. of Histopathology from UK observed 10% of certificates were of very poor standard, illogical & inappropriately completed [19] which are consistent with the findings of present study.

Ganasva et al. revealed that 21(1.1%) MCCDs were found completely filled, but on lowering the criteria of completeness to a condition (slightly incomplete) where less than 15% columns were left blank; such slightly incomplete data was found in only 4 (0.2%) MCCDs. Most of MCCD forms i.e. 96.19% were found notably incomplete and 45 (2.3%) MCCD forms were grossly incomplete. They reported that all the participants felt that there was lack of supervision of their work by higher authority. Majority of them (68.8%) felt that they were overburdened due to lack of sufficient staff. [15]

Many doctors qualify with little or no formal training in death certification, whereas others may be inexperienced or have had insufficient practice. This might be the reason for incompleteness/ incorrectness in death certificates. Other reasons may be that doctors had lack of understanding regarding importance of Medical Certificate of Cause of Death in mortality statistics for epidemiology, public health policy and research; or carelessness and reluctance/ ignorance on their part to fill in such forms.

Conclusion

This study highlighted on the easily avoidable errors in terms of name, age, gender etc. of the deceased, date and time of death and name and signature of the attending physician in all death certificates. It reflects inadequate practice, training and lack of awareness about importance of MCCD, carelessness and negligence on the part of certifying doctors. More attention has to be devoted to raising physicians' awareness in completing death certificates accurately and completely. They should be made aware that MCCD is a fundamental requirement for building up epidemiological data. Recurring educational sessions, practical training on the case to case basis at regular intervals, periodic auditing of death certificates and feedback are necessary to increase the accuracy of this important document.

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