Analysis of the filling of death certificates in Catanduva, São Paulo, Brazil

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Abstract

The death certificate is the main document for the Mortality Information System of the Brazilian Ministry of Health, covering quantitative and qualitative aspects of ethical, legal and epidemiological nature. The records of the Ministry present inconsistencies caused by many factors, especially those related to poor academic training and access to guidelines published by entities. This study sought to identify the main errors in filling death certificates registered in a teaching hospital in Catanduva, São Paulo, Brazil, from 2014 to 2017. Of the 805 certificates, 167 (20.7%) were incomplete, 59 (7.3%) had inadequate terms, 42 (5.2%) acronyms and abbreviations, 27 (3.3%) illegible handwriting, and 2 (0.2%) erasures. Despite the low frequency of errors, the analysis found deficits in knowledge and/or neglect of medical ethics, which compromise the quality of public health records.
Keywords: Death certificates. Public health. Ethics.

Resumo

Análise do preenchimento de declarações de óbito em Catanduva, São Paulo

A declaração de óbito é documento-base do Sistema de Informação sobre Mortalidade do Ministério da Saúde e abrange dados qualiquantitativos de cunho ético, jurídico e epidemiológico. Os registros do Ministério apresentam inconsistências provocadas por diversos fatores, principalmente relacionados à formação acadêmica dos profissionais e ao seu acesso às orientações de órgãos competentes. O objetivo deste trabalho foi identificar os principais erros no preenchimento das declarações de óbito registradas nos hospitais-escola de Catanduva/SP entre 2014 e 2017. Dos 805 documentos analisados, 167 (20,7%) estavam incompletos; 59 (7,3%) utilizavam termos inadequados; 42 (5,2%) apresentavam siglas e abreviações; 27 (3,4%) foram redigidos com caligrafia ilegível; e 2 (0,2%) continham rasuras. Apesar da baixa frequência de erros, a análise demonstrou déficit no conhecimento e/ou descuido com a ética médica, o que compromete a qualidade dos registros de saúde pública.
Palavras-chave: Atestado de óbito. Saúde pública. Ética.

Resumen

Análisis del llenado de las declaraciones de defunción en Catanduva, São Paulo, Brasil

La declaración de defunción es un documento base del Sistema de Información sobre la Mortalidad del Ministerio de Salud, que incluye datos cualicuantitativos de carácter ético, legal y epidemiológico. Los registros del Ministerio presentan inconsistencias resultantes de diversos factores, sobre todo relacionados con la formación académica de los profesionales y con el acceso a las orientaciones de los órganos competentes. El objetivo de este trabajo fue identificar los principales errores en el llenado de las declaraciones de defunción registradas en los hospitales escuela de Catanduva, São Paulo, Brasil, en el período entre el 2014 y el 2017. De los 805 documentos analizados, 167 (20,7 %) estaban incompletos; 59 (7,3 %) empleaban términos inadecuados; 42 (5,2 %) presentaban siglas y abreviaturas; 27 (3,4 %) estaban escritos con una caligrafía ilegible; y 2 (0,2 %) contenían tachones. A pesar de la baja frecuencia de errores, el análisis demostró un déficit en el conocimiento o negligencia en cuanto a la ética médica, lo que compromete la calidad de los registros de salud pública.
Palabras clave: Certificado de defunción. Salud pública. Ética.

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Research

Death certificates are official documents of ethical, legal and epidemiological nature. In Brazil they are standardized at national level and used to feed the Mortality Information System of the Ministry of Health [1-4]. They record qualitative and quantitative data in three numbered copies that can be differentiated by color, according to their destination and function: white to be forwarded to the Municipal Health Department; yellow for the family representative of the deceased individual to preserve the document; and pink to be filed in the medical record [5].

This document is associated with several proceedings, given the possible characteristics of the death (natural cause, accidental and/or violent cause) or the place where it occurred (health institutions, public roads, etc.) [5]. It is a public record that must be filled by the physician and contain, among other data, the identification of the deceased and the conditions that led to their death, in addition to indicating whether medical assistance was provided or not [5,6].

The certificate consists of nine blocks and 59 fields that correspond to essential information to certify the patient's death: block I, "identification," presents sociodemographic data of the deceased and is accompanied by block II, "residence"; block III, "occurrence," records information about the place of death; block IV, "fetal death or under the age of one," includes, in addition to data on the deceased, information on their mother; block V indicates the "conditions and causes of death," covering the chronology and events that led to the death; block VI, "physician," identifies the professional who signed the document; block VII, "external causes," indicates the possibility of unnatural passing; block VIII, "civil registry office," is filled exclusively by the public office that appoints it; and block IX, "locality without a physician," indicates the absence of this professional [5,7].

The doctor is responsible for verifying and certifying the correct filling of the certificate, so the information on the patient is reliable and meets ethical and legal obligations [1]. The need to check its veracity is related to its epidemiological role, since the document is essential to analyze the particularities of the most prevalent deaths. This allows public health institutions to understand the pattern of diseases in a given region, supporting actions aimed at health promotion and disease prevention, which are based on evidence provided by research [8,9].

Despite ample knowledge regarding the value of correctly filling the death certificate, some studies report unsatisfactory records that cause inconsistency in the epidemiological data collected [4]. Several factors can justify such disparity, most of which are related to the academic background of professionals and access to information documents on the proper filling [7].

In the current context of medical practice, the precariousness in statistical survey causes a problem that affects the advancement of science, since several studies seek to indicate exactly the main causes and doubts involved in the poor completion of death certificates. Firstly, the main conclusion is that many medical professionals are unaware of the real ethical, legal and epidemiological implications caused by the improper, incomplete or illegible filling of the certificate. Information deemed deficient comes from the negligence of physicians regarding difficulties related to basic aspects of the document, such as the chronology and coherence of the clinical events involved in the cause of death, the filling of fetal and maternal deaths without assistance and the indication of external causes in violent deaths [10,11].

We understand that the requirement to properly fill this document meets the objective of improving statistical data on the death of population, associated with the development of the Mortality Information System. This study thus aims to evaluate different criteria for the complete and adequate filling of the death certificate to indicate relevant errors and show failures related to incompleteness, which hypothetically expose the negligence of health professionals and their poor training [10].

Materials and method

This is an observational, descriptive, cross-sectional and qualitative study of the death certificates of patients who died between 2014 and 2017 at the Complex of Teaching Hospitals Padre Albino and Emílio Carlos. These institutions are linked to Centro Universitário Padre Albino, which houses the medical course in the city of Catanduva, São Paulo, Brazil; they serve a micro-region with 19 cities and about 200,000 inhabitants, located in the northwest of the state of São Paulo. The documents analyzed were filled out by physicians linked to these hospitals.

Data from the original certificates were collected and organized into forms (Annex) to

identify and analyze the main achievements and errors made by professionals when filling them. Then, statistical calculations were made and this data was displayed as graphs, according to each block to compare them by category and level of filling complexity.

All the information was provided by the archive of Hospital Emílio Carlos, where the pink copies are stored. Records containing blocks I, II, III, V and VI filled in were included, and data related to fetal deaths and external causes was excluded from the research. Section VIII is filled exclusively by a civil registry office and does not involve the participation of doctors, thus being excluded from the analysis. This study was approved by the Research Ethics Committee of Fundação Padre Albino and supervised by the employees responsible for the archive sector.

Blocks I (identification), II (residence), III (place of death), V (conditions and causes of death) and VI (professional data) were evaluated for legibility, presence of erasures and complete filling of fields. Block V was also evaluated for the use of improper terms ("multiple organ failure," "cardiorespiratory arrest" "coma" and "unknown cause") and non-standard abbreviations and acronyms.

The points observed in block V were chosen based on manuals for filling this type of document. The book *Atestado médico: prática e ética* [12] (*Medical Certificate: Practice and Ethics*), published by the Bioethics Center of the Regional Council of Medicine of the State of São Paulo in 2013, considers the terms "multiple organ failure," "cardiorespiratory arrest" and "coma" improper due to their vagueness and for representing consequences of the death process, not actual causes. The use of the expression "unknown cause" is also discouraged by this manual as it generates an inaccurate certificate and omits the underlying cause of death, which must be at least questioned [12].

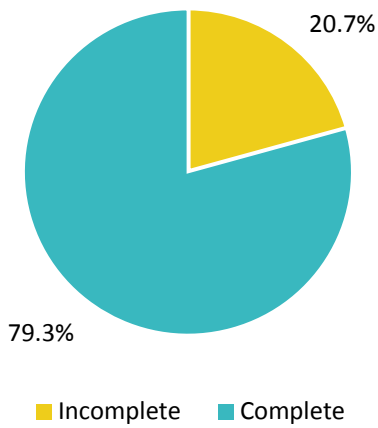
The manual also advises doctors to avoid abbreviations when filling death certificates, so that the registration is as clear as possible, contributing to its epidemiological role [12]. This same reason underlies the requirement for legible handwriting, a term that refers to written *text or print*, since the *characters must be clearly visible and distinct, thus being easily read* [13]. The documents were classified as illegible when considered difficult to understand by more than one of the five members of the research group.

Erasure, understood as *eliminating the letter or word of a written text, crossing it out or scratching it* [14], is also strictly prohibited in any medical document. The *Manual de instruções para o preenchimento da declaração de óbito* (*Instruction Manual for Filling in the Death Certificate*) by the National Health Foundation [11] highlights that a registration with erasures or amendments must be canceled and forwarded to the processing sector for control.

Results and discussion

Of the 805 death certificates analyzed, 167 (20.7%) were incomplete; 59 (7.3%) had improper terms; 42 (5.2%), acronyms and abbreviations; 27 (3.4%), illegible handwriting; and 2 (0.2%), erasures. The striking frequency of incomplete records in the files of the hospitals surveyed (Graph 1) indicates a probable lack of commitment, attention or training of the professional responsible for filling them. Other analyses achieved similar results, such as a study conducted in Santa Catarina, Brazil, in 2014 with 528 death certificates, of which 50.18% were incomplete [10].

Graph 1. Proportion of complete and incomplete death certificates (Catanduva, São Paulo, Brazil, 2014-2017)



The presence of acronyms and abbreviations, illegible handwriting and erasures indicates the permanence of certain bad practices in the medical routine that may impair the understanding and analysis of information by professionals from other areas. These practices also damage the physician's ethical responsibility to follow established norms and standards for documents that have an epidemiological role.

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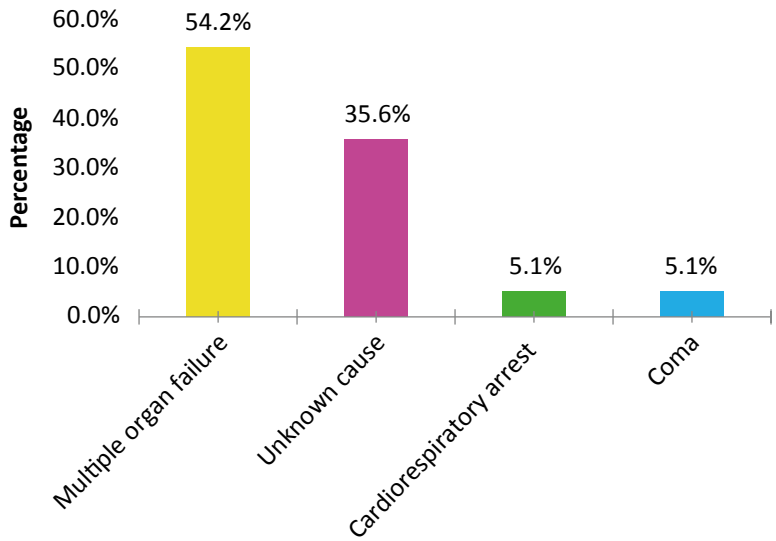
Despite the low incidence (7.3%), terms discouraged by regulatory authorities were still observed [12]. This finding corroborates the national trend observed in a previous study, which found that, although the proportion of deaths from ill-defined causes has decreased since the 1980s, its frequency was still estimated at 13% in the 2000s [15].

The analysis of the 59 death certificates with inappropriate terms found that 32 (54.2%) used "multiple organ failure"; 21 (35.6%), "unknown cause"; 3 (5.1%), "cardiorespiratory arrest"; and 3 (5.1%), "coma" (Graph 2). A 2013 study conducted in Belém, Pará, Brazil, found more frequent use of vague terms, totaling 55% of the death certificates analyzed [3].

This result is more worrisome than that found in our study, carried out at the hospital complex of Fundação Padre Albino, where fewer filling errors were detected, contrary to the researchers' initial expectations. This result possibly reflects a greater preparation and education level of the professionals responsible for these documents, who may have attended a subject on medical documentation during the course.

Graph 2. Percentage of improper terms identified in death certificates (Catanduva, São Paulo, Brazil, 2014-2017)



Final considerations

The death certificate is a medical act of legal, ethical and epidemiological relevance. The information is registered in the Mortality Information System, which can guide the healthcare planning according to data on the incidence and prevalence of each disease, elucidating fundamental needs to be tackled in prevention campaigns, opening new units and funding for research and treatments.

The data in this document must be true and specific, also considering that family members have the right to receive correct information on the cause of death of their loved one. Given this context, death investigation committees are indispensable, since they identify the main preventable causes of death and propose measures to prevent them, promote discussions and instruct professionals about the proper filling of certificates.

Based on the results, this study shows that we still face a deficit in medical knowledge about the proper filling and/or neglect of professionals with medical ethics. In view of this, educational institutions should improve teachings on the subject to prepare students for their profession. Furthermore, investments in training programs for medical documentation are essential to refine the knowledge of individuals who have already graduated from medical school.

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Research

Appendix

Filling	Calligraphy	Erasures	Acronyms and abbreviations	Improper terms	Causes of death (block V)
( ) Complete	( ) Legible	( ) Yes	( ) Yes	( ) Multiple organ failure	
( ) Incomplete	( ) Illegible	( ) No	( ) No	( ) Cardiorespiratory arrest	
( ) Blank			Location(s):	( ) Coma	
				( ) Unknown cause	