



Original Research Article

KNOWLEDGE AND AWARENESS OF MEDICAL CERTIFICATION OF CAUSE OF DEATH AMONG PHASE III PART I MBBS STUDENTS IN A TERTIARY TEACHING HOSPITAL

Mandala Mahesh¹, V. Koteswara Rao², K. Nagarjuna³, D. Madhu Sudhana Reddy⁴, T. Sai Sudheer⁵

¹Assistant Professor, Department of Forensic Medicine, Government Siddhartha Medical College, Vijayawada, Andhra Pradesh, India.

²Assistant Professor, Department of Forensic Medicine, Kurnool Medical College, Kurnool, Andhra Pradesh, India.

³Assistant Professor, Department of Forensic Medicine, Kurnool Medical College, Kurnool, Andhra Pradesh India.

⁴Assistant Professor, Department Forensic Medicine, ACSR Government Medical College, SPSR Nellore, Andhra Pradesh India.

⁵Professor & Head, Department of Forensic Medicine, Kurnool Medical College, Kurnool, Andhra Pradesh India.

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Corresponding Author:

Dr. D. Madhu Sudhana Reddy,
Assistant Professor, Department
Forensic Medicine, ACSR Government
Medical College, SPSR Nellore
District, India.
Email: drmaddyforensic376@gmail.com

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ABSTRACT

Background: Death certificate is one of the public surveillance tools, as the data obtained from death certificates are being used for surveillance of health in the community. This is essential for health planning, managing health programs and deciding priority for policy makers for prevention and control of diseases resulting deaths. **Aim:** This study was undertaken to assess and impart the knowledge and to bring awareness about rules, regulations and format of MCCD among Phase III Part I MBBS students. By the end of phase III Part I MBBS course the undergraduate should obtain sufficient knowledge to document the MCCD accurately.

Materials and Methods: An observational study was conducted to MBBS phase III-part I student, at Kurnool medical college Kurnool. During the month of October 2022, the students who had attended the lecture and who gave written informed consent were included in the study and who were absent on that particular day were excluded from the study.

Results: There was increase in the knowledge when compared with pretest and post-test results.

Conclusion: Doctors issuing the MCCD accurately has numerous benefits like, preventing the disease, planning health programs, insurance claims to the deceased family, and also in research purpose, various authors who had done some research on MCCD have stated that the present doctors are completely unaware of issuing the MCCD accurately.

Keywords: Death Certificate/ Medical Certification of Cause of Death/ Cause of Death.

INTRODUCTION

Death certificate is one of the public surveillance tools, as the data obtained from death certificates are being used for surveillance of health in the community. This is essential for health planning, managing health programs and deciding priority for policy makers for prevention and control of diseases resulting deaths.^[1] In order to get accurate statistics on the cause of mortality rate from the death certificates, medical certification of cause of death (MCCD) has to be reported accurately. As MCCD is

the legal document, which is issued by the treating doctor upon death of the patient, doctor is supposed to record the underlying cause of death or sequence of events and their contributing factors, which are leading to the cause of death of a person.^[2] It is the responsibility of the treating doctor to adhere and follow the prevailing rules and regulations while documenting MCCD.^[3] In India we follow the recommendation of World Health Organization and medical certification of cause of death is issued in form VI in case of hospital/ institutional deaths, and in form IV A in case of non-institutional deaths if the deceased is getting treated from the doctor and

was treated within 10 days of his death, in order to do so the treating doctor must have sufficient knowledge, awareness and know exact procedure of documenting the MCCD.^[4] Various authors have done studies on Medical certification of cause of death, but majority of these studies are confined to doctors who had completed their post-graduation and have been practicing, or done on junior residents or post graduates, stated that there was difference in knowledge on MCCD,^[5,6,7,8,9,10] but to our observation all these studies showed there was significant deficient of knowledge on documenting the MCCD and showed significant improvement in documenting the MCCD after a training session, the reason is that may not any such training on how to document the MCCD during their under graduate course.

MATERIALS AND METHODS

An observational study was conducted to MBBS phase III-part I student, at Kurnool medical college Kurnool. During the month of October 2022, the students who had attended the lecture and who gave written informed consent were included in the study and who were absent on that particular day were excluded from the study. A set of 10 questions consisting of 5 on knowledge and 5 on awareness on MCCD was given to students as pre-test, in the form of Google forms, which was followed by lecture on medical certification of death and same set of questions were given as post-test to students by Google forms. The above data has been entered in micro soft excel and analyzed with SPSS version 20 statistical software (IBM, Chicago, USA) the pre and post test data, mean score for pre-test is 59.4 and post-test is 101.8 and standard deviation for pre-test – 829.292319812538 With margin of error (confidence interval is 9.2630448557696 and for posttest – 825.933761778809 with margin of error (confidence interval is 8.2009755517255 and statistical significance was tested by with chi square test with p value <.05 was considered as significant. Ethical consideration: as the study is being carried out on students, institutional ethical clearance obtained.

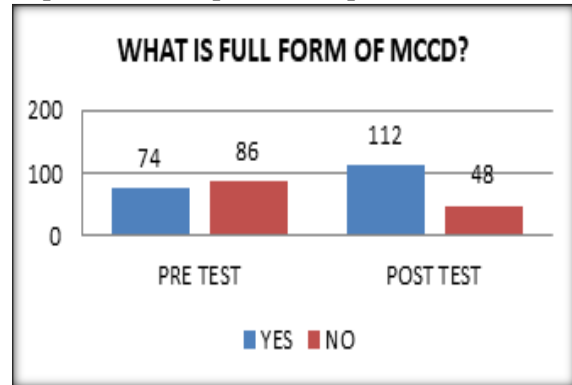
RESULTS AND DISCUSSION

To understand the student's Knowledge and awareness on MCCD this study was conducted based on 10 multiple choice questions. 5 questions each on knowledge and awareness respectively, as regards to the responses for full form of MCCD, only 74 (46.25%) in pre-test and 92(70%) have answered correctly, with increase of correct answer in post-test by 38 (23.75%). Studies which are similar to our study for question 1, Sandeep S. Kadu and Atul A. Khalkar in study stated that in pre-test 10 (30.43%) and post-test 46(100%) have answered correctly⁶. Undavalli VK et al in study showed that

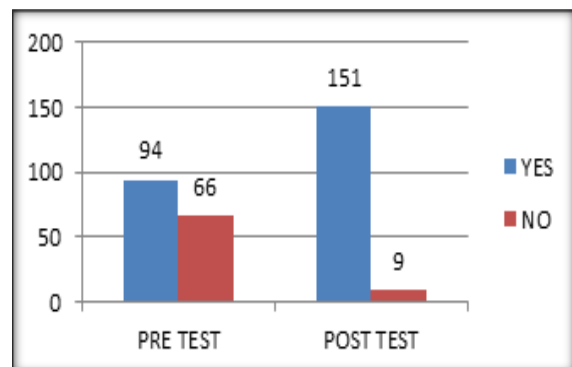
only 53% of the participants know the full form of MCCD,^[9] Undavalli VK et al stated that in his study 53% were aware.^[9] Rajkumari Bishwalata et al stated that 210 (62.9%) were aware.^[12] Aarati Pokale & Mandar D `Karmarkar, stated that only 53(58%) had answered correctly. Considering that the above stated studies have been carried out on interns and post graduates, who would have gained knowledge about MCCD, our study was on MBBS students, where they had only one lecture class by SPM during their phase 1 MBBS, we were able to achieve by 70 % after lecture. Relating to the second question in the pretest 94 (58.75%) have answered correctly in the pretest and 151 (94.37%) have answered correctly in the post test. 57 (35.62%) have gained the knowledge on what do doctor issues in case of death in the hospital. As regards to the responses to the question 2 on what do doctor issues in case of death in the hospital 94 (58.75%) in pre-test and 151 (94.37%) have answered correctly. Studies which are similar to our study for the question 2 are, done by Undavalli VK et al stated that on question Notifying the authorities of the fact of death showed only 34 % know that it is certifying the death i.e Medical certificate of cause of death. Aarati Pokale & Mandar D Karmarkar in a study stated that only 39 (43%) doctors had answered correctly⁴. Relating to 3rd question on importance of MCCD, pre-test 103 (64.37%) have answered correctly in the pre-test and 120 (75%) have answered correctly in the post-test. 17 (10.62%) have gained the knowledge on importance of issuing MCCD, studies which are similar to our study are done by Aarati Pokale & Mandar D `Karmarkar stated that only 27 have answered correctly⁴. Relating to 4th question, on how many days before death should the doctor have examined the patient to in order to issue MCCD pre-test 75 (46.87%) have answered correctly in the pre-test and 81(50.62%) have answered correctly in the post-test. Only 6 (3.75%) have gained the knowledge similar studies to our studies done by Aarati Pokale & Mandar D `Karmarkar showed only 22 have answered correctly.^[4] Relating to the fifth question 7(4.37%) have answered correctly in the pre-test and 106 (66.25%) have answered correctly in the post test. Studies similar to our study were done by Aarati Pokale & Mandar D `Karmarkar, stated that 44 (48%) doctors could answer this correctly. Most interns could define immediate and antecedent cause of death (100% and 66.7%) respectively.^[4] Undavalli VK et al stated that 30% were able to identify the immediate cause of death. Kadu S.S and Khalkar A.A stated that the doctors are finding it difficult to correctly fill the immediate cause of death.^[6] Only 12 in pre-test could correctly fill this column and in post-test 40 were able to correctly fill the immediate cause of death. Astonishingly, 86% of the doctors are confused between the terms, cause of death and modes of death. Akhade S P, Dash S K Akhade K S stated that on mode and cause of death in pretest score of

0.59 and post-test score of 0.98.^[10] in our study in post-test 99 (61.87%) have gained the knowledge on what is immediate cause. Relating to the sixth question in the pre-test 56 (35%) have answered correctly and 85(53.12%) have answered correctly in the post test. studies similar to our study were done by Aarati Pokale & Mandar D `Karmarkar, stated that 44 (48%) doctors could answer this correctly. Most interns could define immediate and antecedent cause of death (100% and 66.7%).^[4] Akhade S P, Dash S K Akhade K S stated that on mode and cause of death in pre-test score of 0.59 and post-test score of 0.9810. Were as in our study in post-test 99 (61.87%) have gained the knowledge on what is immediate cause. In our study in post-test 29 (18.12%) have gained the knowledge on what is the antecedent cause of death. Relating to the seventh question in the pre-test 40 (25%) have answered correctly and 93(58.12%) have answered correctly in the post test. studies similar to our study were done by Aarati Pokale & Mandar D `Karmarkar, stated that 60 of paediatric faculty could explain the contributory cause of death.^[4] Akhade S P, Dash S K Akhade K S stated that in pre-test 0.40 and in post-test 0.6210, were as in our study after post-test 53 (33.12%) have gained the knowledge on among the given below what can be filled in part II OF MCCD. Relating to the Eighth question in the pre-test 55 (34.37%) have answered correctly and 40 (81.25%) have answered correctly in the post test. Studies like our study were done by Aarati Pokale & Mandar D `Karmarkar, stated that Twenty-five (27%) knew use of Form IV as per guidelines⁴. None of the interns, orthopaedic and dermatology faculty was aware. Akhade S P, Dash S K Akhade K S stated that in pre-test 0.49 and in post-test 0.86, there was a increase in knowledge.^[10] Similarly in our study 75 (46.87%) have gained the knowledge on purpose of form 4 of MCCD. Relating to the ninth question in the pre-test 18 (9.25%) have answered correctly and 59 (81.25%) have answered correctly in the post test. Studies similar to our study were done by Aarati Pokale & Mandar D `Karmarkar, stated that Twenty-five (27%) knew use of Form IV A as per guidelines.^[4] None of the interns, orthopaedic and dermatology faculty was aware. Akhade S P, Dash S K Akhade K S stated that in pre-test 0.49 and in post-test 0.86, there was increase in knowledge.^[10] Similarly in our study 41 (46.87%) have gained the knowledge on purpose of form 4A of MCCD. Relating to the tenth question in the pre-test 72 (45%) have answered correctly and 79 (49.37%) have answered correctly in the post test. Studies similar to our study was done by Sandeep S. Kadu, Atul A. Khalkar,^[6] stated that in pre-test all the participants had answered incorrectly and in post-test 40 have answered correctly, in our study, 7 (4.37%) was able to gain the knowledge on how many days is required by the relatives for registering the death.

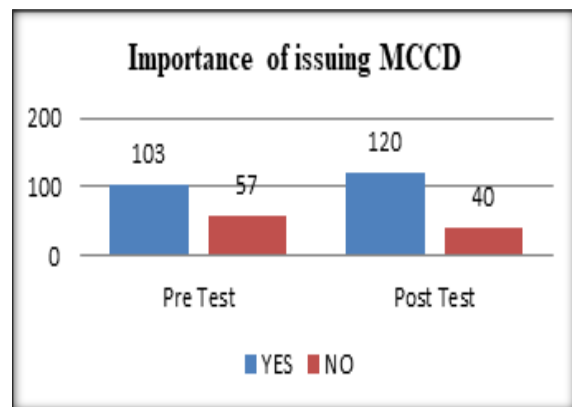
Out of 242 students 160 students submitted the responses to both pretest and post-test.



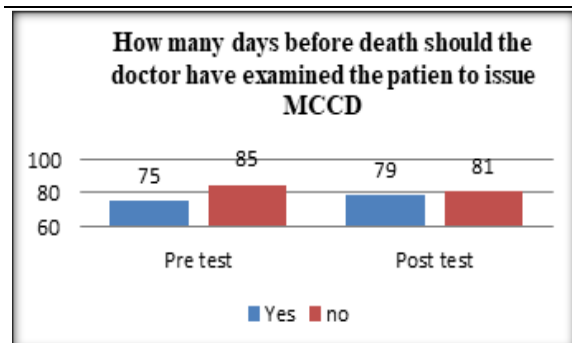
Bar graph 1: Showing results on full form of MCCD



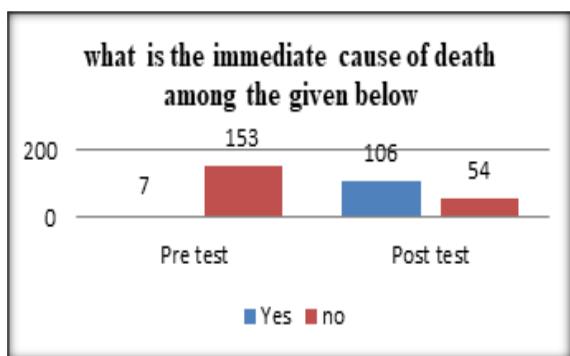
Bar graph 2: Showing results on what do doctors issue in case of deaths in the hospital



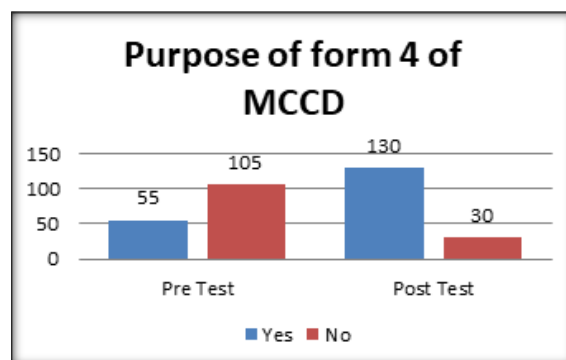
Bar graph 3: showing the importance of issuing MCCD



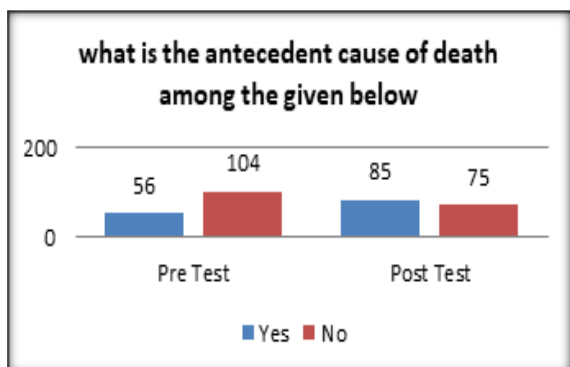
Bar graph 4: Showing results on how many days before death should the doctor have examined the patient to issue MCCD?



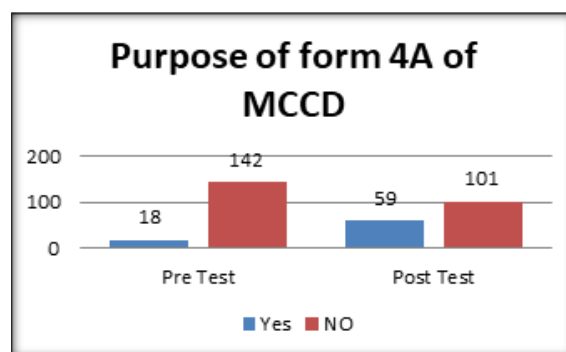
Bar graph 5: Showing result on what is the immediate cause of death among the given below



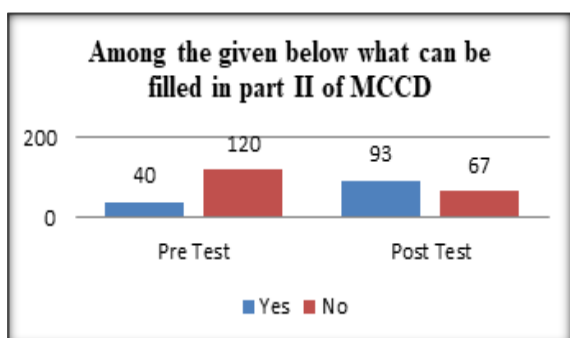
Bar graph 8: Showing results on what is the Purpose of Form 4 of MCCD



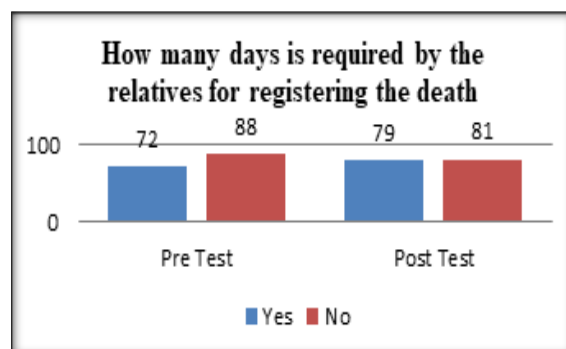
Bar graph 6: Showing results on what is the antecedent cause of death among the given below



Bar graph 9: Showing results on what is purpose of form 4a of MCCD



Bar graph 7: Showing results on what can be filled in part II of MCCD



Bar graph 10: Showing results on what is purpose of form 4a of MCCD

Table 2

what do doctors issue in case of deaths in the hospital	Pre test	Post test
Yes	94	151
No	56	09

Table 3

What is importance of issuing MCCD	Pre test	Post test
Yes	103	120
No	57	40

Table 4

How many days before death should the doctor have examined the patient to issue MCCD?	Pre test	Post test
Yes	75	81
No	85	09

Table 5

What is the immediate cause of death among the given below	Pre test	Post test
Yes	7	106
No	153	54

Table 6

What is the antecedent cause of death among the given below	Pre test	Post test
Yes	56	85
No	104	75

Table 7

Among the given below what can be filled in part II of MCCD	Pre test	Post test
Yes	40	93
No	120	67

Table 8

Purpose of form 4 of MCCD	Pretest	Post Test
Yes	55	40
No	105	30

Table 9

Purpose of form 4A of MCCD	Pre Test	Post Test
Yes	18	102
No	59	101

Table 10

How many day is required by the relatives for registering the death	Pre Test	Post Test
Yes	72	79
No	88	81

PRE TEST AND POST TEST SCORES

QUESTION	CHI SQUARE STATIC	CHI SQUARE WITH YATES CORRECTION	P VALUE	P VALUE AFTER YATES CORRECTION
1	18.5396	17.5766	.000017	.000028
2	56.5812	54.643	< 0.00001	< 0.00001
3	4.2753	3.7872	.038669	0.51647 NS
4	0.2003	0.927	.654494	.73748 NS
5	44.0823	41.3873	< 0.00001	< 0.00001
6	10.6629	9.9402	.001093	.001617
7	36.1017	34.7907	< 0.00001	< 0.00001
8	72.0721	70.163	< 0.00001	< 0.00001
9	28.7489	27.3636	< 0.00001	< 0.00001
10	0.6104	0.4515	.43399	.501657 NS

*NS: Not Significant

CONCLUSION

Doctors issuing the MCCD accurately has numerous benefits like , preventing the disease, planning health programs, insurance claims to the deceased family, and also in research purpose, various authors who had done some research on MCCD have stated that the present doctors are completely unaware of issuing the MCCD accurately, It reflects inadequate practice and training, lack of awareness about importance of medical certificate of cause of death, carelessness, hectic work load , concentrating more on life saving and ignoring the dead for the benefits which their family gets, which results negligence on the part of attending/ treating doctors, as it was not concentrated during their undergraduate/postgraduate course, With introduction of CBME curriculum to the under graduates students, MCCD has been included in the practical examination to the under graduate students in phase III Part I, we the department of forensic medicine, Kurnool medical college carried out the study on the phase III Part I students, there was improvement of knowledge on accurately filling up

of MCCD. However the present study has limitation, as this study was carried out on students and very small number when we compare the number of doctors registering in medical council every year, and we have to wait and observe how much knowledge they have retained and put in to practice when they complete the course and start issuing the MCCD certificates. We also recommend such similar studies to be carried out on students in different institutes, which will definitely improve the accuracy of documentation of MCCD among medical practitioners.

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