

COVID19
DEATH AUDIT REPORT
SEPTEMBER 2020



Department of Health & Family Welfare

Government of Kerala

DEATH AUDIT REPORT OF COVID-19 RELATED DEATHS- AUDITED DURING SEPTEMBER-2020

1. INTRODUCTION

The State Level Death Audit Committee met at 10.30 AM on September 17th and 25th and also on October 5th for auditing the COVID related deaths occurred during September via Google meet ID: id: <https://meet.google.com/fjv-raro-nom> The committee reviewed the death reports received from the districts till September 2020 and finalized the cause of death as COVID-19/Non-COVID-19. The meeting ended at 6 pm.

For the purpose of assigning the cause of death the definitions of WHO and ICD classification were followed.

Definition of COVID-19 death

A COVID-19-19 death is defined for surveillance purposes as a death resulting from a clinically compatible illness in a probable or confirmed COVID-19-19 case, unless there is a clear alternative cause of death that cannot be related to COVID-19-19 disease (e.g. trauma). There should be no period of complete recovery between the illness and death.

Definitions based on International Statistical Classification of Diseases (ICD)

An emergency ICD-10 code of 'U07.1 COVID-19, virus identified' is assigned to a disease diagnosis of COVID-19 confirmed by laboratory testing. An emergency ICD-10 code of 'U07.2 COVID-19, virus not identified' is assigned to a clinical or epidemiological diagnosis of COVID-19 where laboratory confirmation is inconclusive or not available. Both U07.1 and U07.2 may be used for mortality coding as cause of death.

In ICD-11, the code for the confirmed diagnosis of COVID-19 is RA01.0 and the code for the clinical diagnosis (suspected or probable) of COVID-19 is RA01.1.

References

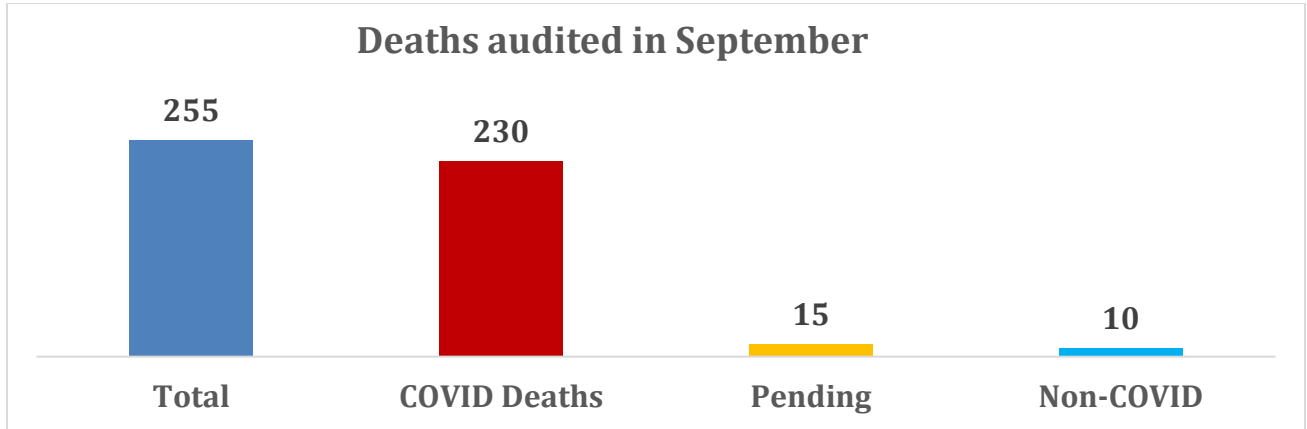
- 1) World Health Organization. COVID-19-19
- 2) Coding in ICD-10. <https://www.who.int/classifications/icd/COVID-19-19-coding-icd10.pdf>

2. MATERIALS & METHOD:

The information was collected from the DIR (Death investigation report) received from the Districts and Medical Bulletin issued by the concerned Medical Colleges/ Tertiary Health care facilities where the patient had attended eventually. A total of 255 deaths were audited during September 2020; 84 deaths were audited on September 17th; 87 deaths on 25th and 84 deaths on October 5th. Information of various demographic parameters, clinical and laboratory findings, details of treatment and surveillance were obtained wherever possible. Details are depicted in tables and graphs.

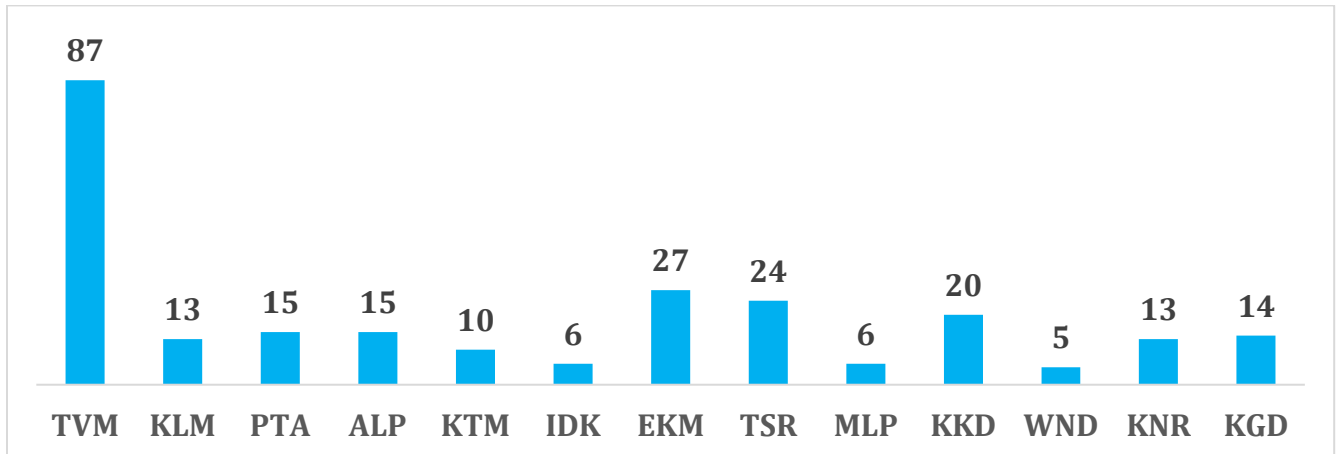
3. OVERVIEW

Graph.1 Overview of deaths audited in September (N=255)



Out of the 255 deaths audited, 230 were classified as to have the underlying cause of death as COVID-19; Non-COVID deaths were 10 and 15 were kept pending due to want of sufficient details.

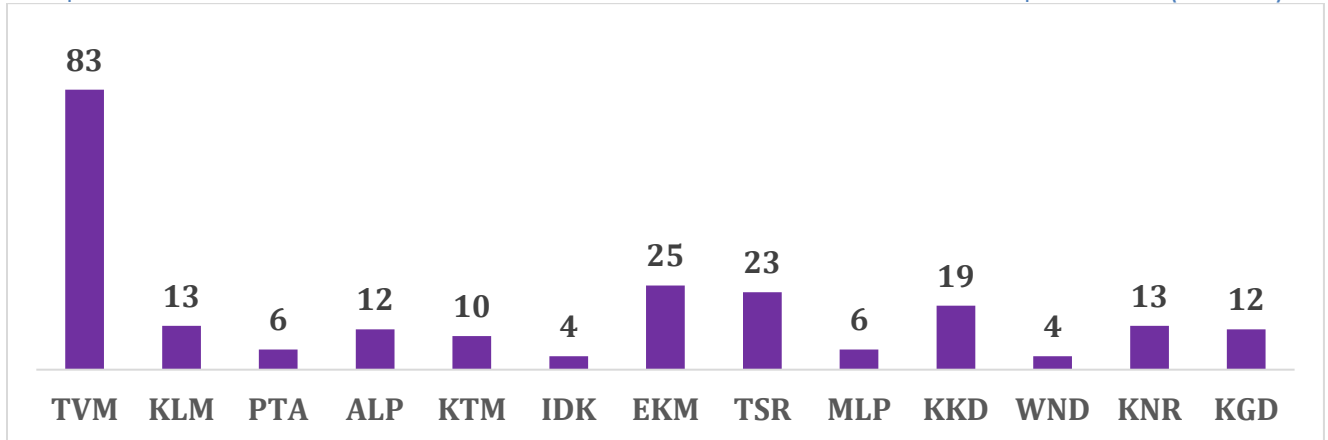
Graph.2. District wise distribution of total deaths audited in September (N=255)



Thiruvananthapuram district contributed maximum deaths followed by Ernakulam, Thrissur and Kozhikode districts.

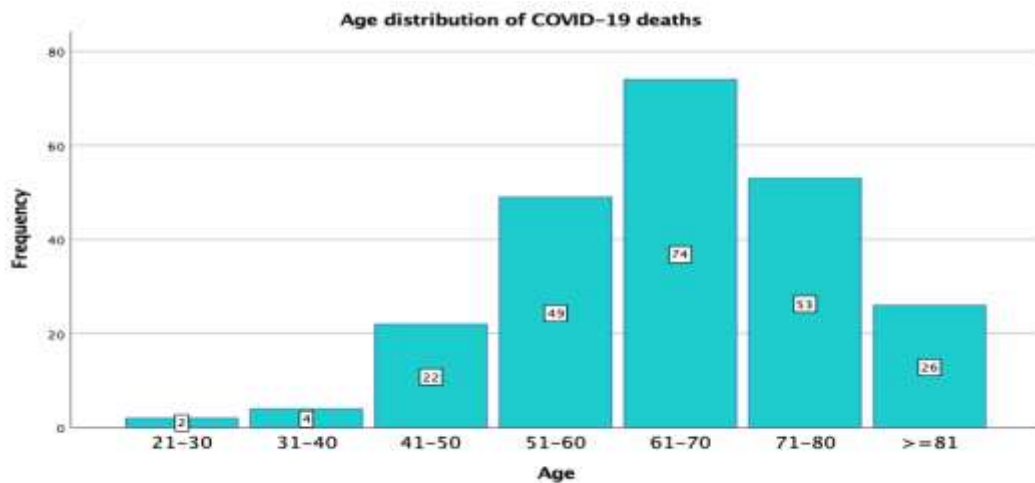
4. ANALYSIS OF COVID-19 DEATHS

Graph.3. District wise distribution of COVID-19 deaths audited in September (N=230).



A total of 230 deaths were classified as to have the underlying cause of death as COVID-19. Thiruvananthapuram district contributed maximum deaths followed by Ernakulam, Thrissur and Kozhikode districts.

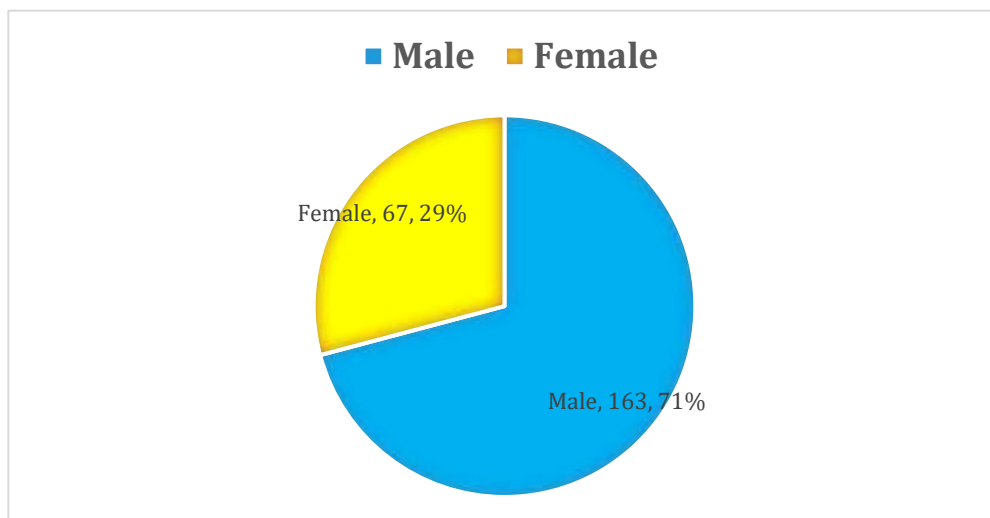
Graph.4. Age distribution of COVID-19 deaths audited (N=230).



The mean age among the COVID-19 deaths was 65.7 years (SD=12.7), median 66 yrs.

Age distribution varied from 26 years to 98 years and the most affected age group belongs to 60-69 years. The pattern seen above is similar to national and international observations.

Graph.5. Gender distribution of COVID-19 deaths audited (N=230).



Males contributed to around 71 % of the COVID-19 deaths audited. This is in alignment with observations in studies across the world.

Table.1. Presence of comorbidities among the COVID-19 deaths audited (N=230)

Comorbidity	N	%
Diabetes mellitus	130	56.5
Hypertension	119	51.7
CAD	57	24.8
CKD	52	22.6
CVA	22	9.6
COPD	22	9.6
Cancer	16	7.0
Bedridden	16	7.0
CLD	12	5.2
Bronchial asthma	3	1.3
TB	1	0.4
No comorbidities	2	0.9

Among the deceased, diabetes mellitus was the most common comorbidity found (57%) followed by hyper tension (52%) and majority of them had multiple comorbidities.

Major comorbidity was also observed in the deaths 40 years and below.

Table.2. Underlying Cause of death of Non-COVID deaths audited

Underlying Cause of Death	Number
Suicide	4
Myocardial Infarction	4
Intracranial Bleeding	2
Total	10

Among the 10 non COVID deaths, the cause of death was attributed to suicide (4); acute myocardial infarction(4) and intra cranial bleed (2).

Table.3. Details of Non- COVID deaths after audit.

Sl No	District	Code of Deceased	Age in Year	Gender	Date of Death	Underlying Cause of death, Comorbidities	Underlying Cause of death (COVID/ Non-COVID)
1	WYN	SDAC/10/20-1	65	F	01-08-2020	Myocardial Infarction, Type 2 DM	Non-COVID
2	EKM	SDAC/10/20-2	53	M	09-08-2020	Suicide	Non-COVID
3	KSD	SDAC/10/20-3	48	M	15-08-2020	Suicide, Chronic alcoholic Liver disease	Non-COVID
4	TVM	SDAC/10/20-4	76	M	17-08-2020	Intra Cranial Bleed	Non-COVID
5	IDK	SDAC/10/20-5	50	M	17-08-2020	Suicide	Non-COVID
6	TVM	SDAC/10/20-6	70	M	31-08-2020	Myocardial Infarction	Non-COVID
7	KSD	SDAC/10/20-7	52	M	04-09-2020	Myocardial Infarction	Non-COVID
8	PTA	SDAC/10/20-8	64	M	05-09-2020	Intra Cranial Bleed	Non-COVID

9	EKM	SDAC/10/20-9	49	M	11-09-2020	Suicide, odollam toxicity	Non-COVID
10	TSR	SDAC/10/20-10	73	F	11-09-2020	Myocardial Infarction	Non-COVID

5. PENDING DEATHS

In 15 deaths, the cause could not be found out due to lack of clinical information and test results.

6. OBSERVATIONS AND SUGGESTIONS:

1. All COVID-19 related deaths other than brought dead cases had their care at Government Medical Colleges, FLTC's or tertiary care centers as per protocol.
2. The case sheets should be audited at the hospital itself by a team comprising the Superintendent, RMO, Physician, Microbiologist, the interventionist and a Public Health Expert (Institutional Medical Board). This should be handed over to the DMO. The district RRT members should also review the institutional death audit report after getting feedback from the concerned PHC/CHC team. The final death investigation/audit report should be sent to the State death audit committee within a week.
3. Gaps in histories of brought dead cases should be solved by verbal autopsy when there is insufficient information and autopsy report is not available. A verbal autopsy format was finalized for use in case inconclusive evidence was submitted. This should be filled by the concerned PHC/CHC Medical officer and submitted to the State death audit team through the DSO. Swab testing of the brought dead persons should be done as per the protocol. (Autopsy of COVID-19 confirmed patients; dying while under treatment for COVID-19 is not required for classifying the underlying cause of death as COVID-19 or Non-COVID)
4. Almost all of the deceased (99%) had one or other comorbidities and majority of them had multiple comorbidities. Hence symptom surveillance and testing of vulnerable population is needed for early detection and proper management. Vulnerable persons even if mildly symptomatic should be tested for COVID-19. Fatigability (tiredness) should be sorted as a symptom for surveillance among high-risk categories and challenged persons. Antigen testing may be increased to improve surveillance. Contact tracing, testing

and treatment should be followed. Special precautions should be taken for persons with co-morbidities. IEC/BCC should be strengthened to bring awareness on reverse quarantine. The importance of reverse quarantine should be reemphasized and the practice monitored using the grass root level workers.

5. Each peripheral health institution should review the mapping of elderly and severely comorbid patients in their respective field areas. Ensure that health education and motivation are provided to these households so that reverse quarantine can be ensured. Symptom surveillance should be strengthened in these households. These persons may be motivated to monitor oxygen saturation so as to enable early detection of red flag signs and prompt health seeking.
6. Hospital staff surveillance should be done routinely. At institutions thermal scanning and use of mask and hand sanitizer may be implemented prior to entry of staff to their working space/cabins. Infection prevention and control practices (IPC) should be optimized in COVID-19 and non-COVID health care settings. Training to all categories of health staff has to be given periodically. Attenders and Nursing Assistants have to be given warming up training sessions everyday a few minutes prior to entry to their duties by the Head Nurse. They should be provided with N-95 masks, face shields and gloves. Training on use and disposal of PPE to be given periodically.
7. IPC practices should be strengthened with special emphasis to 'Dialysis Centers', Oncology wards and Cancer Care Centers. At the institutional level work rotation based on buddy systems may be implemented.
8. At CFLTC's and CCC's there should be strict adherence to surveillance and referral protocol. Daily checking of vitals and use of pulse oximeter should be

done effectively to avoid deaths and optimal referral to higher centres. Strict adherence to checklist on patient care and referral from CFLTC's and use of pulse oximeters, so that patient referral may be optimal to higher centers.

9. Field level, grass root workers have to be trained periodically on community prevention practices, including BCC on SMS (safe distancing, use of masks and hand sanitization)
10. Training of volunteers for improving community participation in social distancing should be done and experience certificates may be provided for their activities.
11. The people with morbidity and elderly people should access the Health Care Centers the moment they experience slightest Influenza like symptoms.
12. Since all of the deceased could have contracted the disease from the infected person, precautions should be taken at the community level and institutional level on safe social distancing, use of masks, hand hygiene and sanitization. Crowding and visiting crowded places should be avoided. SMS to be followed at market place, Bazars and wherever there's a chance of forming crowds.

15-10-2020

STATE DEATH AUDIT TEAM

Acknowledgement

The fourth report in series on death audit is published to give information regarding the deaths occurred during the month of September 2020. The respective Institution Medical Boards have done the clinical assessments and forwarded the details. The State death audit committee for communicable diseases has done a detailed study of these cases. We appreciate the works done by the Committee.

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