

COVID19
DEATH AUDIT REPORT
NOVEMBER 2020



Department of Health & Family Welfare

Government of Kerala

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

1. INTRODUCTON

The State Level Death Audit Committee met at 10.30 AM on November 10th ,17th and 24th and also on December 1st for auditing the COVID related deaths.

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 death is defined for surveillance purposes as a death resulting from a clinically compatible illness in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID-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 & METHODS:

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. Information of various demographic parameters, clinical and laboratory findings, details of treatment and surveillance were obtained wherever possible. Details are depicted in tables and figures.

3. OVERVIEW OF DEATHS AUDITED

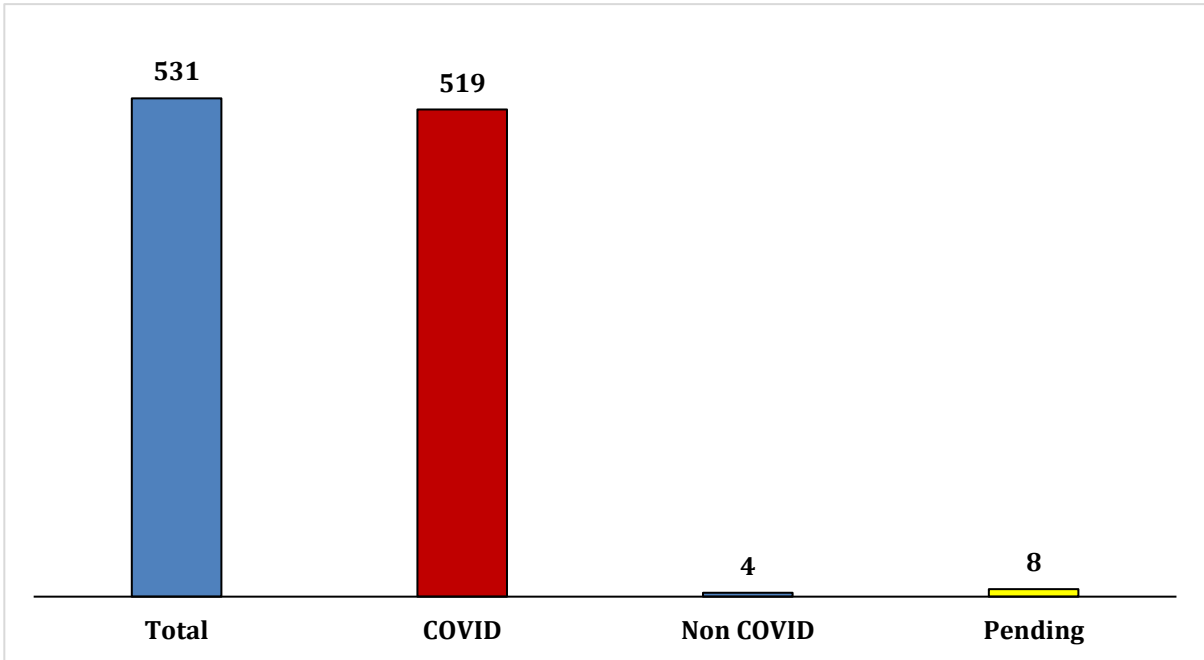
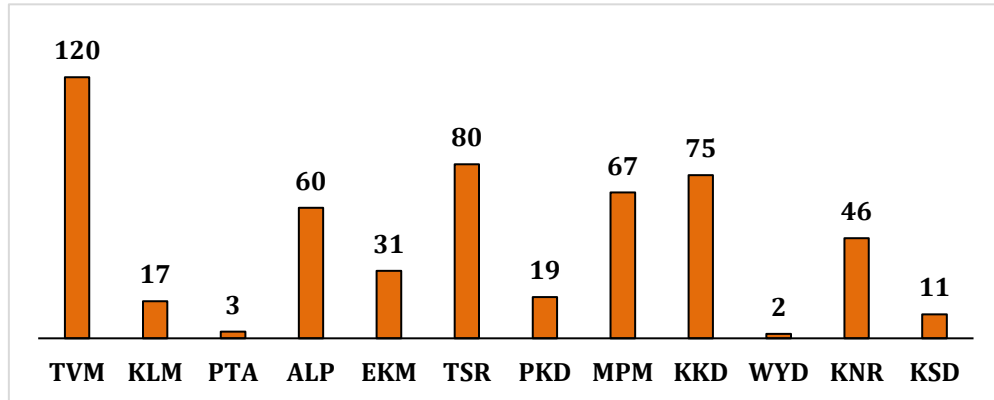


Figure 1: Overview of COVID deaths audited in November (N=531)

Out of the 531 deaths audited, 519 were classified as to have the underlying cause of death as COVID-19; 4 deaths as Non-COVID and 8 were kept pending due to want of sufficient details (Fig.1).

Figure 2. District wise distribution of COVID-19 deaths audited in November (N=531)



Out of the 531 declared COVID deaths audited, Thiruvananthapuram district contributed maximum deaths (120) followed by Thrissur, Kozhikode, Malappuram and Alappuzha districts (Fig.2).

4. ANALYSIS OF COVID-19 DEATHS AUDITED

4.1 District wise distribution of COVI-19D death

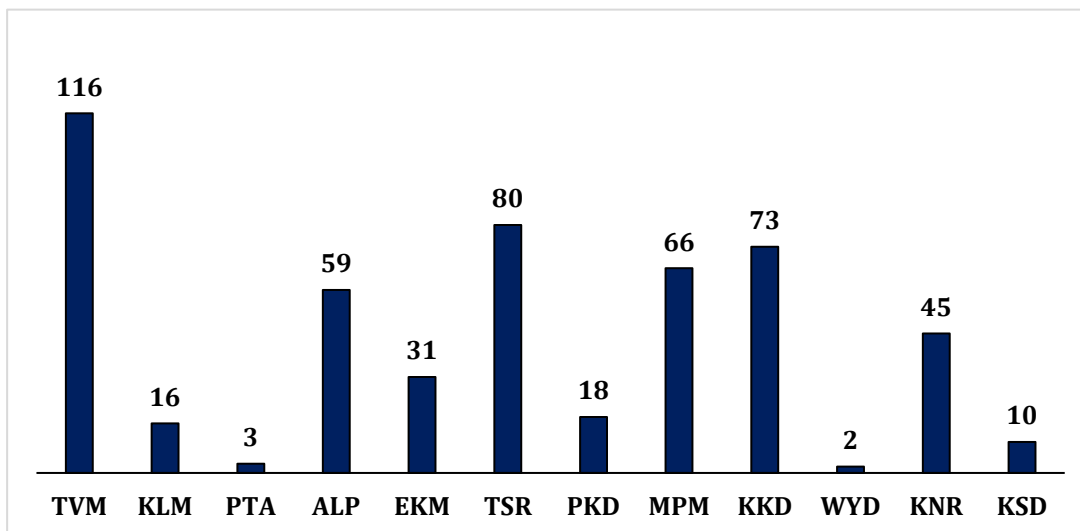


Figure 3: District wise distribution of deaths designated as COVID-19 in November (N=519)

A total of 519 deaths were designated as COVID 19 as the underlying cause of death. Thiruvananthapuram district contributed maximum deaths (116) followed by Thrissur, Kozhikode, Malappuram and Alappuzha districts.

4.2 Age Distribution Of Covid-19 Deaths

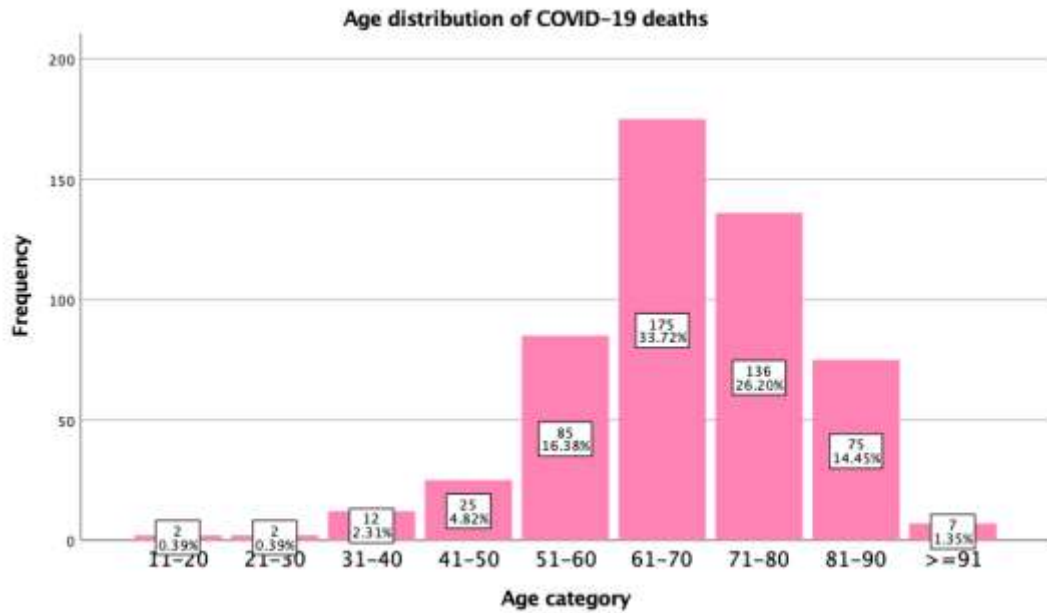
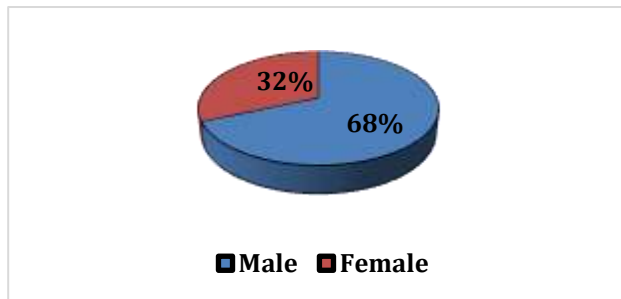


Figure.4. Age wise distribution of COVID 19 deaths (N=519)

Age distribution varied from 13 years to 108 years and the most affected age group belongs to 61-70 years (33.7%). The pattern observed is consistent with the age specific mortality due to COVID observed across the world.

4.3. Gender Distribution Of Covid-19 deaths

Figure 5: Gender distribution of the COVID-19 deaths audited (N=519)



Among the 519 deceased, 355 were males (68%) and rest were females. This pattern is also consistent with global observations.

4.4 Comorbidities Among The Covid-19 Deaths

Table.1. Presence of comorbidities among the COVID-19 deaths audited (N=519)

Comorbidities	N	%
Diabetes Mellitus	287	55.3
Hypertension	302	58.2
CAD	130	25.0
CKD	96	18.5
CVA	33	6.4
COPD	63	12.1
Cancer	27	5.2
Bedridden	5	1.0
CLD	14	2.7
Bronchial asthma	16	3.1
TB	14	2.7
No comorbidities	18	3.5

Among the deceased, hypertension was the most common comorbidity found (58.2%) followed by diabetes mellitus (55.3%) and majority of them had multiple comorbidities. Comorbidities are found to be high among the COVID deaths.

5. NON-COVID DEATHS

A total of four deaths were due to Non COVID. All of them were caused due to acute myocardial infarction.

Table. 2. Details of Non-COVID deaths(N=4)

Sl- No	Distri ct	Code of Deceased	Age (Yrs)	Gend er	Comorbidity es	Date of Death	Underlyin g cause of death	Underlyi ng cause of death COVID / Non- COVID
1	TVM	SDAC/11/ 20-1	55	M	ACS, STEMI	28.10. 20	Acute Myocardi al Infarction	Non COVID
2	TVM	SDAC/11/ 20-2	65	M	HTN, CAD, CVA	20.09. 20	Acute Myocardi al Infarction	Non COVID
3	KSD	SDAC/11/ 20-3	63	M	Heart disease	8.10.2 0	Acute Myocardi al Infarction	Non COVID
4	MPM	SDAC/11/ 20-4	75	F	CAD, CLS, evolved anterior wall MI DM, LV dysfunction	15.11. 20	Acute Myocardi al Infarction	Non COVID

SI- No	Distri ct	Code of Deceased	Ag e (Yrs)	Gend er	Comorbidity es	Date of Death	Underlyin g cause of death	Underlyi ng cause of death COVID / Non- COVID
					Cardiogeni c shock			

6. PENDING DEATHS

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

7. 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. All most 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 acquired infection was also noticed among the deceased and hence 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. Since all of the deceased could have contracted the disease either from institution or from the community, precautions should be taken at the community 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.

8-12-2020

DEATH AUDIT TEAM



Department of Health & Family Welfare
Government of Kerala
Annexe II Secretariat
Thiruvanthapuram
Kerala