

Rapid Community Death Assessment for COVID-19 Positive Deaths, Addis Ababa City Administration, August 2020; Community Based Study

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Abstract

Background: Coronavirus Disease (COVID-19) caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a global pandemic that initially started in Wuhan, China, and spread extremely quickly, making its way to over 180 countries. As community transmission is sustained in country COVID-19 death before admission to the treatment center is inevitable. So, the aim of this rapid assessment was to assess a sample of community deaths in order to describe the epidemiological, clinical as well as perceived circumstance at the time of death.

Method: Descriptive study design was conducted to conduct rapid death investigation in Addis Ababa, August 15-22, 2020. The source of data tracking and identification was from EPHI EOC laboratory data. Team from Ethiopian public health institute, CDC Ethiopia and clinical advisor of MOH of Ethiopia was jointly conducting the investigation. Data was entered and analysis through using MS excel. The result was presented through using proportion, charts, table and graphs.

Result: From the total 63 death investigated Yeka and Addis ketema Addis Ababa sub cities 17 and 13, 27% and 21% respectively. 57% were males and the mean age was 69 years for this community COVID-19 positive death investigation. According to the investigation report 48 (76%) of them were symptomatic. 13 (27%) had cough, 16 (33%) had shortness of breath and 26 (54%) had fatigue. 35 (56%) of them had history of health facility and 41 (65%) of them had underlying medical conditions. From total death reported 30 (48%) were expected death according to the intimate of deceased response.

Conclusion: Novel corona virus's community death is high in Addis Ababa region. Those individual who acquire the COVID-19 disease had symptoms (fatigue, cough and shortness of breath) and males, older age groups and populations having comorbidities were highly risk for COVID-19 death. Some unnatural death report as novel corona virus death which did not be in lined with our national COVID-19 death definition.

Keywords: Rapid community death; COVID-19; Addis ababa; August 2020; Mental illness

Introduction

Coronavirus disease (COVID-19) caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a global pandemic that initially started in Wuhan, China, and spread extremely quickly, making its way to over 180 countries. As the novel coronavirus continues to evolve, there are still many limitations to our knowledge of who exactly this virus would impact critically. Older adults and people of any age who have underlying medical conditions, such as hypertension and diabetes, have shown worse prognosis [1].

Several countries have demonstrated the ability to reduce or stop transmission of the COVID-19 virus. The strategic preparedness and response plan for COVID-19 aims to slow and stop transmission, prevent outbreaks and delay spread; provide optimized care for all patients, especially the seriously ill; minimize the impact of epidemic on health systems, social services and economic activity [2].

As of 19th August globally 21,294, 845 confirmed cases and 761,779 confirmed deaths across 216 territories or countries. The pandemic was also wide spread in Africa in particular countries like South Africa, Egypt and Morocco [3].

Ethiopia was reporting the first COVID-19 case on 14th March, Japanese man who is 65 years old had travel history and the first COVID-19 related death was reported after 24 day from the first case reported on 5th April, who was Ethiopian female 65 years who had travel history. Currently, we had around 600 deaths and 34,054 confirmed cases resulting 1.8% case fatality rate. As community transmission is sustained in country COVID-19 death before admission to the treatment center is inevitable, which is supported by the line listed death reports (i.e. 68% of deaths were from the community) [4]. So, the aim of this rapid assessment was to assess a sample of community deaths in order to describe the epidemiological, clinical as well as perceived circumstance at the time of death.

The rationale for rapid community death assessment was:

- Of all the regions Addis Ababa of region reports high number of COVID-19 death, 504 (79%).
- From the reported COVID positive deaths, most of them were community death, 342 (68%).
- The available data to describe these deaths related to COVID-19 are incomplete.

The objectives of the rapid community death investigation was; to characterize the reported community deaths by socio-demographic characteristics, to determine the proportion of deaths that are perceived to be natural/unnatural and expected/unexpected, to identify the presence of clinical conditions suggestive of COVID-19 and co-morbidities and to identify possible reasons for not visiting health facilities before the occurrence of death [5].

Materials and Methods

Study setting and period

The study was conducted in Addis Ababa city administration, from August 15-22, 2020.

Study design

Descriptive study design was applied to investigate the community death in Addis Ababa, 2020.

Source of data

Data for identification and tracking was from Ethiopian public health institute, public health emergency operation center laboratory data [6].

Team composition

Team from EPHI, CDC Ethiopia and MOH of Ethiopia was jointly conducting the investigation.

Data collection procedure

Data was collected through using interviewed structured questioner which was adapted from rapid mortality surveillance tool and psychosocial support assessment checklist. Rapid response team was oriented about the objective of the rapid death investigation assessment and the approach how the investigation was done [7]. The team was interviewed the deceased intimate family about the circumstance of the death of his family *i.e.* socio demographic characteristics, clinical features, comorbidities and mental illness related with the current (COVID) illness.

Data analysis and interpretation

Data was entered and analysis through using MS excel. The result was presented through using proportion, charts, table and graphs [8].

Results

Sociodemographic characteristics

In the death investigation 63 death data was collected, from all sub cities and most of the death data were from yeka 17 (27%) and Addis ketema 13 (21%) sub cities (Table 1).

Table 1: Addis Ababa community COVID-19 positive death investigation in sub cities, August 15-22, 2020.

Region	Sub city	Frequency	Percentage
Addis Ababa	Addis Ketema sub city	13	21
Addis Ababa	Akaki kalitiy sub city	2	3
Addis Ababa	Arada sub city	4	6
Addis Ababa	Bole sub city	2	3
Addis Ababa	Gullele sub city	8	13
Addis Ababa	Kirkos sub city	2	3
Addis Ababa	Kolfe keranyo sub city	2	3
Addis Ababa	Lideta sub city	6	10
Addis Ababa	Nefas silk lafto sub city	7	11
Addis Ababa	Yeka subcity	17	27
Total		63	100

For this investigation males were more affected 36 (57%). According to the death investigation report most of them 43 (68%) were in age above 65 years old, no death were recorded under 30 years old. For this study the mean age was 69 years old while the minimum and maximum age was 32 and 100 years respectively (Figure 1) [9].

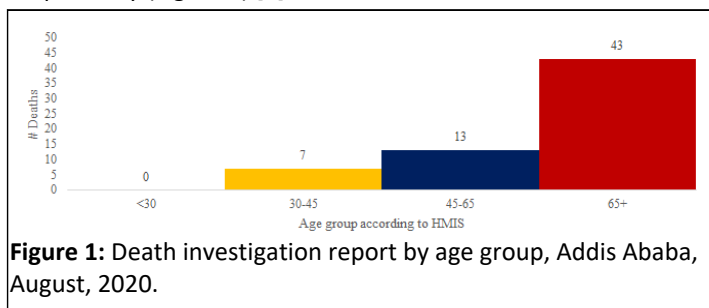


Figure 1: Death investigation report by age group, Addis Ababa, August, 2020.

Clinical features of the deceased persons

According to the investigation report 48 (76%) of them were symptomatic. Of these individuals 13 (27%) had Cough, 16 (33%) had shortness of breath and 26 (54%) had fatigue (Table 2).

Table 2: Clinical features of the deceased individual before occurrence of death, Addis Ababa, August, 2020.

SN.	Clinical feature	Frequency	Percentage
1	Fever	4	8
2	Cough	13	27
3	SOB	16	33
4	Sore throat	4	8
5	Headache	3	6
6	loss of taste	6	13
7	Fatigue	26	54
8	Chest pain	2	4

History of health facility visit for the current illness

From the interviewed deceased families response 35 (56%) of them had history of health facility visit for the current illness. The remaining 24 (38%) of them did not have history of health facility visit and 4 (6%) of them had no information regarding to the health facility visit for current illness. The reason for did not have to the health facility for this illness may be different according to the intimates response [10]. The following are reasons of didn't have health facility visit illness:

- **Poor awareness on COVID-19 fatality:** Disease will resolve by itself, not as much ill for the disease and he/she was seemed to be healthy.
- **Home based isolation and care:** She was in home based isolation and care treatment.
- **Transport/travel and ambulation:** He was died on the way to travel to the health facility.
- **Appointment to other medical problem:** One client had

appointment for hypertension.

- **Had no support:** Daily laborer, had no support and on street.
- **Did not have reason:** All of them did not have reason why they did not gone to health facility.
- **Had history of HF visit for other disease recently:** Minillink hospital and black lion hospital.
- **Sudden death:** One client was immediately passed away.
- **Had psychotic problem:** Client had history of psychiatric problem.
- **Considered as age related:** One client was not traveled to health facility due to as age related.

Comorbidities identified earlier from COVID-19 disease

Among the community death investigation data, 41 (65%) of them had underlying medical conditions. From those 19 (46%) had high blood pressure and 26 (63%) had other comorbidities like DVT and others (Table 3).

Table 3: underlying medical condition (Comorbidities) among deceased individuals, Addis Ababa, August 2020.

SN	Comorbidity	Frequency	Percentage
1	High BP	19	46
2	Diabetes Miletus	14	34

3	Cardiac Illness	8	19
4	TB	3	7
5	HIV/AIDS	1	2.5
6	Cancer	2	5
7	Epilepsy	1	2.5

Spiritual place visit

From community death reported and investigated in Addis Ababa region, 9 (14%) of them had history of spiritual visit. Of them only 4 (21%) had history of spiritual place visit with in the last one month.

Perception about the death

From total death reported 30 (48%) were expected death according to the intimate of deceased response while 87% of the death were expected as natural death. regarding to perception of the intimates of deceased individuals the death is due to age related 18 (29%), were due to Age, DM and cardiac illness 2 (3%) and pneumonia 3 (5%). The remaining deceased had no known perception reason for their death.

Discussion

According to this rapid community death investigation males were affected with these COVID-19 pandemic. This is in line with different studies conducted; COVID research network global rapid gender analysis, London school of public health and study conducted Johns Hopkins university school of medicine, 1800 Orleans street [11]. The difference may be due to gender based immunological difference and enzymatically action, high exposure in men and the prevalence of comorbidity in men were prominent even if it was unexplained.

For this investigation older age was an important risk for the cause death associated with comorbidities this is in line with different studies conducted on COVID-19 across different setting; study conducted in Hong Kong china in 2003 [12]. Coimbra institute for biomedical imaging and translational research, university of Coimbra, Portugal study conducted in New York city USA and study conducted in USA COVID data analysis until June 10, 2020. Mortality in older age may be due to older peoples are less immune and vulnerable to infectious disease and they are more likely to have chronic disease like heart disease, diabetes miltus, kidney disease, lung disease and other metabolic disease which weaken the immune system of the individuals.

Regarding to the clinical signs and symptoms of COVID-19 death; most of them had fatigue, shortness of breath and cough this is in line with study conducted in china Wuhan city. Study conducted in Geneva centre for emerging viral diseases, Geneva university hospitals, WHO Stirrup No. 46 and study conducted in Iran from February 20 to March 20. Most of the studies show

that those who are admitted in the facility had symptoms with fever, cough, shortness breath and fatigue. The difference in symptoms of COVID-19 from person to person may be due to mixture of genetic, age and peoples immune system might factor into who gets a mild or barely noticeable case.

Among the investigated death data almost half of the deaths were not gone to the health facility for the current illness before death occurred. This may be due to lack of awareness, lack of support, those who had appointment for other medical conditions and ordered for home based isolation care as a treatment or recovery [13].

Diabetes miltus, high BP, cardiac illness, TB, Cancer, HIV/AIDS and epilepsy was a major comorbidities which will weaken the immune system and contribute for death for COVID-19 cases. This is supported by studies conducted in china. Research square, a meta-analysis of the 2019 novel coronavirus, showing clinical comorbidities observed in patients, as of April 8, 2020 and compressive rapid systematic review. This may be due to the reason that individuals who had underlying medical conditions and comorbidities are less immune to cope the COVID-19 disease and end with it.

Conclusion

Novel corona virus's community death is high in Addis Ababa region. Those individual who acquire the COVID-19 disease had symptoms (fatigue, cough and shortness of breath) and males, older age groups and populations having comorbidities were highly risk for COVID-19 death. The reason why some of them did not had history of health facility visit were lack of awareness, home based isolation care and having appointment for other medical condition. There is some unnatural death report as novel corona virus death which did not be in lined with our national COVID-19 death definition.

Limitation of the Investigation

- The assessment was community death investigation and it had data incompleteness.
- The onset off disease symptom was not known and it was difficult to know the clinical period.
- The data was secondary (interviewed) and may expose to information bias.
- Some death are unnatural (injuries, trauma and fall down).

Recommendation

- More attention for targeted testing for vulnerable/high risk group (MoH, Each HF, Partners).
- Improve community awareness activities on COVID-19 (MoH, EPHI, partners).
- Strengthen mortality surveillance both at facility and community level which should be performed EPHI, MoH, RHB PHEM and NGOs.
- Establish Community Emergency Response Team (CERT) which should be done through EPHI, MoH, RHB PHEM, Zonal PHEM and woreda health office.
- Improve the capacity of health facilities for early detection and treatment of COVID-19 cases, particularly for elderly, and minimize missed opportunities and reduce mortality which should be done by FMOH, EPHI and Regional PHEM.
- The common signs and symptoms identified are not typical, so it could be better to search for additional evidences and consider other signs/symptoms to suspect COVID-19 among vulnerable/at risk groups like extreme ages and people with comorbidities.

References

1. Guan WJ, Liang WH, He JX, Zhong NS (2020) Cardiovascular comorbidity and its impact on patients with COVID-19. *Eur Respir J* 55:1069–1076
2. WHO (2020) Responding to community spread of COVID-19. *Interim Guid* 7:1–6
3. Culp WC (2020) Coronavirus Disease 2019. *A Pract* 14:e01218
4. Haneef C, Kalyanpur A (2020) Global Rapid Gender Analysis for COVID-19. *Int Rescue Comm* 1–20
5. Wenham C, Smith J, Morgan R (2020) COVID-19: the gendered impacts of the outbreak. *Lancet* 395:846–848
6. Sharma G, Volgman AS, Michos ED (2020) Sex Differences in Mortality from COVID-19 Pandemic. *JACC Case Reports* 2:1407–1410
7. Roos R (2003) Estimates of SARS death rates revised upward. *Cent Infect Dis Res Policy* 2003:7–9
8. Caramelo F, Ferreira N, Oliveiros B (2020) Estimation of risk factors for COVID-19 mortality-preliminary results. *MedRxiv* 1-12
9. Mikami T, Miyashita H, Yamada T, Harrington M, Steinberg D, et al. (2020) Risk Factors for Mortality in Patients with COVID-19 in New York City. *J Gen Intern Med* 36:17-26
10. Chang T, Wu J, Chang L (2020) Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID research that is available on the COVID-19 resource centre-including this Science Direct Clinical characteris. *J Formos Med Assoc* 19–20
11. Vetter P, Vu DL, L'Huillier AG, Schibler M, Kaiser L, et al. (2020) Clinical features of COVID-19. *BMJ* 369:1–2
12. Shahriarirad R, Shahriarirad R, Khodamoradi Z, Khodamoradi Z, Erfani A, et al. Epidemiological and clinical features of 2019 novel coronavirus diseases (COVID-19) in the South of Iran. *BMC Infect Dis* 20:1–12
13. Bajgain KT, Badal S, Bajgain BB, Santana MJ (2020) Prevalence of comorbidities among individuals with COVID-19: A rapid review of current literature. *Am J Infect Control* 49:238-246