OROMIA HEALTH BUREAU
FIRST ANNUAL RESEARCH CONFERENCE

*Building a resilient health
system to ensure the quality of health
care during a public health emergency
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Title of Project : Case fatality rate and its determinant of COVID-19 admitted patients in Amhara region, Ethiopia: A retrospective survey

BY

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Introduction#1

- Coronavirus disease 2019 (COVID-19) is:

  — Caused by SARS-CoV2 infection

  — First reported in late-December 2019 in Wuhan, China

  — Declared a Public Health Emergency of International Concern (30 January 2020)

  — Declared as a pandemic on 11 March 2020
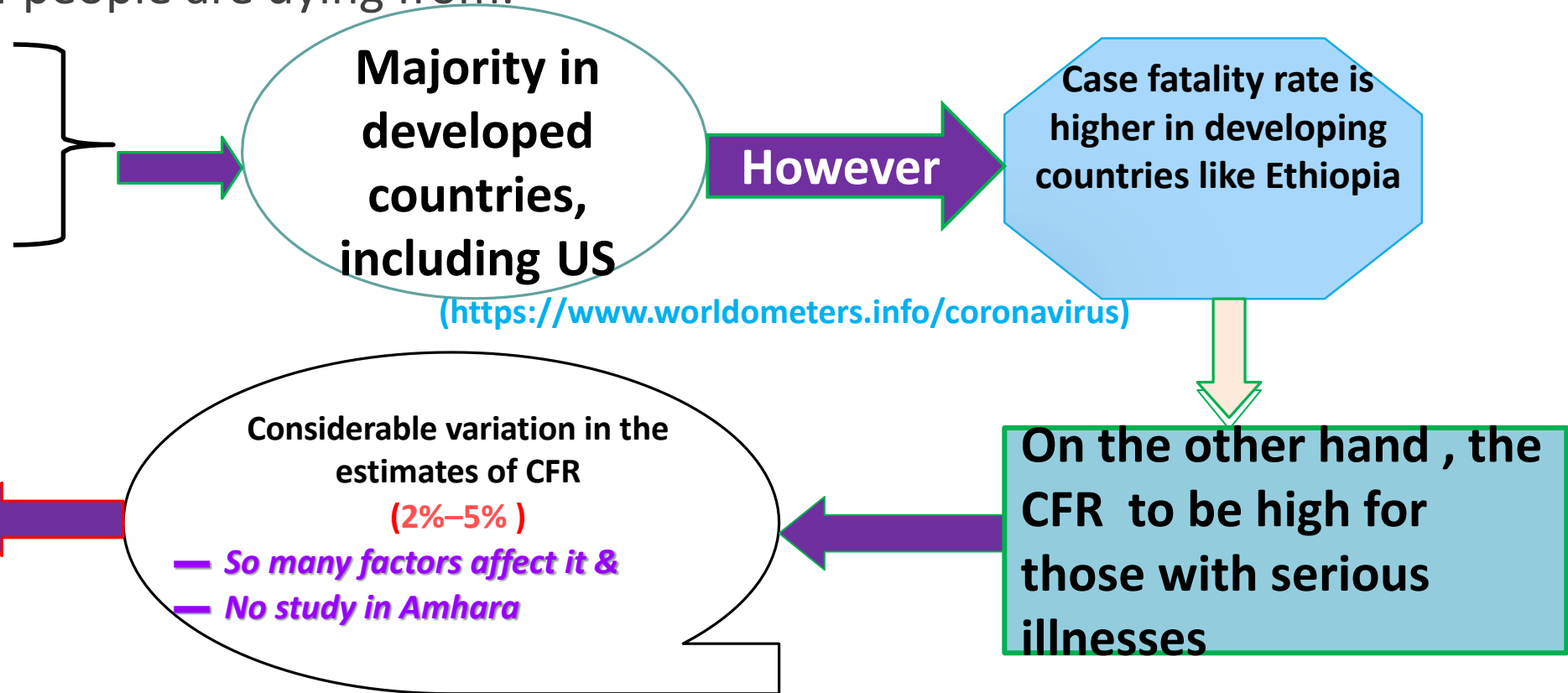
Ethiopia reported its first case on 13 March 2020

Introduction#2

— COVID-19 pandemic is a human tragedy that occurred in this era

❖ Globally **millions** of people are dying from:

◦ **COVID-19,**
  &
◦ **Its complication**

Majority in developed countries, including US

However ➡

Case fatality rate is higher in developing countries like Ethiopia

(https://www.worldometers.info/coronavirus)

On the other hand , the CFR to be high for those with serious illnesses

Considerable variation in the estimates of CFR
(2%–5%)
— *So many factors affect it &*
— *No study in Amhara*

(Gomes, 2020, van Kampen et al., 2020)

So, Knowing the CFR and its determinants of COVID-19 admitted patients

is crucial in formulating preventive measures and optimizing treatment options.

Objective

General Objective

➡ To estimate the case fatality rate and its determinants of COVID-19 admitted patients in the Amhara region, Ethiopia.

Specific Objectives

➡ To estimate the case fatality rate of COVID-19

➡ To identify determinants of the case fatality rate of COVID-19

Methods#1

Study design, period and settings

Retrospective survey study __ from 13 April 2021, to 13 October 2021

In Amhara region COVID-19 treatment centers.

— Gondar University

— Tibebe Gion Hospital

— Debre Berhan-Tebasi Health Center

— Borumeda Hospital

— Debre Markos University

— Injibara University

— Kobo Hospital and

— Dessie Hospital

Inclusion Criteria

— Tested positive for COVID-19

— Admitted to any of the center in a pre-specified time period

— All available charts, line lists during data collection time

Exclusion Criteria

— Incomplete outcome variables

— Lack pertinent baseline information (like date of admission, death, and discharge)

Methods#2

Study variables

Dependent Variable: CFR of COVID-19

Explanatory variables: age, sex, marital status, residence, disease condition,

type of contact, and co morbidity for those COVID-19 patients with one or more any

coexisting medical illness/s …

Methods#3

Data collection tools and procedures

- Data extraction tool was prepared based on COVID-19 patient medical cards.

- Health professionals who have been working in the treatment center extracted the data from:
  - ✓ Registration logbook
  - ✓ line lists and
  - ✓ Patient's medical cards

Methods#4

Data management & analysis

— Data entered using Epidata version 3.1, and analyzed by R-Studio-1.2.5033

Using

▪ CFR of COVID-19 → Descriptive statistics

▪ Identify potential determinants → Multiple logistic regression models

Result and discussion#1

Socio-demographic characteristics of patients

- Among 34,653 COVID-19 positive, 5397 patients admitted

    - 70.34% of patients were male,

    - 3335 (65.8%) patients were married

    - 3254 (60.3%) were urban residents

    - 39.78% of patients aged 65 and above

BIIROO FAYYAA OROMIYAA

Result and discussion#2

Clinical characteristics of patients and CFR

– 52% of patients were Asymptomatic,

– 70% of patients had underlying co morbidity

– 75% of patients had close contact,

•**15.57% of confirmed cases were admitted with The number of deaths (159) and 2.95% CFR**

Result and discussion#3

Indicators		Sex			Age					
		M	F	Total	0-4	5 – 14	15-24	24-35	36-64	65+
# of Confirmed COVID 19 cases admitted		3796	1601	5397	15	119	610	917	1589	2147
# of underlying co-morbidity	Yes	2658	1120	3778	2	89	421	597	821	1897
	No	1138	481	1619	13	30	189	320	768	250
Diseases condition	Symptomatic	1821	770	2591	5	27	218	421	689	1058
	Asymptomatic	1975	831	2806	10	92	392	496	900	1089
Contact	Causal	908	441	1349	3	31	213	413	711	981
	Closed	2888	1160	4048	12	88	397	495	878	1166
# of COVID-19 death		84	75	159	1	0	6	23	41	88

It is buoyed by a study conducted in China & Ethiopia **(Hu et al., 2020, Tolossa et al., 2021, Xu et al., 2020)**

The reason behind might be increased age will cause:
- ✓ Nume...
- ✓ Increa...
- ✓ Degen...

☞ **Increased ag...**

This finding is consistent with studies conducted previously **(Hu et al., 2020, Leulseged et al., 2020, Qi et al., 2020)**

It could be due to Asymptomatic patients have:
- ✓ Not to have a chance of an early visit of health facility to get treatment
- ✓ Late diagnosis and treatment of their disease
- ✓ ...tients develop com...

...case...ns are...higher...dverse

✓ The probability of risk is higher among the close contacts

✓ As a close contact of an infected person, you are at a high risk of contracting the virus with d/t variant.

Variables	
Age	
0 – 4	
5 – 14	
15 – 24	
25 – 34	
35 – 44	
45 – 54	
55 – 64	
65+	
Sex	
Comor...	
Contact	
Diseases condition	
_cons	
Significant at P...	

☞ **Sy...** (AOR = ...)

☞ **Causal *Versus* Closed Contact**

(AOR = **9.62** [95% CI: **6.12, 12.79**])

Conclusion and Recommendation

❖ Relatively , **the Region has high CFR**

- ❑ Older age
- ❑ Asymptomatic condition of the disease
- ❑ Having comorbid illness
- ❑ Having Closed Contact of patients

Significantly associated factors with high CFR of COVID-19

These factors should be placed under consideration while developing a strategy for quarantining and treating COVID-19 patients. It is also good to formulate the guiding principles for clinical management of COVID-19 among elders with co-morbidity.

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Sample references

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THANK YOU