

Annex – I: Search strategy

Table 1: Search strategy on MEDLINE, PubMed platform

Search number	Query	Sort By	Filters	Search Details	Result	Time
#1	(COVID-19) AND (Ethiopia)	Most Recent	from 2020/1/1 - 2020/10/10	((("covid 19"[All Fields] OR "covid 19"[MeSH Terms] OR "covid 19 vaccines"[All Fields] OR "covid 19 vaccines"[MeSH Terms] OR "covid 19 serotherapy"[All Fields] OR "covid 19 serotherapy"[Supplementary Concept] OR "covid 19 nucleic acid testing"[All Fields] OR "covid 19 nucleic acid testing"[MeSH Terms] OR "covid 19 serological testing"[All Fields] OR "covid 19 serological testing"[MeSH Terms] OR "covid 19 testing"[All Fields] OR "covid 19 testing"[MeSH Terms] OR "sars cov 2"[All Fields] OR "sars cov 2"[MeSH Terms] OR "severe acute respiratory syndrome coronavirus 2"[All Fields] OR "ncov"[All Fields] OR "2019 ncov"[All Fields] OR ("coronavirus"[MeSH Terms] OR "coronavirus"[All Fields] OR "cov"[All Fields]) AND 2019/11/01:3000/12/31[Date - Publication])) AND ("ethiopia"[MeSH Terms] OR "ethiopia"[All Fields] OR "ethiopia s"[All Fields])) AND (2020/1/1:2020/10/10[pdat])	115	10:17:45
#2	(SARS-CoV-2) AND (Ethiopia)	Most Recent	from 2020/1/1 - 2020/10/10	((("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR "sars cov 2"[All Fields]) AND ("ethiopia"[MeSH Terms] OR "ethiopia"[All Fields] OR "ethiopia s"[All Fields])) AND (2020/1/1:2020/10/10[pdat])	87	10:19:28
#3	(2019 novel coronavirus) AND (Ethiopia)	Most Recent	from 2020/1/1 - 2020/10/10	((("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR "2019 novel coronavirus"[All Fields]) AND ("ethiopia"[MeSH Terms] OR "ethiopia"[All Fields] OR "ethiopia s"[All Fields])) AND (2020/1/1:2020/10/10[pdat])	88	10:20:13
#4	(2019-nCoV) AND (Ethiopia)	Most Recent	from 2020/1/1 - 2020/10/10	((("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR "2019 ncov"[All Fields]) AND ("ethiopia"[MeSH Terms] OR "ethiopia"[All Fields] OR "ethiopia s"[All Fields])) AND (2020/1/1:2020/10/10[pdat])	87	10:20:56
#5	(Novel coronavirus) AND (Ethiopia)	Most Recent	from 2020/1/1 - 2020/10/10	((("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR ("novel"[All Fields] AND "coronavirus"[All Fields]) OR "novel coronavirus"[All Fields]) AND ("ethiopia"[MeSH Terms] OR "ethiopia"[All Fields] OR "ethiopia s"[All Fields])) AND (2020/1/1:2020/10/10[pdat])	97	10:21:36

Table 2: Search strategy for grey literatures

Databases	Search terms	Number of articles
Google scholar	“COVID-19” OR “SARS-CoV-2” OR “2019 novel coronavirus” OR “2019-nCoV” OR “novel coronavirus” AND “Ethiopia”	287
Other databases		132

Annex – II: Summary Table of included articles

A. Knowledge, Attitude, and Practice towards COVID-19 in Ethiopia							
Author (year). Title	Source/ Journal	Aims	Design	Sample size	Participant	Study period	Key findings
1. Feleke DG et al. (2020). Assessment of Knowledge, Attitude and Associated Factors toward COVID-19 among Nurses Who Work in South Gondar Zone, Hospitals, Northwest Ethiopia: Institution-based cross-sectional Study	<i>Preprint</i>	Knowledge and attitude about COVID-19	Institution-based cross-sectional study	166	Healthcare workers(nurse)	June 1st - 30/2020.	<ul style="list-style-type: none"> - 84.9 % had good knowledge about COVID-19 - 63.3% favorable attitude towards prevention methods
2. Emiru TD et al. (2020). Assessment of Knowledge, Practice and Associated Factors Towards Prevention of Novel Corona Virus among Clients Attending at Debre Tabor General Hospital Debre Tabor Town, North West Ethiopia: Institutional Based Cross-Sectional Study	<i>Preprint</i>	Knowledge and practice about COVID-19 prevention	Institution-based cross-sectional study	345	Patients visiting hospital	May 15 to 30, 2020	<ul style="list-style-type: none"> - 54.2% had good knowledge about COVID-19 prevention methods - 49.0% good practice on COVID 19 preventions
3. Aynalem YA et al. (2020). Assessment of undergraduate student knowledge, practices, and attitude towards COVID-19 in Debre Berhan University, Ethiopia	<i>Preprint</i>	Knowledge, attitude, and practice about COVID-19	Cross-sectional study	546	College students	March 18–24, 2020	<ul style="list-style-type: none"> - 73.8% had good knowledge - 75% had favorable attitude - 91.4% avoided crowded place - 52% practiced cough etiquette - 44% maintain social distancing
4. Gelaw AB et al. (2020). Assessment on awareness towards preventive measures of COVID-19 in Sheka, Ethiopia: Community based cross-sectional Study	<i>Preprint</i>	Awareness status towards COVID-19	Community-based cross-sectional study	419	Community	April 10 to 21, 2020	<ul style="list-style-type: none"> - 49.4 % had awareness about COVID-19
5. Abebe A et al. (2020). Awareness of Health Professionals on COVID-19 and Factors Affecting It Before and During Index Case in North Shoa Zone, Ethiopia	<i>Infect Drug Resist. Dove press</i>	Awareness on clinical and epidemiological spectrum of COVID-19	Facility-based cross-sectional study	384	Healthcare workers	March 7–16/2020	<ul style="list-style-type: none"> - 79.4% had awareness about COVID-19 - Type of profession, level of training, owning TV at home, and prior information about other

		and factors affecting it					panemics were important factors
6. Mechessa DF et al. (2020). Community's Knowledge of COVID-19 and Its Associated Factors in Mizan-Aman Town, Southwest Ethiopia	<i>Internati onal Journal of Gen. Med., Dove press</i>	Knowledge about COVID-19 and associated factors	Community-based cross-sectional study	423	Community	April 14 to May 14, 2020	<ul style="list-style-type: none"> - 64.6% of the participants had good knowledge - Overall correct rate of the knowledge questionnaire was 74.75% - Age, sex, occupation, and educational status were important factors
7. Hailu W et al. (2020). Compliance, Barriers, and Facilitators to Social Distancing Measures for Prevention of COVID-19 in Northwest Ethiopia	<i>Pre-print</i>	Factor affecting compliance to social distancing measures for the prevention of COVID-19	Phone interview based cross-sectional survey and qualitative study	401	Healthcare workers	April 20 to May 20, 2020	<ul style="list-style-type: none"> - 60.6% knowledge on COVID-19 transmission - 76.31% had good knowledge on COVID-19 prevention - 55.36 % had poor compliance to social distancing measures - 63.84% went to crowded places without putting face mask - Age was an important factor
8. Tsegaye D et al. (2020). Knowledge and preventive practices towards Covid-19 and associated factors among healthcare workers in selected health facilities of Illu Aba Bor and Buno Bedelle Zones, Southwest Ethiopia	<i>Pre-print</i>	Knowledge and preventive practices towards Covid-19	Institution-based cross-sectional study	330	Healthcare workers	April to May 2020	<ul style="list-style-type: none"> - 93.3% of the respondent demonstrated good knowledge towards COVID-19 - 64.2% had good infection prevention practices
9. Aweke Z et al. (2020). Knowledge of COVID-19 and its prevention among residents of the Gedeo zone, South Ethiopia: Sources of information as a factor	<i>Curr Med Res Opin</i>	Knowledge level about COVID-19 & its prevention and association with source of information	Community-based cross-sectional study	1170	Community	March 01 to 30, 2020	<ul style="list-style-type: none"> - 60.5% had a good level of knowledge about COVID-19 and its prevention techniques - 95.6% had information about COVID-19 and its prevention techniques - Those who had internet, television/radio, and health workers as their information sources had better knowledge

							about COVID-19 and its prevention.
10. Jamie AH et al. (2020). Knowledge, Attitude and Practice of Healthcare Workers towards Novel Corona Virus (COVID-19) in Jugal Hospital, Harari Regional State, Ethiopia	<i>EC Nursing and Healthcare</i>	Knowledge, attitude, practice towards COVID-19	Institution-based cross-sectional study	207	Healthcare workers	February to March 2020	<ul style="list-style-type: none"> - 100% have heard about COVID-19 - 100% knew common symptoms - 100% agreed that cases should be reported to officials. - 97.10% were not ready to give care for COVID-19 patient - 100% reported washing hand with soap and water - Only 3.38% answered that there is enough soap and water to wash hand, hand sanitizers and personal protective equipment materials
11. Jemal B et al. (2020). Knowledge, attitude and practice of healthcare workers towards COVID-19 and its prevention in Ethiopia: a multicenter study	<i>Preprint</i>	Knowledge, attitude, and practices towards COVID-19 and its prevention	Institution-based multicenter cross-sectional study	397	Healthcare workers	<i>Not mentioned ; probably before May 2020</i>	<ul style="list-style-type: none"> - 88.2% had good knowledge - 94.7% had positive attitude - 63.5% of participants had good practice towards COVID-19 and its prevention.
12. Akalu Y et al. (2020). Knowledge, Attitude and Practice towards COVID-19 among Chronic Disease Patients at Addis Zemen Hospital, Northwest Ethiopia.	<i>Infection and Drug Resistance, Dove press</i>	Knowledge, attitude, and practice towards COVID-19	Institution-based cross-sectional study	404	Patients visiting hospital	March 02 to April 10, 2020	<ul style="list-style-type: none"> - 99.2% have heard about COVID-19 - 66.1% had good knowledge - 52.7% had good practice
13. Nigussie TF et al. (2020). Knowledge, attitude and practice towards COVID-19 infection in Arba Minch town, Southern Ethiopia.	<i>Global scientific journal</i>	Knowledge, attitude and practice towards COVID-19	Community based cross-sectional	528	Community	March 08 to April 08, 2020	<ul style="list-style-type: none"> - 76.53% had good knowledge - 66.5% had good Practice for COVID-19 prevention - 21.2% opposed the wearing of face masks
14. Tadesse AW et al. (2020). Knowledge, Attitude, and Practice and Associated Factors towards COVID-19 among College Students	<i>Preprint</i>	Knowledge, attitude, & practice of COVID-19	Community-based cross-sectional study	408	College students	April 15-25, 2020	<ul style="list-style-type: none"> - 69.6% had good knowledge - 56.6% had positive attitude - 65% had good practice - Age, family size, marital status,

in Amhara Region, Ethiopia; A Cross-Sectional Study		prevention and associated factors					and residency were important predictors
15. Tadesse DB et al. (2020). Knowledge, Attitude, Practice and Psychological response toward COVID-19 among Nurses during the COVID-19 outbreak in Northern Ethiopia	<i>Preprint</i>	Knowledge, attitude, practice, and psychological response toward COVID-19	Hospital-based cross-sectional study	415	Healthcare workers (nurses)	March to April 2020	<ul style="list-style-type: none"> - 74% had good knowledge - 67% good infection prevention practice - 72% favorable attitude - 85.3% disturbed psychological response towards COVID-19
16. Kebede Y et al. (2020). Knowledge, perceptions and preventive practices towards COVID-19 early in the outbreak among Jimma University Medical Center visitors, Southwest Ethiopia.	<i>PLOS ONE</i>	Knowledge, perceptions, and practices	Hospital-based cross-sectional study	247	Patients visiting hospital	March 22–28, 2020	<ul style="list-style-type: none"> - 41.3% had overall high knowledge; 83.0% knew the main clinical symptoms of COVID-19; 72.0% knew risk factors for severe disease; 95.1% knew that the virus spreads via respiratory droplets; 31.2% knew about the possibility of asymptomatic transmission; 6.1% knew that children and young adults had to involve in the preventive measures - 68.8% felt self-efficacious to controlling COVID-19 - 83.3% believed that COVID-19 is a stigmatized disease - 77.3% were practicing frequent hand washing - 53.8% practiced avoidance of shaking hands
17. Defar A et al. (2020). Knowledge, Practice and associated factors towards the Prevention of COVID-19 among high-risk groups: A cross-sectional study in Addis Ababa, Ethiopia	<i>Preprint</i>	Knowledge and practices of COVID-19 prevention and associated factors	Community based cross-sectional study	6007	Community (High-risk groups)	14 to 30 April, 2020	<ul style="list-style-type: none"> - 52% had good knowledge about transmission of COVID-19 - 60% had good knowledge about prevention - 80% practiced hand washing - 76% practiced social distancing - 49% had poor practices of the

							precautionary measures against COVID-19
18. Jamie AH et al. (2020). Hand Washing Practices among Health Care Workers in Jugal Hospital, Harar, Ethiopia, 2020: In the Era of Corona Virus: Observational Study	<i>Journal of Antivirals & Antiretrovirals</i>	Hand hygiene practices	Institutional cross sectional observational study	166	Healthcare workers	February to March 2020	<ul style="list-style-type: none"> - 59.64% use soap bar - 34.34% use only water - 6.02% use alcohol based sanitizer - 4.22% washed hands b/n patients - Only 16.27% followed correct sequence in hand washing
19. Mersha A et al. (2020). Health professionals' practice and associated factors towards precautionary measures for COVID-19 pandemic in public health facilities of Gamo zone, southern Ethiopia: a cross-sectional study	<i>Preprint</i>	Practice towards precautionary measures for COVID-19 and associated factors	Cross-sectional study	428	Healthcare workers	June 10-19, 2020	<ul style="list-style-type: none"> - 67% had good knowledge - 50.5% had positive attitude - 35.3% good practice on precautionary measures - Marital status, good knowledge and attitude about COVID-19 important factors.
20. Asemahagn MA. (2020). Factors determining the knowledge and prevention practice of healthcare workers towards COVID-19 in Amhara region, Ethiopia: a cross-sectional survey	<i>Tropical Medicine and Health, BMC</i>	Factors determining the knowledge and prevention towards COVID-19	Cross-sectional online survey	398	Healthcare workers	April and May 2020	<ul style="list-style-type: none"> - 70% had good knowledge about COVID-19 - 62% had good prevention practices - Age < 34 years, access to infection prevention (IP), presence of IP guideline, using social media were found to be enabling factors for knowledge - Access to IP training, presence of IP guidelines, knowledge about COVID-19, having chronic illnesses were enabling factors to practice prevention
21. Negera E et al. (2020). Inadequate level of knowledge, mixed outlook and poor adherence to COVID-19 prevention guideline among Ethiopians	<i>Preprint</i>	Knowledge, attitude, and practice toward COVID-19	Cross-sectional study design; telephone interview	1570	Community	May 20, 2020 to June 20, 2020	<ul style="list-style-type: none"> - 42% had good knowledge - 53.8% favorable attitude - 24.3% good practice
22. Kassie BA et al. (2020). Knowledge and attitude towards COVID-19 and associated factors among health care	<i>PLOS ONE</i>	Knowledge and attitude towards	Institution-based cross-sectional	408	Healthcare workers	Mid of March to the end of	<ul style="list-style-type: none"> - 73.8% good Knowledge - 65.7% favorable attitude towards COVID-19

providers in Northwest Ethiopia.		COVID-19, and associated factors	study			April 2020	- Level education was associated with good knowledge and favorable attitude
23. Ayele AD et al. (2020). Knowledge and Practice to Prevent Against Corona Virus Disease (COVID-19) and Its Associated Factors Among Pregnant Women in Debre Tabor Town Northwest Ethiopia: a Community Based Cross-Sectional Study	<i>Preprint</i>	Knowledge and practice of preventive measures against COVID-19	Community based cross-sectional study	422	Pregnant women	May 25- June 15, 2020	- 46.8% were knowledgeable - 47.6 % had good practice against corona virus - Age15-24, educational status, being civil servant, and ANC follow-up were associated with good knowledge
24. Girma S et al. (2020). Knowledge and Precautionary Behavioral Practice Toward COVID-19 Among Health Professionals Working in Public University Hospitals in Ethiopia: A Web-Based Survey.	<i>Risk Management and Healthcare Policy, Dove press</i>	Knowledge and precautionary behavior practice for COVID-19	Web-based online survey	273	Healthcare workers	May 1 to 14, 2020	- 100% Knowledge about prevention - Almost all recommended protective measures practiced to the highest level - There is gap in wearing mask and gloves
25. Mola S et al. (2020). Magnitude and associated factors for attitude and practice of Southern Ethiopian residents toward COVID-19 and its preventions: A community based cross sectional study	<i>Preprint</i>	Attitude, practice and associated factors toward COVID-19 and its prevention	Community based cross sectional study	585	Community	March 27 to 31, 2020	- 90.3% had favorable attitude toward COVID-19 and its prevention - 80% have bad practice toward covid-19 prevention - 93.3% never used surgical mask - only 10% of participants were practicing social distancing - Age 18-44.9 years, having chronic medical illness, use of television as a source of information, and having good knowledge about COVID-19 were associated with favorable attitude
26. Dires A et al. (2020). Perceived Efficacy of COVID-19 Prevention	<i>Preprint</i>	Perceived efficacy of	Institutional based cross	413	Patients visiting	21 July - 5 August,	- 42.1% of participants had low perception to the efficacy of

Measures and Intention to Use Among Chronic Disease Patients in Northeast Ethiopia, 2020		COVID-19 preventive measures and intention to carry out them	sectional		hospital	2020	<ul style="list-style-type: none"> - COVID-19 prevention measures - 28.3% had low intention to carry out those prevention measures. - Young age, male gender, uneducated, and face mask non-users were significantly associated with low perceived efficacy of COVID-19 prevention methods.
27. Wondimu W et al. (2020). Practice of Coronavirus Disease-19 Prevention Methods and Associated Factors in Three Zones of Southwest Ethiopia: Community based cross-sectional study	<i>Preprint</i>	COVID-19 prevention practices	Community-based cross-sectional study	803	Community	May 1 to 31, 2020	<ul style="list-style-type: none"> - 59.4% of study participants had a good practice of COVID-19 prevention - 64.7% had a history of going to crowded places - Only 30.3% of the participants had a history of wearing a mask when leaving home - Urban residence, good knowledge, positive attitude, intention to seek care, and perceived mortality were positively associated with good practice.
28. Dagne H et al. (2020). Prevention Practice and Associated Factors of Coronavirus disease 2019 (COVID-19) Outbreak among Educated Ethiopians: An online Based Cross-sectional Survey	<i>Preprint</i>	Self-reported measures of prevention practice and associated factors regarding COVID-19	Online based cross-sectional study	528	Community (Educated Ethiopians)	March 25 to April 4, 2020	<ul style="list-style-type: none"> - 55.9% had good knowledge about COVID-19 - 55.3% had good knowledge regarding symptoms - 57.8% had good knowledge about prevention methods of COVID-19 - 54% had good COVID-19 preventive practice. - Being female, older age, knowledge about symptoms and prevention methods were associated with preventive practices
29. Girma S et al. (2020). Risk perception and precautionary health	<i>PLOS ONE</i>	Risk perception and	Web-based cross-	273	Healthcare workers	May 1–14, 2020	<ul style="list-style-type: none"> - Mean score of perceived vulnerability of COVID-19 was

behavior toward COVID-19 among health professionals working in selected public university hospitals in Ethiopia		precautionary health behavior toward COVID-19	sectional survey				higher than some of the prevalent infectious disease in the area - Most participants applied recommended protective measures to the acceptable level, except for wearing masks and gloves.
30. Deressa W et al. (2020). Risk perceptions and preventive practices of COVID-19 among healthcare professionals in public hospitals in Ethiopia	<i>Preprint</i>	Level of risk perception and practices of preventive measures of COVID-19	A hospital-based cross-sectional study	1134	Healthcare workers	June 09 to 26, 2020	- 88% were worried about the risk of becoming infected with coronavirus - 91% worried about the risk of infection to their family. - High rate of self-reported preventive practices and higher perceived risk

B. Disease epidemiology and clinical spectrum of COVID-19 in Ethiopia

Author (year). Title	Source/ Journal	Aims	Design	Sample size	Participant	Study period	Key findings
1. Oladeji O et al. (2020). Application of Call Centre as COVID 19 Alert and Surveillance System in Pastoralist Communities of Somali Region of Ethiopia	<i>Journal of Advances in Medicine and Medical Research</i>	Effectiveness of the toll-free call center for surveillance system	Retrospective chart review of COVID 19 alerts and surveillance database	414	COVID-19 alert system	March 13, 2020 to June 30, 2020	414 alerts were reported during the study period - 62.5% were from the toll-free call center: o 49.3% o met the criteria as suspected cases o 8.5% confirmed positive for COVID - 37.5% alerts from the health facilities: o 50.7% met the criteria as suspected cases o 27.7% confirmed positive - The call center is an effective system with wide coverage for monitoring alerts and can be explored as a long-term surveillance system during disease outbreaks and other public health

							interventions post COVID pandemic.
2. Abate L et al. (2020). Status of distribution of coronavirus disease (COVID-19) in Ethiopia within first three months	<i>Academic Journal of Research and Scientific Publishing</i>	Distribution of COVID-19 in Ethiopia within three months	Retrospective study conducted by using secondary data extracted from FMOH daily report	NA	COVID-19 cases	March 13, 2020 to June 12, 2020.	<ul style="list-style-type: none"> - 2,915 cases within 3 months - Increment of COVID-19 from the onset of first month to the second month was 3.74% and from the second month to the third month was 84.5%. - Death rate increased from first two months to third month by 82.98% and the recovery rate increased by 53.44%. - The distribution was very high in Addis Ababa and very low in Gambella Region - Male were more affected than females
3. Mengesha CH et al. (2020). Confirmed COVID-19 Infected Cases in Ethiopia: A Descriptive Study	<i>Preprint</i>	Epidemiological characteristics of COVID-19	Retrospective study conducted by using secondary data extracted from FMOH daily report	NA	COVID-19 cases	March 13 to May 06, 2020.	<ul style="list-style-type: none"> - Total laboratory test during the time 26,517 - Positive case 162 (0.61%) - Most cases were in young age group (20-49 years) - 69% of the cases were male - 56% were from Addis Ababa - 65% cases were imported cases
4. Leulseged TW et al. (2020). Characteristics and outcome profile of Hospitalized African COVID-19 patients: The Ethiopian Context	<i>Preprint</i>	Characteristics and outcome of COVID-19 patients and determinants of the disease outcome	Facility based prospective cohort study	1345	Patients admitted to COVID-19 Care Center	July to September, 2020	<ul style="list-style-type: none"> - 5.3% died, 5.4% were transferred; 1202 (89.4%) were clinically improved - The median time to clinical improvement was 14 days. - Sever COVID-19 and cough on presentation were associated with delayed clinical remission - Fever is associated with short disease duration

							<ul style="list-style-type: none"> - Lower oxygen saturation, subjective complaint of shortness of breath, and being diabetic were associated with unfavorable disease outcome
5. Teklu S et al. (2020). Clinical and Socio-demographic Profile of the First 33 COVID-19 Cases Treated at Dedicated Treatment Center in Ethiopia	<i>Ethiop J Health Sci.</i>	Describing the first 33 cases of COVID 19 in Ethiopia	Facility-based descriptive study	33	RT-PCR confirmed COVID 19 cases	March 13, 2020 to April 03, 2020	<ul style="list-style-type: none"> - 30 of the cases were either imported or contacts of confirmed cases. - Median age: 36 years - Most frequent symptoms: cough, headache and fever - Rare symptoms: diarrhea, sore throats, loss of taste and/or smell sensation. - Severity: 84.8% were mild to moderate cases; 15.2% (n=5) were critical at the time of admission (admitted to ICU) - Among critical cases: four required invasive mechanical ventilation. - Outcome: 30 were discharged after two negative RT-PCR for SARS CoV2; three ICU cases died while on mechanical ventilator. - Age of the deaths: 65 years (n=2) and 60 years (n=1)
6. Leulseged TW et al. (2020). COVID-19 Disease Severity and Determinants among Ethiopian Patients: A study of the Millennium COVID-19 Care Center	<i>Preprint</i>	Determinants of COVID-19 disease severity	An institution-based cross-sectional study	686	Patients admitted to COVID-19 Care Center	June to August 2020	<p>Factors associated with disease severity were:</p> <ul style="list-style-type: none"> - Older age - Male sex - Medical conditions (Hypertension and Diabetes) - Symptoms (fever and headache)
7. Leulseged TW et al. (2020). Determinants of Developing Symptomatic Disease in Ethiopian	<i>Preprint</i>	Determinants of having symptomatic	Institution based case-control study	765	RT-PCR confirmed COVID 19	August to September 2020	<ul style="list-style-type: none"> - Only 51.37% (393) cases had symptoms on diagnosis - Factors associated with presence of

COVID-19 Patients		disease among COVID-19 patients			cases		symptoms were: ○ Older age ○ Male sex ○ Being diabetic
8. Leulseged TW et al. (2020). Determinants of Time to Convalescence among COVID-19 Patients at Millennium COVID-19 Care Center in Ethiopia: A prospective cohort study	<i>Preprint</i>	Time to recovery/convalescence and determinants	Institution based prospective cohort	360	Patients admitted to COVID-19 Care Center	June 02, 2020 to July 05, 2020	<ul style="list-style-type: none"> - Median time to recovery/convalescence was 16 days. - Having moderate and severe disease, having symptoms at presentation, and presenting with respiratory and constitutional symptoms were associated with delayed time to achieve recovery. - Presence of symptom was found to be associated with delayed viral clearance. - Presence of symptoms and severe disease category were associated with delayed biochemical recovery and extended infectiousness period
9. Leulseged TW et al. (2020). Duration of Oxygen Requirement and Predictors in Severe COVID-19 Patients in Ethiopia: A Survival Analysis	<i>Preprint</i>	Time to getting off supplemental oxygen therapy and its predictors	Hospital based prospective observational study	244	Patients admitted to COVID-19 Care Center	July to September, 2020	<ul style="list-style-type: none"> - The median time to getting off supplemental oxygen therapy was 6 days [2 to 35 days] - ≥ 70 years of age and having shortness of breath were found to be associated with prolonged duration of supplemental oxygen therapy requirement.
10. Maru EH et al. (2020). Predictors of Death in Severe COVID-19 Patients at Millennium COVID-19 Care Center in Ethiopia: A Case-Control Study	<i>Preprint</i>	Death in Severe COVID-19 patients	Hospital-based case-control study.	147	Patients admitted to COVID-19 Care Center (Severe cases)	August to September 2020	<ul style="list-style-type: none"> - 49 (33.3%) patients died and 98 were discharged - Diabetes and dyspnea at admission were associated with outcome of death - Having a fever at admission was associated with a favorable outcome
11. Gebremariam BM et al. (2020).	<i>Pan</i>	Success and	Retrospectiv	263	COVID-19	March 13	- Median age of COVID-19 cases

Epidemiological characteristics and treatment outcomes of hospitalized patients with COVID-19 in Ethiopia	<i>African Medical Journal</i>	gaps of COVID-19 treatments	review of official COVID-19 data		cases reported daily by Ethiopian Public Health Institute	to May 13, 2020	<ul style="list-style-type: none"> - was 34 years - 63.9% of cases were between 15 and 34 years of age. - 55.5% of cases were imported; about quarter of imported cases were from African countries - 63.5% of cases were identified through symptom based surveillance - Case fatality rate was 1.9% - Four out of five patients in ICU were deceased after 2-6 days spent in critical care.
12. Kempen JH et al. (2020). SARS-CoV-2 Serosurvey in Addis Ababa, Ethiopia.	<i>ASTMH</i>	Seroprevalence of SARS-CoV-2 infection	Institution-based cross-sectional	99	Community (Adults of age 14 years or older)	May 18–21, 2020	<ul style="list-style-type: none"> - Population prevalence was 3% (1.0–8.4%). - Larger number of people have been infected than the counts detected by surveillance to date - The large majority of the general population remains susceptible to COVID-19
13. Alemu BN et al. (2020). Seroprevalence of anti-SARS-CoV-2 Antibodies in Addis Ababa, Ethiopia	<i>Preprint</i>	Seroprevalence of SARS-CoV-2 infection	Cross-sectional community-based study	301	Community (adults)	April 23 to 28, 2020	<ul style="list-style-type: none"> - Observed prevalence 7.6% - Adjust prevalence 8.8% (5.5%-11.6%) - Higher sero-prevalence were observed for Males (9.0%), age below 50 years (8.2), students and unemployed (15.6%)
C. Mental health problems during COVID-19 in Ethiopia							
Author (year). Title	Source/ Journal	Aims	Design	Sample size	Participant	Study period	Key findings
1. Girma A. et al. (2020). Covid-19 related stress and coping strategies among adults with chronic disease in Southwest Ethiopia	<i>Preprint</i>	COVID-19 related stress and coping strategies	Institutional based cross-sectional study	613	Patients visiting hospital	March 10 to 30, 2020	<ul style="list-style-type: none"> - The magnitude of perceived stress were 41.6% - Significant numbers of participants (13.9%) were suffering from severe perceived stress due to covid-19

							outbreak
2. Jemal K et al. (2020). COVID-19 pandemic and self-reported symptoms of depression, anxiety, and stress among health care workers in Ethiopia	<i>Preprint</i>	Level of self-reporting symptoms of depression, anxiety, and stress	Institutional-based cross-sectional study	816	Healthcare workers	June 25, 2020 to July 25, 2020	<ul style="list-style-type: none"> - Healthcare workers had reported a high prevalence of depression, anxiety, and stress symptoms <ul style="list-style-type: none"> o 78.4% positive for depression o 81.9% reported anxiety o 33.8% had reported stress - Female sex, being a laboratory professional, and working in COVID-19 treatment center associated with depression, anxiety, and stress.
3. Kassaw C. (2020). The Psychological Impact of COVID-19 Pandemic among Communities Living in Dilla Town, Ethiopia, April 2020	<i>Preprint</i>	Magnitude of psychological problems and their associated factor	Community-based cross-sectional study	445	Community	Apr 1- Apr 15, 2020	<ul style="list-style-type: none"> - 34.4% had a psychological problem (11.4 % mild and 23% moderate level of the psychological problem). - Female sex, low income (<500 ETB), large family size, literacy above primary school and wearing mask were associated with psychological stress
4. Kassaw C. (2020). The Magnitude of Psychological Problem and Associated Factor in Response to COVID-19 Pandemic Among Communities Living in Addis Ababa, Ethiopia, March 2020: A Cross-Sectional Study Design.	<i>Psychology Research and Behavior Management, Dove press</i>	Magnitude of psychological problems and associated factors	Community-based cross-sectional study	420	Community 9 (social media - Facebook and telegram users)	March 10 to 30, 2020.	<ul style="list-style-type: none"> - The magnitude of moderate to severe psychological problem was 66.4%. <ul style="list-style-type: none"> o 36% had anxiety, 12.4% depression, and 18% stress - Female sex, above the secondary level of education, monthly income below 3000 ETB, and more than three family size were associated with psychological problems.
5. Chekole YA et al. (2020). Perceived Stress and Its Associated Factors during COVID-19 among Healthcare Providers in Ethiopia: A Cross-Sectional Study	<i>Advances in Public Health, Hindawi</i>	Prevalence of perceived stress and risk factors of COVID-19	Institution-based cross-sectional study	244	Healthcare workers	March to April 2020	<ul style="list-style-type: none"> - The prevalence of perceived stress on COVID-19 was 51.6% - Age range of 25–31 years, being a nurse, and being pharmacist were associated with perceived stress on

							COVID-19
6. Ambelu A et al. (2020). Psychological Distress During the COVID-19 Pandemic in Ethiopia: The Need for Equal Attention of Intervention	<i>Preprint</i>	Prevalence of psychological distress and associated factors during COVID-19	Web-based cross-sectional study	929	Community (Literate Ethiopian population who have access to the internet)	April 22 to May 4 2020	<ul style="list-style-type: none"> - The prevalence of high psychological distress was 25.5% - Individuals who get information from social media, younger age (<50 years), those who don't wash hands, were more likely to have psychological distress
7. Tadesse AW et al. (2020). Psychological Impacts of COVID-19 among College Students in Dessie Town, Amhara Region, Ethiopia: Cross-sectional Study	<i>Preprint</i>	Psychological impact of COVID-19 upon students	Community-based cross-sectional study	408	College students	April 15-May 15, 2020	<ul style="list-style-type: none"> - The overall psychological effect of COVID-19 among college students was 16.2% (anxiety, depression, and stress all together) <ul style="list-style-type: none"> o 77.2% - depression o 71.8% anxiety o 48.5% stress d/o - Being rural resident, female sex, inadequate IPC practices were associated with psychological impact.
8. Kassaw C et al. (2020). The Current Mental Health Crisis of COVID-19 Pandemic among Communities Living in Gedeo Zone Dilla, SNNP, Ethiopia, April 2020.	<i>J Psychosoc Rehabil Ment Health.</i>	Current mental health crisis of the COVID-19 pandemic	Community-based cross-sectional study	420	Community	March 10, 2020 to Apr 10, 2020	<ul style="list-style-type: none"> - 44.4% of the respondents reported mild to moderate psychological problem - Being female, income <300ETB, and large family size (>3) were associated with psychological problems
D. Preparedness for COVID-19 control in Ethiopia							
Author (year). Title	Source/ Journal	Aims	Design	Sample size	Participant	Study period	Key findings

1. Edae CK et al. (2020). Assessment of Preparedness and Response of Health Professionals Towards COVID-19 Pandemic during Early Period in Public Hospitals in Oromia Regional State, Ethiopia	<i>Preprint</i>	Healthcare professionals' preparedness and response to COVID 19	Web-based cross-sectional study	340	Healthcare workers	April 01 to April 30, 2020	Healthcare professionals in the region were not prepared for COVID-19 pandemic: <ul style="list-style-type: none"> - Lack of sufficient information - Lack of scientific evidence at hand - Unable to access WHO and FMOH guidelines and recommendations - Limited access to literature - Low local support - Poor communication and collaboration between stakeholders - Lack of training - Busy with routine activities
2. Deressa W et al. (2020). Availability of personal protective equipment and satisfaction of healthcare professionals during COVID-19 pandemic in Ethiopia	<i>Preprint</i>	Self-reported availability and use of PPE as well as satisfaction level	Hospital-based cross-sectional study	1134	Healthcare workers	June 09-26, 2020.	<ul style="list-style-type: none"> - Gloves and gowns were reported as the most frequently available PPE in the routine care of patients before and during the pandemic. - During the COVID-19 pandemic, availability of most PPEs (e.g., surgical facemask and N95 respirator) has improved - There was critical shortage of appropriate PPE both before and during COVID-19. - 54.7% of the participants were unsatisfied with availability of PPE
3. Kasahun GG et al. (2020). Pharmacy preparedness and response for the prevention and control of coronavirus disease (COVID-19) in Aksum, Ethiopia; a qualitative exploration	<i>BMC Health Services Research</i>	Pharmacy preparedness and response to prevent and control COVID-19	Qualitative study	NA	Pharmacies (n=6)	May 2020	<ul style="list-style-type: none"> - Necessary pharmacy services were being given - Sufficient supplies of drugs and medical supplies were scarce

4. Ambie MB et al. (2020). Preparedness and Approaches of Health Care Providers to Tackle the Transmission of COVID-19 among South Gondar Zone Hospitals, Amhara, Ethiopia.	<i>Preprint</i>	Preparedness and approaches to tackle the transmission of covid-19	Institutional-based cross-sectional study	422	Healthcare workers	May to June 2020	<ul style="list-style-type: none"> - Healthcare workers did not have adequate psychological preparedness - Healthcare systems were not ready in terms of supplies and materials needed for infection prevention.
5. Mulu GB et al. (2020). Preparedness and responses of Healthcare Providers to Tackle the Transmission of Covid-19 among North Shewa Zone Hospitals, Amhara, Ethiopia.	<i>Infection and Drug Resistance, Dove press</i>	Preparedness and responses to combat the spread of COVID-19	Facility-based cross-sectional study	404	Healthcare workers	April to May 2020	<ul style="list-style-type: none"> - 74.5% of study participants felt unsafe in their workplace - 64.4% of them responded that they feel anxious while working with febrile patients. - Access for important PPE was found to be low: <ul style="list-style-type: none"> o Gloves – 31% o Facemask – 27.4% o Goggle – 15.9% o Shoe – 14.5% o Apron – 14.2%
6. Addis Y et al. (2020). Social work responses and household-level determinants of coronavirus preparedness in rural Ethiopia	<i>Preprint</i>	Understanding and preparedness to confront COVID-19	Community based – qualitative and quantitative study	190	Community (rural households)	April 20 to May 30, 2020	<ul style="list-style-type: none"> - 46% made preparedness to respond to the pandemic. - 38.4% understood the nature of the pandemic - 34.2% knew signs and symptoms - 20.9% practiced prevention - Rural households recognized little about COVID 19 and in response, a few community groups, which consist of youth and university students, religious leaders, and elders were engaged to reduce the consequence of COVID 19.

E. Impact of COVID-19 on essential healthcare in Ethiopia

Author (year). Title	Source/ Journal	Aims	Design	Sample size	Participant	Study period	Key findings
1. Ketema B et al. (2020). Challenges and coping strategies in non-	<i>Preprint</i>	challenges and coping	One-to-one in-depth	22	Healthcare workers	April 20 to May	<ul style="list-style-type: none"> - The flow of NCD patients to healthcare facilities decreased

communicable disease management during COVID-19 in Addis Ababa, Ethiopia: A qualitative study		strategies in non-communicable chronic disease management during COVID-19	interview via telephone		caring for NCD (n=13) and people with NCDs (n=9)	20, 2020	during COVID-19 because of: <ul style="list-style-type: none"> ○ Fear of acquiring COVID-19 infection ○ Transportation problems - NCD related problems during COVID-19: <ul style="list-style-type: none"> ○ Decrease in physical activity and weight gain ○ Stress
2. Tolu LB et al. (2020). Effect of COVID-19 pandemic on safe abortion and contraceptive services and mitigation measures: A case study from a tertiary facility in Ethiopia	<i>Ethiopia n Journal of Reproductive Health</i>	Impact of COVID-19 on contraception and safe abortion care services	Comparative case study (March – May 2020 Vs March – May 2019)	NA	Healthcare facility	March to May 2020	<p>Reduction in delivery services:</p> <ul style="list-style-type: none"> - Delivery decreased by 27.6% - Immediate postpartum family planning decreased by 66.7% <p>Reduction in abortion care:</p> <ul style="list-style-type: none"> - Safe abortion decreased by 16.4% - Post-abortion care services reduced by 20.31% <p>All methods of contraception decreased:</p> <ul style="list-style-type: none"> - Overall number of clients presenting for family planning was reduced by 27%. - Tubal ligation decreased by 85.7% - IUCD by 63.4% - Implants by 40.3%
3. Abdela SG et al. (2020). Essential Healthcare Services in the Face of COVID-19 Prevention: Experiences from a Referral Hospital in Ethiopia.	<i>Am J Trop Med Hyg.</i>	Effect of prevention measures on essential healthcare services	Retrospective review of client registry	NA	Healthcare facility	February 24, 2020 to April 19, 2020	During the implementation of COVID-19 prevention measures, patient flow decreased in all elements of essential healthcare service: <ul style="list-style-type: none"> - Family planning (98%) - Emergency surgery (77%) - Follow-up of chronic surgical conditions (70%) - ANC follow-up (>50%) - Neonatal admission and other

							childhood emergency visits (>70%) - The number of surgical and medical emergency visits (>50%)
4. Temesgen K et al. (2020). Maternal health care services utilization in the amid of COVID-19 pandemic in West Shoa Zone, Central Ethiopia	<i>Preprint</i>	Maternal health care services during COVID-19 pandemic	Community-based cross-sectional study	844	Pregnant women	July 1 to 30, 2020	Maternal health service utilization during the COVID-19 pandemic was 64.8% (less than national average) Reasons: - Fear of getting COVID-19 - Service interruption - Movement was limited
5. Temesgen K et al. (2020). The impact of COVID-19 infection on maternal and reproductive health care services in governmental health institutions of Dessie town, North-East Ethiopia	<i>Preprint</i>	Impact of COVID-19 on maternal and reproductive healthcare services	Institution based cross sectional study design using mixed (quantitative supplemented with qualitative) method	422	Mothers getting service in governmental health institutions of Dessie town	July 1-15 / 2020.	Negative impact on maternal and reproductive healthcare services - 6% of antenatal care attendees, 18% of delivery care attendees and 46.7% of postnatal care attendees reported inappropriate service delivery due to fear of health care providers, shortage medical supplies and staff work load. - 32% of ANC attendees, 35.3% of delivery care attendees and 37.4% of postnatal care attendees reported that the support they received from the health care provider was worsened due to COVID-19. - 33.5% of ANC attendants reported cancellation of regular ANC visits. - 85.3% of participants was stressed due to corona and health concern was the greatest source of stress which accounts 42%. - 93.3% reported that COVID-19 has negative impact on their life, of which nearly one-third (29.3%) of them stated it as extremely negative impact.

							- Women reported unwanted pregnancy after corona outbreak; 63.6% of them mentioned unavailability of family planning services as a reason
6. Yigezu A et al. (2020). The Indirect Impact of the COVID-19 Pandemic on Maternal and Child Mortality in Ethiopia: Modelling Study	<i>Preprint</i>	Indirect impact of COVID-19 pandemic on maternal and child mortality	Modeling	NA	NA		A significant number of additional maternal and child deaths would occur in Ethiopia if the essential health service interruption persists, as seen in the first few months of the pandemic. - 10,252 to 41,945 child deaths - 379 to 4,038 maternal deaths - 1,673 to 13,294 stillbirths This is more than the mortality caused by the pandemic itself.
F. Violence against women during COVID-19 lockdown in Ethiopia							
1. Gebrewahd GT et al. (2020). Intimate partner violence against reproductive age women during COVID-19 pandemic in northern Ethiopia 2020: a community-based cross-sectional study	<i>Reprod Health</i>	Intimate partner violence against reproductive age women during COVID-19	Community-based cross-sectional study	682	Community (reproductive age women)	April to May, 2020	The prevalence of intimate partner violence 24.6% - 13.3% psychological violence - 8.3% physical - 5.3% sexual violence Housewives, younger women (< 30), women with arrange marriage, and women with husband's age being "between" 31–40 were more likely to suffer from violence

Annex – III: Articles excluded following full text review [Reasons for exclusion (1) not original research article, (2) not related to health/COVID-19, and (3) methodological issues]

1. Abebe Y, Beshir IA, Tsegaye ZT et al. Health System Adaptability at Primary Level Care in the Time of COVID-19: Experiences From Ethiopia, 09 October 2020, PREPRINT (Version 1) available at Research Square: <https://doi.org/10.21203/rs.3.rs-88250/v1>
2. Alemneh HT, Tilahun GT. Mathematical Modeling and Optimal Control Analysis of COVID-19 in Ethiopia. medRxiv 2020: 2020.07.23.20160473.
3. Argawu AS. Linear Regression Model for Predictions of COVID-19 New Cases and New Deaths Based on May/June Data in Ethiopia, 19 August 2020, PREPRINT (Version 1) available at Research Square: <https://doi.org/10.21203/rs.3.rs-61667/v1>
4. Balcha A. Curve Fitting and Least Square Analysis to Extrapolate for the Case of COVID-19 Status in Ethiopia. *Advances in Infectious Diseases*. 2020; 10: 143-159. doi: 10.4236/aid.2020.103015.
5. Baye K. COVID-19 prevention measures in Ethiopia: Current realities and prospects. ESSP Working Paper 141. Washington, DC; Addis Ababa, Ethiopia: International Food Policy Research Institute (IFPRI); Federal Democratic Republic of Ethiopia Policy Studies Institute. 2020: <https://doi.org/10.2499/p15738coll2.133729>
6. Begna F. Dugassa. What can we Learn from the Past Deadly Pandemics and Prepare to Curb COVID-19? The Case in Oromia Regional State in Ethiopia. *American Journal of Public Health Research*. 2020; 8(2):67-76. doi: 10.12691/ajphr-8-2-5
7. Belay E.G. et al. Towards Curtailing Infodemic in the Era of COVID-19: A Contextualized Solution for Ethiopia. In: Stephanidis C. et al. (eds) HCI International 2020 – Late Breaking Papers: Interaction, Knowledge and Social Media. HCII 2020. Lecture Notes in Computer Science, vol 12427. Springer, Cham: https://doi.org/10.1007/978-3-030-60152-2_17
8. Belete YM. Uncovering the Effects of COVID-19 Responses on the Lives of Commercial Sex Workers: A Phenomenological Study in Bahir Dar City Administration, Ethiopia, 18 August 2020, PREPRINT (Version 1) available at Research Square: <https://doi.org/10.21203/rs.3.rs-39483/v1>
9. Deressa CT, Duressa GF. Modeling and optimal control analysis of transmission dynamics of COVID-19: The case of Ethiopia. *Alexandria Engineering Journal* 2021; 60(1): 719-32.
10. Getaneh Y, Yizengaw A, Adane S, et al. Global lessons and Potential strategies in combating COVID-19 pandemic in Ethiopia: Systematic Review. medRxiv 2020: 2020.05.23.20111062.
11. Goshu D, Ketema M, Diriba G, Ferede T. Assessment of COVID-19 Effects and Response Measures in Ethiopia: Livelihoods and Welfare Implications. Policy Working Paper 04/2020. Ethiopian Economic Policy Research Institute (EEPRI). <https://doi.org/10.2147/RMHP.S258273>
12. Kanno GG, Lagiso ZA, Abate ZG, et al. Is Rainwater Harvesting Sufficient to Satisfy The Emergency Water Demand for The Prevention of COVID-19? The Case of Dilla town, Southern, Ethiopia. Preprints.org; 2020. DOI: 10.20944/preprints202008.0721.v2.
13. Kassu A, Yimer G, Benor S, Tesfaye K, Tefera Y, Admassu M et al. Multi-Disciplinary COVID-19 Research Prioritization in Low-Resource Settings: The Ethiopia Model (5/20/2020). Available at SSRN: <https://ssrn.com/abstract=3608055> or <http://dx.doi.org/10.2139/ssrn.3608055>
14. Lee H, Moon SJ, Ndombi GO, Kim KN, Berhe H, Nam EW. COVID-19 Perception, Knowledge, and Preventive Practice: Comparison between South Korea, Ethiopia, and Democratic Republic of Congo. *Afr J Reprod Health*. 2020 Jun;24(s1):66-77. doi: 10.29063/ajrh2020/v24i2s.11.
15. Lobie TA, Tesfaye D, Abrham A. A narrative synthesis on COVID-19 risks and concerns in developing countries: The case of Ethiopia. *Journal of Public Health and Epidemiology*. 2020; 12(2): 86-97.

16. Misganaw CD. Corona Virus Disease 2019 (COVID-19) Pandemic Up-to-Date Facts, Opportunities and Challenges: A review on Cases in Ethiopia. Preprints 2020, 2020050410 (doi: 10.20944/preprints202005.0410.v1).
17. Nuredin Nassir Azmach, Tesfay Gebremariam Tesfahannes, Samiya Abrar Abdulsemed et al. Prospective Time Periodic Geographical Covid-19 Surveillance in Ethiopia Using a Space-time Scan Statistics: Detecting and Evaluating Emerging Clusters, 18 September 2020, PREPRINT (Version 1) available at Research Square: <https://doi.org/10.21203/rs.3.rs-76052/v1>
18. Terefe B, Rovetta A, Rajan AK, Awoke M. Coronavirus-related online web search desire amidst the rising novel coronavirus incidence in Ethiopia: Google Trends-based infodemiology. medRxiv 2020: 2020.07.23.20158592.
19. Tiruneh D, Baye G, Dubi Y. A Critical Discourse Analysis of COVID-19 in Ethiopia: Rethinking the Past and Defining the Present. *Journal of Language and Literature*, 20(2), 318. doi:<https://doi.org/10.24071/joll.v20i2.2608>
20. Tolu LB, Ezeh A, Feyissa GT. How Prepared Is Africa for the COVID-19 Pandemic Response? The Case of Ethiopia. *Risk Manag Healthc Policy*. 2020;13:771-776:
21. Tulu TW, Leong IT, Wu Z. Modeling and Predicting Corona Contagion Dynamics in China, USA, Brazil & Ethiopia, *Science Journal of Applied Mathematics and Statistics*. Vol. 8, No. 5, 2020, pp. 67-72. doi: 10.11648/j.sjams.20200805.13
22. Wondimu Gudu, Mekitie Wondafrash, Delayehu Bekele et al. The Impact of COVID-19 pandemic on Obstetrics and Gynecology Residency Programs and perspectives on adaptive ways of training in Ethiopia, 17 June 2020, PREPRINT (Version 1) available at Research Square: <https://doi.org/10.21203/rs.3.rs-35772/v1>
23. Wondmkun YT, Mohammed OA (2020) Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-COV-2) Inhibition and other Antiviral Effects of Ethiopian Medicinal Plants and their Compounds. *J In Silico In Vitro Pharmacol* Vol.6 No.2:4.
24. Yedemie YY. Mental Health and Psychosocial Aspects of Corona Virus Disease (COVID-19) Outbreak in Ethiopia: Psychological Intervention for Public Psychological Crisis. *International Journal of Psychological and Brain Sciences*. Vol. 5, No. 4, 2020, pp. 56-60. doi: 10.11648/j.ijpbs.20200504.11