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# Prevalence of Health Workforce Burnout during COVID-19 Response in Ethiopia

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**ABSTRACT**

COVID-19 pandemic is a global public health emergency that has greatly impacted the health systems and people's lives worldwide. With its relatively high rate of infection and mortality, COVID-19 can worsen the feelings of anxiety and stress among Healthcare Workers (HCWs). The aim of this survey was to assess the prevalence of health workforce burnout during the COVID-19 response in Ethiopia. The study employed a health institution-based qualitative, cross-sectional survey with a structured design based on the validated tool MBI-HSS (Maslach Burnout Inventory Human Services Survey). In this study, we purposively selected 824 (74%) numbers of health care workers at the accessed health facilities from 1120 at the time of the survey and a response rate of 767 (93%). The English questionnaire was translated into two local languages (Amharic and Oromffa) and the data collector were selected from each region and city and then trained for 5 days. The study revealed that the magnitude of burnout was 70 % among HCWs working in COVID-19 response that participated in the study. The prevalence of burnout among the HCWs was 58%, 68%, and 64% for moderate to high burnout on Depersonalization, Personal Accomplishment, and on Emotional Exhaustion respectively. The prevalence of burnout among HCWs increased, particularly for those who were serving longer in all survey areas. The result of the study indicated the need to identify and eliminate burnout among HCWs in order to activate psychological resilience and guide workers in the use of the most effective long-term coping strategies to protect their mental health and align the design of intervention in all COVID-19 response areas.

**Keywords:** Burnout; COVID-19; Emotional Exhaustion; Depersonalization; Personal Accomplishment; Workforce.

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## INTRODUCTION

The first confirmed case of COVID-19 in Ethiopia was detected on 13th March, 2020; this was a day after the World Health Organization (WHO) declared COVID-19 as a pandemic. At the end of this assessment (31st March, 2021), there were 206,589 cases and 2,865 deaths in Ethiopia besides 8,65 that were in severe case intervention [1].

The complexity of the situation is that the disease directly affects healthcare workers, being frontliners in the direct management patients. In the case of a suspected case, the policy of strict quarantine and isolation from family is an additional factor that increases psychological and mental health problems, and health care workers, as front-line workers, face great challenges during this pandemic response, because of the nature of their work[2].

Burnout is "a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind[3].Studies argue that continuous exposure to occupational stress (high work demand and low resources) may cause burnout syndrome [4].

In Ethiopia and across the continent of Africa COVID-19 health care workers and professionals experience burnout, and as such immediate intervention was needed for promoting psychological wellbeing based on the valuation [5]. According to a previous study done in Saudi Arabia, the prevalence of burnout during COVID-19 response among HCWs was 75% and the significant factors associated with the study were that burnout was higher in the age group of 27-31, working in the clinical area, and long work experience. Besides, the study proposed that psychological resilience for HCWs during the pandemic was binding [6]. Another study, in Iran, suggests that 53% of health care workers suffered from burnout during COVID-19 response. Based on this study, 41% and 50% of people experienced moderate and severe Emotional Exhaustion (EE), 86% and 13 % people experienced moderate to severe Depersonalization (DP) and 14% and 85.5 % people experienced moderate and severe Personal Accomplishment respectively. Besides, job category and extended experience were the main contributors to the burnout [7].

Burnout generally affects the mental health of the health workforce, job satisfaction and minimizes patient's quality of care. During the COVID-19, response health professionals were affected by burnout, with consequent decrease in work performance and patient care which could have negative impact on the family and society[9,10]

The burnout rate increased among the HCWs during the COVID-19 pandemic, but there is virtually no published data on burnout among health workforce in Ethiopia at the national level. Thus, this assessment was conducted to examine the prevalence of burnout among the health workforce during the COVID-19 response in Ethiopia.

## METHODOLOGY

### Study Design and Sampling

A health institution-based quantitative, cross-sectional survey with a structured design was employed to randomly select facilities that were involved in response to COVID-19 in Ethiopia from January 27, 2030 to March 7, 2022. From a total of 1120 health workforce purposively selected, 824(74%) health workforce responded, a response rate of 767 (93%) based on the sites, the profession of the health workforce, and the working area.

The data was collected from all health workforce in COVID-19 working sites including 30 COVID-19 treatment centers, 26 COVID-19 public laboratories, and Ministry of Health/Ethiopian Public Health Institute (MOH/EPHI) up to the Zonal/Woreda level. We purposively selected based on sites that had high COVID-19 caseload and the current safety condition in Ethiopia.

### Study Instruments

The questionnaire was adopted and validated with some of the questions based on a framework similar to that of previous studies on infectious disease outbreaks [10,11,12].

The instrument has three dimensions of the burnout syndrome (EE, DP, PA) and provides scores for these dimensions: emotional exhaustion 7 questions on a scale of 0(never) to 6(every day), depersonalization 7 questions on a scale of 0(never) to 6(every day), and personal accomplishment 8 questions on a scale of 0(never) to 7(every day), and are scored using 5 level frequency ratings from "never" to "always". A high score in the first two sections and a low score in the last section may indicate burnout. The English questionnaire was translated in two local languages (Amharic and Oromffa) and the data collectors were selected from each region and city and then trained for 5 days.

### Data Sources and Analysis

The data collectors were selected from each region and city and trained for 5 days. Survey data were collected from interviews of respondents working at

*GET Journal of Biosecurity and One Health (2022) 2, 8-17.*
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COVID-19 treatments centers, National EOC, sub-RHB health workforce responsible for emergency response during COVID-19 pandemic, from January 27, 2020 to March 30, 2021. The open data kite (ODK) data were analyzed using SPSS version 24. However, before this, the data were cleaned and coded, and identified errors were adjusted after a review of the original data using the code numbers.

**Ethical Considerations**

This study was done after obtaining approval letter from the national COVID-19 Incident Manager. Permission was also obtained from the regions after explaining the study objectives and its significance. At the individual level, verbal consent was obtained from all health workforces after the necessary explanation of the purpose, benefits, and risks of the study and their right on the decision to participate in the study. The data was used for assessment and intervention purpose and all interviews with respondents were made under strict privacy. The IRB approval was not applicable.

## RESULTS

**Demographic Profile of Respondents**

Out of a total health work force respondents of 767, 527 (68.7%) were male and 240 (31.3%) were national EOC, regional PHEM, laboratories, and females (Table 1). This implies that in terms of number, male involvement in the response was higher. Regarding age category 656 (85.5%) of the respondents were between 18-35 years.

It was also observed that 426 (55.5%) were married, 333 (43.4%) single and only 8 (1.1%) were either divorced or widowed. With regards to educational qualification, there were 115 (15%) medical doctors, 351(45.8%) BSc. holders, 112 (14.6%) MSc. degree holders and the remaining 189 (24.7%) were holders of diploma, certificate and below.

Majority of the respondents 510 (66.5%) had served for ≥ 7 months. The staffs who had served less than four months were 110 (14.3%). The remaining 147 (19.2%) had served between 4 to 7 months.

As presented in Table 2, almost all (99.6%) of the respondents were from the treatment centers, 0.1% were from EOC-National-or-regional, and 0.3% were Ambulance-drivers. Concerning the job category, 225 (29.3%) were nurses, 154 (20.1%) - GP/HO, 125 (16.3%) - Lab technologists 18 (2.3%) -Specialists, 34 (4.4%) - Epidemiologists & MPH, 16 (2.1%) were participated in the study. The remaining 195 (25.4%) were mainly the support staffs (160).

**Table 1: Respondents' Demographic Characteristics**

| | Variables | N | % |
|---|---|---|---|
| Gender | Female | 240 | 31.3 |
| | Male | 527 | 68.7 |
| Age | 18-25 | 92 | 12.0 |
| | 26-35 | 564 | 73.5 |
| | 36-45 | 87 | 11.3 |
| | 46-55 | 22 | 2.9 |
| | 56+ | 2 | 0.3 |
| Marital Status | Divorced | 6 | 0.8 |
| | Married | 426 | 55.5 |
| | Single | 333 | 43.4 |
| | Windowed/er | 2 | 0.3 |
| Education | BSc. | 351 | 45.8 |
| Level | Certificate Below | 121 | 15.8 |
| | Diploma | 68 | 8.9 |
| | MD | 115 | 15.0 |
| | MSc/MPH Above | 112 | 14.6 |
| | **Total** | **767** | **100.0** |

*GET Journal of Biosecurity and One Health (2022) 2, 8-17.*
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**Table 2: Respondents' COVID-19 Job Characteristics**

| Category | **Variables** | **N** | **%** |
|---|---|---|---|
| COVID-19 duration of Service | >10months | 302 | 39.4 |
| | 15-days-to-3months | 110 | 14.3 |
| | 4-to7-Months | 147 | 19.2 |
| | >7-to-9months | 208 | 27.1 |
| Working Area | Ambulance-drivers | 2 | 0.3 |
| | EOC-National-or-regional | 1 | 0.1 |
| | Treatment-centers | 764 | 99.6 |
| Job Category | Epidemiologist & MPH | 34 | 4.4 |
| | GP | 154 | 20.1 |
| | Lab technologist | 125 | 16.3 |
| | Nurse | 225 | 29.3 |
| | (Psychologists, Councilors, Anesthetists & social worker) | 34 | 4.4 |
| | Pharmacy | 16 | 2.1 |
| | Specialist | 18 | 2.3 |
| | Supportive staff | 160 | 20.9 |
| | **Total** | **767** | **100.0** |

**Demographic Profile of COVID-19 Treatment Centers**

Out of the total of 767 visited COVID-19 treatment sites, 566 (73.8%) were treatment centers, 108 (14.1%) were laboratories and the rest were isolation centers, national and sub-national PHEOCs. With regards to the service categories 533 (69.5%) were cases management, 139 (18.1%) serving as laboratory and sample collection centers, 55 (7.2%) coordination and 32(4.2%) quarantine for COVID-19 suspects.

The results in Table 3 show that 315 (41.1%), 294 (38.3%), and 275 (35.9%) of health workforce experienced high level of Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA) based on sub-scales respectively, which indicate that a high portion of health workforce suffered from burnout syndrome during COVID-19 pandemic response.

Results presented in Table 4 show that 146 (48.3%) and 78 (37.5%) of the health workforce who served > 10 months and 7 to 9 months respectively, were exposed to high emotional exhaustion. In addition, 138 (45.7%) and 80 (38.5%) of participants also exposed high depersonalization respectively. Table 5 shows that 208 (39%) and 205(38.5%) of the health workforce who served in case management were exposed high emotional exhaustion and depersonalization respectively. In addition, those working in quarantine/isolation area had 17 (53.1%), high emotional exhaustion. Furthermore, among those working in laboratories and sample collection areas, only 40 (28.8%) showed personal accomplishments.

As indicated in Table 6, age group from 46-55 >59% and 54.5% experienced high emotional exhaustion depersonalization respectively. Besides that age group, only 36.4% experienced personal accomplishment.

Among the GP, Nurses and Lab technologist 81 (52.6%), 96 (42.7%) and 52 (41.6%) experienced high emotional exhaustion respectively. In addition, among GP, Nurses and Lab technologists only 61 (39.6%), 75(33.3%) and 37(29.6%) respectively experienced personal accomplishments. Also, 81 (52.6%), 96(42.7%) and 52 (41.6%) physicians, nurses and lab technologist were exposed to high emotional exhaustion respectively. In addition, among GP, Nurses and Lab technologist only 61 (39.6%), 75(33.3%) and 37(29.6%) respectively experienced personal accomplishments respectively. Regarding marital status, 179 (42%) married participants were exposed to high emotional exhaustion and only 141 (33.1%) showed personal accomplishments.

In this section, correlation analysis was conducted to assess the relationship between Emotional Exhaustion (EE), Personal Accomplishment (PA) and Depersonalization (DP).

*GET Journal of Biosecurity and One Health (2022) 2, 8-17.*
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**Table 3**: **Prevalence of Burnout Based On Sub-Scales**

| Dimensions | Level of burnout | Count | Percentage (%) |
|---|---|---|---|
| **EE** | Low | 276 | 36.0% |
| | Moderate | 176 | 22.9% |
| | High | 315 | 41.1% |
| **PA** | Low | 246 | 32.1% |
| | Moderate | 246 | 32.1% |
| | High | 275 | 35.9% |
| **DA** | Low | 320 | 41.7% |
| | Moderate | 153 | 19.9% |
| | High | 294 | 38.3% |
| | Total | 767 | 100.0 |

**Table 4: Burnout Level during COVID-19 Response**

| | EE | | | DA | | | PA | | |
|---|---|---|---|---|---|---|---|---|---|
| Duration of Service time | Low n (%) | Mode. n (%) | High n (%) | Low n (%) | Mode. n (%) | High n (%) | Low n (%) | Mode. n (%) | High n (%) |
| *15D-to-3Mon* | 54 (49.1%) | 20 (18.2%) | 36 (32.7%) | 47 (42.7%) | 24 (21.8%) | 39 (35.5%) | 25 (22.7%) | 37 (33.6%) | 48 (43.6%) |
| *4-to-7Months* | 70 (47.6%) | 30 (20.4%) | 47 (32%) | 63 (42.9%) | 27 (18.4%) | 57 (38.8%) | 52 (35.4%) | 36 (24.5%) | 59 (40.1%) |
| *7-to-9Months* | 62 (29.8%) | 68 (32.7%) | 78 (37.5%) | 73 (35.1%) | 55 (26.4%) | 80 (38.5%) | 74 (35.6%) | 66 (31.7%) | 68 (32.7%) |
| *> 10 Months* | 92 (30.5%) | 64 (21.2%) | 146 (48.3%) | 117 (38.7%) | 47 (15.6%) | 138 (45.7%) | 102 (33.8%) | 105 (34.8%) | 95 (31.5%) |

*GET Journal of Biosecurity and One Health (2022) 2, 8-17.*
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**Table 5: Burnout Level Based on the Type of Service and Sex**

| Description | | EE | | | DA | | | PA | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Low n (%) | Moderate n (%) | High n (%) | Low n (%) | Moderate n (%) | High n (%) | Low n (%) | Moderate n (%) | High n (%) |
| **Type of Service** | Cases mgt | 188 (35.3%) | 137 (25.7%) | 208 (39%) | 226 (42.4%) | 102 (19.1%) | 205 (38.5%) | 198 (37.1%) | 168 (31.5%) | 167 (31.3%) |
| | EOC | 24 (43.6%) | 6 (10.9%) | 25 (45.5%) | 22 (40%) | 8 (14.5%) | 25 (45.5%) | 19 (34.5%) | 19 (34.5%) | 17 (30.9%) |
| | Lab | 48 (34.5%) | 28 (20.1%) | 63 (45.3%) | 56 (40.3%) | 33 (23.7%) | 50 (36%) | 53 (38.1%) | 46 (33.1%) | 40 (28.8%) |
| | Supportive area | 4 (50%) | 2 (25%) | 2 (25%) | 1 (12.5%) | 4 (50%) | 3 (37.5%) | 3 (37.5%) | 3 (37.5%) | 2 (25%) |
| | Quarantine for suspect | 3 (9.4%) | 12 (37.5%) | 17 (53.1%) | 15 (46.9%) | 6 (18.0%) | 11 (34%) | 16 (50%) | 10 (31.3%) | 6 (18.8%) |
| **Sex** | Female | 98 (40.8%) | 49 (20.4%) | 93 (38.8%) | 103 (42.9%) | 49 (20.4%) | 88 (36.7%) | 75 (31.3%) | 65 (27.1%) | 100 (41.7%) |
| | Male | 178 (33.8%) | 127 (24.1%) | 222 (42.1%) | 217 (41.2%) | 104 (19.7%) | 206 (39.1%) | 171 (32.4%) | 181 (34.3%) | 175 (33.2%) |

The analysis also provided correlation coefficients that indicate the strength and direction of relationship. As shown in Table 7, emotional exhaustion correlated with personal accomplishment and depersonalization. The emotional exhaustion is negatively correlated with personal accomplishment and directly related with depersonalization.

## DISCUSSION

The findings indicated that 70.8% of the health workforce working during the COVID-19 response had experienced burnout syndrome at the time of the study, which is similar to the studies done in Saudi Arabia where 75% of the health care workers had reported burnout during this pandemic response [6].

This findings of this study indicated that among the health workforce, those who served more months were exposed to high emotional exhaustion and depersonalization. This assessment is comparable to a previous study in India, which reported that health care workers who were working for a long period of time were more susceptible to burnout[13].

In addition, the present study shows that the health workforce that served in case management had high emotional exhaustion and depersonalization. This outcome is comparable to an earlier study that showed that during the COVID-19 response, the health care workers directly involved in the management of this emergency were exposed to a high level of burnout and stress[14].

The finding that respondents in the age group between 26-35 experienced a high level of emotional exhaustion and depersonalization is also supported by the study done in Saudi Arabia, which showed that the burnout rate was significantly higher in the age group 27 to 31 and was lowest in the age group 40 and older[2]. A similar study in central Ethiopia also suggests that the health care participants aged 26 to 30 years old had a suggestively higher rate of depression symptoms during COVID-19 response[15].

The results of this study revealed that 52.6%, 42.7%, and 41.6% of physicians, nurses, and lab technologists respectively exposed to high emotional exhaustion.

*GET Journal of Biosecurity and One Health (2022) 2, 8-17.*
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**Table 6: Burnout Level Based on Category of Age, Job and Marital Status**

| Category participants | | EE | | | DA | | | PA | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Low n (%) | Mode. n (%) | High n (%) | Low n (%) | Mode. n (%) | High n (%) | Low n (%) | Mode. n (%) | High n (%) |
| Age | 18-25 | 42 (45.7%) | 22 (23.9%) | 28 (30.4%) | 46 (50% | 13 (14.1%) | 33 (35.9%) | 31 (33.7%) | 28 (30.4%) | 33 (35.9%) |
| | 26-35 | 200 (35.5%) | 134 (23.8%) | 230 (40.8%) | 231 (41%) | 118 (21%) | 215 (38.1%) | 175 (31%) | 213 (37.8%) | 176 (31.2%) |
| | 36-45 | 26 (29.9%) | 17 (19.5%) | 44 (50.6%) | 36 (41.4%) | 17 (19.5%) | 34 (39.1%) | 33 (38%) | 34 (39.1%) | 20 (23%) |
| | 46-55 | 6 (27.3%) | 3 (13.6%) | 13 (59.1%) | 6 (27.3%) | 4 (18.2%) | 12 (54.5%) | 6 (27.3%) | 8 (36.4%) | 8 (36.4%) |
| Job Category | Epidemiologist & MPH | 13 (38.2%) | 8 (23.5%) | 13 (38.2%) | 18 (52.9%) | 5 (14.7%) | 11 (32.4%) | 18 (52.9%) | 5 (14.7%) | 11 (32.4%) |
| | GP/HO | 42 (27.3%) | 31 (20.1%) | 81 (52.6%) | 54 (35.1%) | 27 (17.5%) | 73 (47.4%) | 61 (39.6%) | 48 (31.2%) | 45 (29.2%) |
| | Lab technologist | 46 (36.8%) | 27 (21.6%) | 52 (41.6%) | 50 (40%) | 31 (24.8%) | 44 (35.2%) | 39 (31.2%) | 49 (39.2%) | 37 (29.6%) |
| | Nurse | 72 (32%) | 57 (25.3%) | 96 (42.7%) | 83 (36.9%) | 41 (18.2%) | 101 (44.9%) | 76 (33.8%) | 74 (32.9%) | 75 (33.3%) |
| | Other | 18 (52.9%) | 9 (26.5%) | 7 (20.6%) | 10 (29.4%) | 11 (32.4%) | 13 (38.2%) | 9 (26.5%) | 10 (29.4%) | 15 (44.1%) |
| | Pharmacy | 8 (50%) | 5 (31.3%) | 3 (18.8%) | 9 (56.3%) | 6 (37.5%) | 1 (6.3%) | 2 (12.5%) | 4 (25%) | 10 (62.5%) |
| | Specialist | 1 (55.6%) | 4 (22.2%) | 4 (22.2%) | 11 (61.1%) | 2 (11.1%) | 5 (27.8%) | 9 (50%) | 3 (16.7%) | 6 (33.3%) |
| | Supportive staff | 86 (53.8%) | 37 (23.1%) | 37 (23.1%) | 90 (56.3%) | 35 (21.9%) | 35 (22.5%) | 51 (31.9%) | 43 (26.9%) | 66 (41.3%) |
| Marital Status | Married | 154 (36.2%) | 93 (21.8%) | 179 (42%) | 189 (44.4%) | 84 (19.7%) | 153 (35.9%) | 145 (34%) | 140 (32.9%) | 141 (33.1%) |
| | Single | 131 (45.5%) | 82 (24.6%) | 99 (29.6%) | 128 (38.4%) | 67 (20.1%) | 138 (41.4%) | 131 (39.3%) | 104 (31.2%) | 98 (29.4%) |

This shows that there was high emotional exhaustion among health professionals during COVID-19 responses. This is in concord with an earlier study that found that those who were directly involved in the diagnosis and treatment of COVID-19 patients showed a higher incidence and more severe symptoms of depression, anxiety, insomnia, and mental distress [7].

This study shows that more than 50% of the physicians experienced high emotional exhaustion compared to other health professionals. This outcome is similar to that of a previous study done during COVID-19 response where physicians were highly affected in anxiety and depression. The present result is also similar to the last study conducted in Ethiopia[17, 18]. The other study also showed that the health care workers who directly treated COVID-19 patients experienced higher stress levels[14].

This study indicated that male workers were more affected by burnout than the females during the COVID-19 pandemic response. This finding is comparable to a previous study done in Ethiopia which reported that being male and years of experience were significant risk factors for burnout[9].

**Table 7**: **Correlation Analysis among Burnout Subscale**

| | | DA | EE | PA |
|---|---|---|---|---|
| **DA** | Pearson Correlation | 1 | .366** | -.056 |
| | Sig. (2-tailed) | | .000 | .121 |
| **EE** | Pearson Correlation | .366** | 1 | -.085* |
| | Sig. (2-tailed) | .000 | | .018 |
| **PA** | Pearson Correlation | -.056 | -.085* | 1 |
| | Sig. (2-tailed) | .121 | .018 | |

***. Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).*

A study conducted in Italy and Spain, also indicated that significant gender differences were found in emotional exhaustion and depersonalization, with women showing lower levels of suffering than men[15 ,18]. A further study in Huelva showed that during the COVID-19 response, male nurses had a poorer state of mental health than females [18]. The findings of this study indicated that the marital status of the individuals affected the level of emotional exhaustion, depersonalization, and personal accomplishment. These findings are different from that of a study done in China where the unmarried, with less practice experience, or with lower educational levels were more likely to experience burnout [19]. Our finding shows that the greatest percentages of people with high emotional exhaustion and high depersonalization were those who had a partner and those that were married (53.7% and 33.7%), respectively. The finding in our study that the physicians, nurses, and Lab technologist suffered from moderate to high level of burnout is similar to the report of another study done in Philopenas during the COVID-19 response involving frontline health care workers [20].

Furthermore, our study also showed that emotional exhaustion is negatively correlated with personal accomplishment and directly related to depersonalization. The previous study also showed that high levels of emotional stress higher levels occurred simultaneously with lower personal accomplishment.

## CONCLUSION

This national survey demonstrated that health workforce was affected by burnout syndrome during the COVID-19 pandemic in Ethiopia. The results highlighted a significant prevalence of burnout among HCWs, particularly for those who served longer shifts. Married respondents showed a higher chance of getting burnout. This may be due to fear of catching an infection, with subsequent infection of the family members.

Besides the nurses, GP and Lab technologists have higher risk of exposure to burnout syndrome. This may be due to the lack of adequate PPE, and longer working time, coupled with the fear of contracting the infection.

## RECOMMENDATIONS

Immediate interventions are essential to activate psychological resilience and guide workers in the use of the most effective long-term coping strategies to protect their mental health.

There is need to align the design of interventions in all COVID-19 response areas (Mainstreaming the MHPSS). It necessary to conduct regular hardiness training which should include providing information on hardiness and analyzing coping strategies, and stress management concepts. Providing this type of intervention is crucial for the effective management of the infection, which should be a priority for frontline healthcare workers directly working on COVID-19 response programme.

It is necessary to implement immediate interventions that increase the activation of protective factors that can prevent and mitigate the development of serious psychological consequences.

Based on an accurate assessment of the workload shifting, there should be adequate alignment of incentives, and reward systems for health care workers with organizational and professional values. Further research is also recommended based on the limitations of the present study.

## STUDY LIMITATIONS

This study has limitations; the first limitation is that the study was a cross-sectional study. A longitudinal study would allow for a better analysis. The second limitation of this survey is in not addressing the last history risk factors of the respondents. Finally, the study lacks a comparison with other emergency workers.

**ABBREVIATIONS**
**BSc**: Bachelor of Science
**DP**: Depersonalization
**EE**: Emotional Exhaustion
**EPHI**: Ethiopian Public Health Institute
**EOC**: Emergency Operation Center
**GP**: General Practitioner
**HCW**: Health Care Worker
**HO**: Health Officer
**MBI-HSS**: Maslach Burnout Inventory Human Services Survey
**MHPSS**: Mental Health and Psychosocial Services;
**MPH**: Master of Public Health
**MOH**: Ministry of Health
**ODK**: Open Data Kite
**PA**: Personal Accomplishment
**PHEM**: Public Health Emergency Management
**PHEOC**: Public Health Emergency Operation Center
**RHB**: Regional Health Bureau

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S.A, Y.N, N.Y, A.C, Z. K, B.A, A.A, A.D, H.H, F.L, A, T, F.A, H.F, S.H, Z.A and A.A participated data collection training, data analyses and all authors were review and comment the document
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