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Factors associated with preventive practices of COVID-19 among health care workers in Dilla University Hospital, Southern Ethiopia

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Abstract

Implementation of prevention measures is essential for decreasing COVID-19 morbidity and mortality. In healthcare settings, wearing face masks, avoiding handshakes and spitting, and thoroughly washing hands with soap and water or using an alcohol-based hand rub have been recommended as preventive measures to reduce the risk of COVID-19 transmission. Therefore, this study aimed to assess factors associated with COVID-19 prevention practices among health care workers at Dilla university hospital in Southern Ethiopia. An institutional-based cross-sectional study was conducted among 238 health care workers in Dilla university hospital from June 13, 2021–July 12, 2021. A stratified random sampling techniques were used to select study participants. Data were collected by using pre-tested structured self-administered questionnaires. A binary logistic regression analysis was used to identify factors related to COVID-19 prevention practice among health care professionals. For statistical significance factors with p-value less than 0.05, an Adjusted Odds Ratio (AOR) with a 95% Confidence Interval (CI) was calculated and interpreted. One hundred thirty-four participants (56.3%, 95% CI: 50.0–60.3%) had good COVID-19 prevention practices. Being a frontline worker [AOR=12.6, 95% CI: 3.9–41.6], being female [AOR=0.7, 95% CI: 0.35–0.84], being a nurse [AOR=8.0, 95% CI: 2.4–27], and implementation of Infection Prevention and Control (IPC) guideline [AOR = 4.0, 95% CI: 1.56–10.08] were all factors associated with good COVID-19 prevention practice. COVID-19 prevention practices were low among healthcare professionals in the study settings. Being frontline worker, being a nurse, being female, and implementation of IPC guidelines were all associated with COVID-19 preventive measures practices among health care workers. Health care workers may need to improve the way and habit of practicing prevention methods towards COVID-19.

1. Introduction

COVID-19 is an emerging respiratory disease that was first reported in December 2019 in the Chinese city of Wuhan (WHO, 2020). The virus that causes COVID-19 is a severe acute respiratory syndrome coronavirus virus (SARS-CoV-2)-like corona virus that was previously found in Chinese bats. The virus is a zoonotic pathogen that can spread from animal to human and human to human (Zhou et al., 2020).

The virus has been declared as the pandemic on March 11, 2020, by World Health Organization (WHO) after 11 days of being declared as a public health emergency (ANWAR et al., 2021). Since the COVID-19 pandemic began (as of 20 August 2020), 219.3 million people have been infected and around 4.5 million have died, according to the WHO (ANWAR et al., 2021). The WHO has declared a public health emergency as a result of international worries about COVID-19’s highly contagious characteristics (Erdem and Lucey, 2021). On March 13, 2020, the first COVID-19 case was reported in Ethiopia, and measures to control the virus’s spread were quickly put in place. From March 13 to June 13, the Ethiopian federal ministry of health reported 309,351 people infected with COVID-19, with nearly 4692 people deaths (Erdem and Lucey, 2021).

COVID-19 is primarily transmitted through droplets and close contact (Ssebuufu et al., 2020). This virus infects the respiratory, enteric, neurologic, and vascular systems, causing a variety of diseases (Mathpati et al., 2020). It has a broad clinical spectrum, ranging from no symptoms to a severe form of respiratory illness such as acute respiratory distress syndrome (Deressa et al., 2021). Fever, fatigue, and cough were the most common COVID-19 symptoms. Sputum produc-
tion, headache, hemoptysis, and diarrhea were reported 7–9 times less frequently (Walle et al., 2021).

Prevention is essential for lowering COVID-19 morbidity and mortality. Physical or social separation, quarantining, ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face are all examples. In public places, the use of face masks or coverings has been recommended to reduce the risk of transmission (Apana et al., 2021).

The Ethiopia’s government has taken a number of steps to combat the spread of COVID-19 since the outbreak began, including closing schools, imposing spatial distance, requiring the wearing of medical face masks, and prohibiting travel to dense districts. Schools, universities, and businesses have moved to online platforms for distance learning and remote work as a result of the countrywide steps to combat the spread of COVID-19. This new lifestyle, enforced by staying at home and under quarantine, has brought new challenges socially, economically, physiologically, and psychologically (Sahu, 2020; Brooks et al., 2020; Mattioli et al., 2020; Nicola et al., 2020).

In the fight against the disease, Health Care Professionals (HCPs) are on the frontline (Elhadi et al., 2020). Due to their clinical function in hospital settings, they are extremely sensitive to SARS-COV-2 infection (Saqlain et al., 2020). The situation is particularly acute in low- and middle-income nations, where normal activities had already overwhelmed health-care resources prior to the outbreak of the pandemic. As a result, addressing hospital bed shortages using oxygen, ventilators, and Personal Protective Equipment (PPE) as key response measures may not be possible in such places (Lau et al., 2020). They mainly operate in frontline positions in isolation units, critical care units, Intensive Care Units (ICUs), and emergency units (Bentivegna et al., 2021).

A Cochrane review found that long and constantly changing location guidelines, a lack of management support, a lack of adequate isolation space, a lack of quality and adequate PPE, and a fear of patients being stigmatized if a mask is worn are all important barriers to healthcare workers following the IPC guidelines (Houghton et al., 2020).

Various literature has shown demographic, social and technological factors were known to affect the level of practices toward disease and its prevention (Bedford et al., 2020). Guidelines for healthcare workers and online refresher courses have been developed by WHO, Center of Disease Control (CDC), and various governmental organizations in various countries to boost the knowledge and prevention practice strategies but it needs better and consistent solutions to improve prevention practices towards COVID-19 (Jemal et al., 2020).

However, there are inadequate studies in the literature to assess COVID-19 prevention practices specifically among Ethiopian HCPs. The prevention practices of health care workers toward COVID-19, as well as its prevention strategies, play a critical role in the disease’s fight. Therefore, the objective of this study was to assess factors associated with COVID-19 prevention practices among health care workers at Dilla university hospital in Southern Ethiopia.

2. Materials and methods

2.1. Study setting

The study was conducted at Dilla university hospital in Dilla town, Gedeo zone, Southern Ethiopia. The hospital provides curative and rehabilitative services to over 2 million people in the southern Ethiopia and Sidama Regional State as catchment areas. The hospital now has eight wards with a total of 209 beds; Medical (37 beds), Surgical (32 beds), Obstetrics/Gynecology (33 beds), Pediatrics (47 beds), and Psychiatry (14 beds), adult ICU (8 beds), orthopedics (16 beds) and neonatal ICU (22 beds). There are 546 health care workers currently working in the hospital.

2.2. Study design and period

An institutional-based cross-sectional study was conducted from June 13, 2021-July 12, 2021 in Dilla university hospital.

2.3. Study population

All the healthcare workers in Dilla University Hospital treat both COVID-19 and non-COVID-19 patients.

2.4. Inclusion and exclusion criteria

2.4.1. Inclusion criteria

All health care workers in Dilla university hospital who were on duty during the study period.

2.4.2. Exclusion criteria

Health care workers who were critically ill, on annual leave and on maternity leave during the data collection period were excluded from the study.

2.5. Sample size and sampling technique

2.5.1. Sample size

The sample size of this study was determined by using Epi-info version 7 based on the assumption of a single population proportion formula by taking 95% confidence level, 5% margin of error and considering the previous study conducted in Ethiopia showed that 64% of health care workers had good practice towards COVID-19 preventive measures (Tamire and Legesse, 2020). The final sample size was 238 by adding a 10% non-response rate.

2.5.2. Sampling technique

The study subjects were chosen using a stratified random sampling technique. There were 546 health care workers in Dilla university hospital, divided into three categories: physicians (131), nurses (218), and others (laboratory, pharmacist, psychiatrist, environmental health, and anesthesiologists (197)), and the computed sample size was allocated proportionally to each category. We used a monthly salary payroll list of health care workers as a sampling frame to recruit study participants. Finally, 238 health care workers were participated in the study (Fig. 1).

2.6. Study variables

2.6.1. Dependent variable

COVID-19 prevention practice (Good /Poor).

2.6.2. Independent variables

Socio-demographic variables: Age, sex, marital status, occupation/profession, work experience or service year and level of education

Clinical related variables: Frontline status and chronic illness

Infrastructure-related variables: Training on COVID-19, availability of PPE, availability of disinfectants, availability of hand washing facility.

2.7. Operational definitions

Hand washing: Washing hands at critical times (i.e., before wearing gloves, after removing gloves, after and before patient examination, after touching the patients’ surroundings) and every contact or frequently by using water and soap.

Antiseptic hand rub: applying a waterless antiseptic agent (i.e. chemicals prepared with a mixture of alcohol, hydrogen peroxide and glycerin) to the hands to destroy or remove transient microorganisms.

Health care workers: an employee who performs clinical and para-clinical tasks in health care settings.
Fig. 1. Schematic presentation of sampling procedure of the study.

Good prevention practice: The respondents who answered “Yes” to at least 10 of the 16 prevention practice (i.e. using glove, using face mask, change glove for each patient, wash hands, use soap for hand wash, using sanitizer, practicing physical distance, avoiding, hand shaking, practicing self-quarantine, avoiding from going to crowded area, remove mask carefully, covering mouth during sneezing/coughing, wash hand after sneezing/coughing, wash hand after touching objects, avoiding to touch mouth, eye and nose) assessment questions.

Frontline health care workers: Workers who have direct contact with clients, medical equipment’s, patient-care surroundings.

2.8. Data collection instrument

The data were collected using self-administered structured questionnaires adapted from previous studies (Walle et al., 2021; Gebremedhin et al., 2021) and WHO recommended COVID-19 pandemic preventive practice (WHO 19 March 2020). The questionnaire was divided into three parts (Socio-demographic, infrastructures, and prevention practice parts). The questionnaire was written in English, translated into Amharic, and then retranslated back into English to ensure consistency. The data was collected by health professionals who had been trained in data collection techniques.

2.9. Data quality control

To ensure data quality, the questionnaire was pre-tested on 5% of the estimated sample size in another Gedeo zone hospital a week before the actual data collection time. Based on the results of the pretest, the data collection instrument was modified accordingly. The principal investigator and advisors reviewed the obtained data on a daily basis for completeness, accuracy, clarity, and consistency.

2.10. Data processing and analysis

The data was analyzed by using SPSS version 20. The socio-demographic, infrastructure, and COVID-19 prevention practices of the participants were summarized using percentages and frequencies. We used bivariate and multivariate logistic regression analysis. Each independent variable was tested on the dependent variables in bivariate logistic regression analysis, and those variables with p-values less than 0.25 were entered into multivariate logistic regression analysis. The final model took into account variables with p values less than 0.05 in the multivariate logistic regression analysis. Finally, for significant predictors of COVID-19 prevention practice, an odds ratio with a 95 percent confidence interval was calculated and interpreted. The result was presented by using tables and pie chart.

2.11. Ethical considerations

Dilla University College of Medicine and Health Science’s Institutional Review Board (DU-IRB) provided ethical approval and permission. After obtaining permission from the responsible body, each participant in the study provided verbal informed consent. The names of participants were not included in the questionnaires, and participants were given the option to withdraw from the study at any time during the interview.

3. Result

3.1. Socio-demographic characteristics

In this study, 238 health care workers participated with a 100% response rate; 136 (57.1%) of these participants were between the ages of 29 and 34 years old, and there was no significant gender difference. Of the total participants, 95 (39.9%) were nurses, 57 (23.9%) were physicians, and 86 (36.2%) were other health care workers. About 223 (93.7%) of participants had a bachelor degree or below and 15 (6.3%) had a master’s degree or above. Two hundred twenty-four participants, or 82.6%, considered themselves to be frontline health care workers in regards to COVID-19 (Table 1).
Table 1

The socio-demographic characteristics of healthcare workers in Dilla university hospital, 2021.

| Variable                  | Category                      | Frequency | %   |
|---------------------------|-------------------------------|-----------|-----|
| Age (in years)            | ≤28                           | 22        | 9.2 |
|                           | 29-34                         | 136       | 57.1|
|                           | 35-39                         | 68        | 28.6|
|                           | ≥40                           | 12        | 5.0 |
| Sex                       | Male                          | 121       | 50.8|
|                           | Female                        | 117       | 49.2|
| Work experience (in years)| <2                            | 84        | 35.3|
|                           | 2-5                           | 137       | 57.6|
|                           | >5                            | 17        | 7.1 |
| Marital status            | Married                       | 100       | 42.0|
|                           | Single                        | 138       | 58.0|
| Occupation                | Physician                     | 57        | 23.9|
|                           | Nurse                         | 95        | 39.9|
|                           | Others                        | 86        | 36.2|
| Level of education        | Bachelor degree and below     | 223       | 93.7|
|                           | Master's degree or above      | 15        | 6.3 |
| Chronic illness           | Yes                           | 0         | 0   |
|                           | No                            | 238       | 100 |
| Being frontline           | Yes                           | 124       | 52.1|
|                           | No                            | 114       | 47.9|
| Training on COVID-19      | Yes                           | 238       | 100 |
|                           | No                            | 0         | 0   |

Table 2

Prevention practice towards COVID-19 among health care workers of Dilla hospital (n = 238), Dilla, Southeast Ethiopia, June 2021.

| Prevention practice towards COVID-19 | Response | Frequency | %   | Frequency | %   |
|-------------------------------------|----------|-----------|-----|-----------|-----|
|                                     | Yes      |           |     |           |     |
|                                     |          |           |     |           |     |
| Using glove                         | 70       | 29.4      | 168 | 70.6      |     |
| Using face mask                     | 188      | 79        | 50  | 21        |     |
| Change glove for each patient       | 74       | 31.1      | 164 | 68.9      |     |
| Wash hands                          | 93       | 41.9      | 145 | 57.1      |     |
| Use soap for hand wash              | 74       | 31.1      | 164 | 68.9      |     |
| Using sanitizer                     | 68       | 28.6      | 170 | 71.4      |     |
| Practicing physical distance        | 4        | 1.7       | 234 | 98.3      |     |
| Avoiding hand shaking               | 215      | 90.3      | 23  | 9.7       |     |
| Practicing self-quarantine          | 21       | 9.1       | 217 | 90.9      |     |
| Avoiding from going to crowded area | 18       | 8.2       | 219 | 91.8      |     |
| Remove mask carefully               | 144      | 60.5      | 94  | 39.5      |     |
| Covering mouth during sneezing/coughing | 205     | 86.1      | 33  | 13.9      |     |
| Wash hand after sneezing/coughing   | 96       | 40.3      | 140 | 58.8      |     |
| Wash hand after touching objects    | 88       | 37        | 150 | 63        |     |
| Avoiding to touch mouth, eye and nose | 214     | 89.9      | 24  | 10.1      |     |

3.2. Magnitude of prevention practice towards COVID-19 of health care workers

About 205 (86.1%); 95% CI (81.5–91.3) were covering their mouth during sneezing and coughing and 188 (77%); 95% CI (73.5–84) were using face mask. It also showed that 68 (28.6%); 95% CI (22.7–34.5) of respondents were using sanitizers. In addition, only 4 (1.7%); 95% CI (0.4–3.4) of respondents were practicing physical distancing and 88 (37%); 95% CI (30.7–43.3%) of healthcare professionals were washed their hands after touching objects (Table 2).

3.3. Overall practice of respondents

Of the total participants (n = 238), 134 (56.3%); 95% CI (50 - 63%) were having good prevention practice and 104 (43.7%); 95% CI (37 - 50%) of participants were having poor practice towards COVID 19 prevention measures (Fig.2).

3.4. Factors associated with prevention practice towards COVID-19

Variables eligible for multivariable during bivariable analysis were sex, age, profession, level of education, work experience, being frontline status and follow IPC guideline. Among these variables: being female, being frontline working status, nurse in profession, and implementation of IPC guideline were significantly associated with prevention measures practices towards COVID-19.

Male healthcare professionals were 30% less likely to practice COVID-19 prevention measures compared to females’ health care workers, [AOR: 0.7, 95%CI: 0.35–0.84]. Healthcare professionals who worked in-frontline were 12.6 times more likely to practice COVID-19 prevention methods than non-frontline healthcare professionals [AOR: 12.6, 95%CI: 3.9 - 41.6]. Nurse in professions were 8 times more likely practice COVID-19 preventive methods than other professions [AOR= 8.0, 95% CI: 2.4 - 27]. Those participants who implement IPC guidelines were 4 times more likely to practice COVID-19 prevention measures than those who don’t follow IPC guidelines [AOR = 4.0, 95% CI;1.56 - 10.08] (Table 3).

4. Discussion

The findings of this study revealed that 56.3% (95% CI:50–63%) of health care workers had good COVID-19 prevention practices, which was lower than previous studies conducted in different Ethiopian hos-
pitals (63.5%) (Jemal et al., 2020), and (67%) (Tadesse et al., 2020). It is also lower than studies done in Makerere University Teaching Hospitals, Uganda (74%) (Olum et al., 2020) and a study done in Henan, China (89.7%) (Zhang et al., 2020). The difference could be described by the study period difference, the current study’s small sample size, a lack of infrastructure and materials such as hand washing facilities (lack of soap and water), disinfectants (alcohol and sanitizer), a scarcity of personal protective equipment (facemasks and gloves), and work overload.

This study found that 28.6% of participants used sanitizers (95% CI: 22.7–34.5), which is lower than similar studies done in Northern Ethiopia (Tadesse et al., 2020), Afghanistan (93%) (Raghavan and Jabbarkhail, 2020), and Pakistan (96.1%) (Saqijn et al., 2020). In this study, 79% (95% CI: 73.5–84%) of the participants wore facemasks, which is higher than in similar studies conducted in Ethiopia (67.3%) (Tadesse et al., 2020), and Makerere University Teaching Hospitals, Uganda (54%) (Olum et al., 2020). The reason for the low use of hand sanitizer and face mask is that Dilla university hospital does not provide them on a regular basis.

In addition, only 1.7% (95% CI: 30.7–43.3%) of participants in this study practiced physical distancing, which is significantly lower than another Ethiopian study (22.4%) (Jemal et al., 2020) and in Afghanistan (92%) (Raghavan and Jabbarkhail, 2020).

Female health professionals, frontline working status, nursing profession, and IPC guideline application were all found to be positively associated with good COVID-19 preventative practices in this study.

Male healthcare professionals were found to be less likely than females to use COVID-19 prevention measures. The findings of this study were supported by previous studies conducted among healthcare pro-

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Table 3
Bivariate and multivariable logistic regression analysis of factors associated with prevention practice towards COVID-19 among HCPs of Dilla university hospital, Ethiopia, 2021.

| Variables                | Practice         | COR (95% CI) | AOR (95% CI) | P-value |
|--------------------------|------------------|--------------|--------------|---------|
| Age (in years)           |                  |              |              |         |
| ≤ 28                     | Good n (%)       | Poor n (%)   |              |         |
| 29–34                    | 8 (5.9)          | 14 (13.5)    | 0.41 (0.09 - 1.72) | 0.88 (0.14 - 5.43) | 0.894 |
| ≥ 40                     | 7 (5.2)          | 5 (4.8)      | 1.00         |         |
| Sex                      |                  |              |              |         |
| Male                     | 52 (38.8)        | 69 (66.3)    | 0.32 (0.19 - 0.55) | 0.07 (0.35 - 0.84) | 0.026** |
| Female                   | 82 (61.2)        | 35 (33.7)    | 1.00         |         |
| Frontline                |                  |              |              |         |
| Yes                      | 85 (63.4)        | 39 (37.5)    | 2.69 (1.7 - 4.91) | 12.6 (3.9 - 41.6) | 0.000*** |
| No                       | 49 (36.6)        | 65 (62.5)    | 1.00         |         |
| Marital status           |                  |              |              |         |
| Married                  | 59 (44.1)        | 41 (39.4)    | 1.00         |         |
| Single                   | 75 (55.9)        | 63 (60.6)    | 1.00         |         |
| Level of education       |                  |              |              |         |
| Bachelor degree and below| Good n (%)       | Poor n (%)   |              |         |
| Master’s degree & above  | 7 (0.08)         | 8 (13.5)     | 1.51 (0.53 - 4.31) | 1.33 (0.11 - 16.4) | 0.822 |
| Work Experience (in years)|                  |              |              |         |
| <2                      | 31 (21.5)        | 53 (46.4)    | 0.32 (0.11 - 0.95) | 1.8 (0.11 - 27.0) | 0.669 |
| 2–5                     | 92 (63.8)        | 45 (39.4)    | 1.12 (0.39 - 3.32) | 5.4 (0.39 - 76.9) | 0.209 |
| >5                      | 11 (7.6)         | 6 (5.2)      | 1.00         |         |
| Profession               |                  |              |              |         |
| Physician                | 22 (16.4)        | 28 (26.9)    | 0.99 (0.46 - 2.03) | 0.5 (0.19 - 1.65) | 0.293 |
| Nurse                    | 82 (61.2)        | 39 (37.5)    | 2.6 (1.40 - 4.78) | 8.0 (2.4 - 27.0) | 0.001** |
| Other                    | 30 (22.4)        | 37 (35.6)    | 1.00         |         |
| implement IPC            |                  |              |              |         |
| Yes                      | 120 (89.6)       | 88 (78.8)    | 2.14 (1.11 - 4.76) | 4.0 (1.56 - 10.08) | 0.004** |
| No                       | 14 (10.4)        | 22 (21.2)    | 1.00         |         |

Note: AOR: Adjusted odds ratio; COR: Crude odds ratio; CI: Confidence Interval

* Statically significant at p<0.05.
** Statically significant at p< 0.01.
*** Statically significant at p< 0.001.
professionals in Ethiopia (Amsalu et al., 2021; Kassie et al., 2020), as well as other studies conducted in USA (Pfluegeisen and Mou, 2021), China (Zhong et al., 2020) and Malaysia (Azlan et al., 2020), which also reported that females adhered to COVID-19 preventive measures more than males. One possible explanation is that female health care workers are concerned about COVID-19 transmission to their families due to their close proximity to their children. Other possible explanations for this difference include female workers being more meticulous or having more associations than male workers.

Frontline healthcare professionals were 12.6 times more likely than non-frontline healthcare professionals to use COVID-19 prevention measures. A study conducted among healthcare workers in Riyadh, Saudi Arabia, supported the findings of this study (Mohammed Basheeruddin Asdaq et al., 2021). The possible explanation might be frontline workers consider themselves more exposed at a higher risk of infection other workers and fear of the disease.

Nurses were 8 times more likely to practice COVID-19 preventive measures than other health professions. This study finding was in line with the study conducted in Riyadh, Saudi Arabia among healthcare professionals (Mohammed Basheeruddin Asdaq et al., 2021) and study conducted in the Amhara region of Ethiopia (Asemahagn, 2020). One possible explanation is that nurses have the most consistent day-to-day contact with patients, so it is critical that they follow standard infection control and transmission-based precautions to prevent the spread of healthcare-associated infections and resistant organisms. Moreover, they may be more adherence to COVID-19 preventive measures than other health care professionals because they are assigned in high-risk procedures such as aerosol generating procedures.

Furthermore, good prevention practices among health care workers were significantly associated with the implementation of IPC guidelines. Health care workers who implement infection prevention and control IPC guidelines were 4 times more likely to use COVID-19 preventive measures than workers who did not follow IPC guidelines. This study’s findings were consistent with those of previous studies conducted among health care workers in the Amhara Region of Ethiopia (Asemahagn, 2020), and among Nigerian health care workers (Ilesanmi et al., 2021). The possible explanation for good practices is that workers who implement IPC guidelines had a higher level of awareness and knowledge about preventive practices for COVID-19.

4.1. Limitation of study

The study’s potential limitations included a small sample size, the study being conducted in a single health facility, and participants answering practice questions positively based on what they perceived to be expected of them, which could result in an over or under estimation of preventive practices for COVID-19. Furthermore, some confounding variables were not addressed during the assessment of preventative practices.

5. Conclusion

The magnitude of good prevention practice towards COVID-19 among healthcare professionals of Dilla university hospital was low (relative to previous studies). Being female, being a nurse professional, implementation of IPC guidelines, and frontline working status were significantly associated with good prevention practice towards COVID-19. It is a better requirement to have COVID-19 personal protective equipment available for health care workers. The pandemic is becoming more difficult and dispersed from time to time. Health care workers are on the frontlines of this pandemic, and it is critical to prevent transmission from HCWs to patients and vice versa. Health care workers may need to improve their methods and habits of practicing prevention in the face of the COVID-19 pandemic, which may necessitate training, capacity building, adherence to safety measures, compliance monitoring, and so on.

Author’s contribution

AT: Conceptualization. HEH and ZA: Data curation, Formal analysis, Investigation, Methodology, Software, Supervision and Validation. ZA, HEH, NES, AWK, NM and WM: Writing original draft, Writing review and editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Availability of data

Data will be made available by request.

Ethical consideration

Both verbal and written consent were considered and supportive letters from Dilla University college health science and medicine and different stakeholders have been secured and also Approval from IRB of the university was secured before the implementation of the research. Verbal informed consent was also obtained from the study participants before the study.

Finding

Not applicable.

Acknowledgement

We would like to express our gratitude to Dilla University and the College of Health Science and Medicine for their support in completing the study.

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