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An Impact Evaluation of COVID-19 Training Program: Knowledge and Awareness of Public Health Professionals of Province Five, Nepal

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An Impact Evaluation of COVID-19 Training Program: Knowledge and Awareness of Public Health Professionals of Province Five, Nepal

**Submitted
by**

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The COVID-19 knowledge enhancement training program was a collaborative project supported by the Project HOPE organization and Brown University's curricular delivery team. The project was executed by local partner Pratiman Neema Memorial Foundation (PNMF) with support from the Ministry of Social Development of Province 5, Nepal. The research component was carried out by the Nepal Study Center (NSC) of the University of New Mexico (UNM).

Keywords: COVID-19, Nepal, training, mental health, healthcare workers, impact evaluation, public health, population health, health behavior

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Executive Summary

The global COVID-19 pandemic has become the primary focus for many nations worldwide, with the world's developing nations being especially hard hit. Given the lack of resources and capacity to deal with these economic/social shocks, Nepal is expected to need a lot of healthcare system supports. To improve the effectiveness of diagnosis and treatment of COVID-19 positive patients, a COVID-19 training program was implemented as part of a collaborative project between Health Oriented Data Education (Project HOPE), the Pratiman Neema Memorial Foundation (PNMF), Brown University, and the Nepal Study Center (NSC) at the University of New Mexico.

Through a two-level protocol, eighteen healthcare professionals were trained on topics related to the pandemic and its management, from which eight went on to be the master trainers of over 1,800 additional healthcare workers in five different districts (Rupandehi, Dang, Pyuthan, Gulmi, Banke) of Province 5 in Nepal. As a part of this training, participants were given a survey before (N=1,531) and after (N=1,062) their training to ascertain their gains in knowledge on the topics. Additionally, information was gathered on interpersonal resources, level of worry, training perception (post-only) and mental health (pre-only). These data permitted preliminary insights on the mental/emotional wellbeing of these workers amidst the first part of the pandemic and provided information on the acceptability of the training program.

Using both visual and statistical testing, the following key takeaways on these research objectives have been reached:

1. Overall, Project HOPE's COVID-19 training program has improved trainees' COVID-19 knowledge.
2. Multiple-choice questions appear better at evaluating trainees' COVID-19 knowledge than true/false questions.
3. Trainees had a positive reaction to Project HOPE's COVID-19 training program.
4. Health workers who participated in Project HOPE's COVID-19 training program are suffering from mental/emotional distress, with females more driven by anxiety/depression and males by social dysfunction.

Overall, while this project presents the efficacy of Project HOPE's COVID-19 training program, more investigation is required to determine the underlying factors driving these trends (i.e., better demographic information). Moreover, more investigation is required to better understand health-workers' mental health status, to allow for better recommendations on potential supports/interventions to be put in place.

1. Introduction

With the declaration of a worldwide pandemic in March 2020 (World Health Organization 2020), COVID-19 has become a primary focus of governments and public health systems across the world with increases in infection and death rates. By mid-April 2020, more than 80% of countries had imposed containment and mitigation measures. But for developing nations, the threats of this global pandemic are more acute given the lack of resources and the capacity to deal with a shock of this magnitude (Loayza 2020). Despite calling for a lockdown on March 24th, 2020 (Pradhan 2020), Nepal faces several public health challenges including limited coordination between different stakeholder groups and few policies in place for infection prevention control. Additionally, with high population density in cities (which makes social distancing measures difficult), poor baseline hygiene practices, and lower (health) literacy rates, the outlook for Nepal successfully managing the COVID-19 pandemic has not looked promising (Asim et al. 2020).

In developing countries, such as Nepal, lockdowns may be ineffective, burdensome, and costly. The key public health policy focus in these underdeveloped countries is to look for mitigation strategies that are sustainable and cost-effective, including personal and public hygiene improvement (Loayza 2020). Associated with such goals are improvements in training and knowledge enhancement (McEachan et al. 2016). For healthcare workers, such focus is even more critical because the effectiveness of healthcare sectors during public health emergencies primarily depends on the availability, motivation, and skills of frontline healthcare workers (FHWs). Thus, healthcare workers' knowledge and their perceived willingness to work during uncertain times is essential (Watt et al. 2010).

In Nepal, early assessment of these topics has revealed low levels of knowledge surrounding COVID-19 pandemic management, as well as low confidence in the government's ability to "win" the fight, culminating in several FHWs being unwilling to work during the beginning of the COVID-19 pandemic (Limbu, Piryani, and Sunny 2020; Upadhyaya et al. 2020). In general, such findings have motivated the necessity to introduce better training programs for FHWs and healthcare workers within Nepal, to help increase the capacity and speed with which the country can manage and recover from the COVID-19 pandemic. In such a vein, a research project was undertaken in collaboration with Project HOPE to assess the efficacy of an online training program to enhance healthcare workers' knowledge on topics associated with general pandemic management, and, more particularly, COVID-19 management. Additionally, this project produced insight into the mental/emotional wellbeing of these workers amidst the early stages of the pandemic and provided information on the acceptability of the training program.

2. Study Specifics

2.1 Project Overview

A COVID-19 knowledge enhancement training program was developed and implemented as a collaborative project supported by Project HOPE and Brown University's curricular delivery team. The project was executed by the local partner Pratiman Neema Memorial Foundation (PNMF), with support from the Ministry of Social Development of Province 5, Nepal. The research component was carried out by the Nepal Study Center (NSC) of the University of New Mexico (UNM). Using two surveys collecting data on participants before and after the training program, the research team aimed to assess the extent of knowledge change produced by the training program, the impact/acceptability of the curriculum to participants, and to gain a snapshot of the mental/emotional status of trainees, given growing evidence of the emotional toll that the global pandemic is having worldwide.

2.2 Implementation

The training program was undertaken through a two-level training approach, focusing on five different districts of Province 5 in Nepal ((Rupandehi, Dang, Pyuthan, Gulmi, Banke). The first level, “Train-the-Trainer”, had an aim to strengthen health workers’ COVID-19 preparedness by providing information on the critical skills and knowledge necessary to respond rapidly and efficiently to the virus in Nepal. The purpose of this stage of training was to engage a select group of master trainers and coach new trainers. This allowed Project HOPE and the Center for Human Rights and Humanitarian Studies to quickly build a cadre of competent instructors who could then teach the material to other health workers in their community. The second level of the training program was undertaken with the goal to scale down the first-level training curriculum to target medical health professionals and health allied students. Selected participants from the Master Trainer Program were used to train others, with a target of 200 participants for each master trainer (further details of the master trainers can be found in the appendix to this report).

The evaluation of participants’ COVID-19 knowledge before and after the training program was based on questionnaires developed to track the modules of the training program. Virus awareness questions covered the biology, pathophysiology, and transmission mechanisms of COVID-19; Infection Prevention and Control; Surveillance (passive and active contact tracing); Screening and Triage; Stabilization and Resuscitation; Diagnosis and Management; Health Facility Operations and Surge Capacity; and Risk Communication and Public Health Messaging. First-level trainee surveying was completed using an online method (through Google drive). Like the first-level, trainees in the second level were surveyed both before and after the training, using both in-person and online surveys (Survey Monkey) to collect data.

In addition to the aforementioned virus awareness questions, the survey conducted before the training also collected information on demographics, interpersonal resources, level of worry, and mental health. The post-training surveying collected additional information on interpersonal resources, level of worry, and training perception. By collecting information on level of worry and interpersonal resources, along with the virus awareness questions, researchers could then analyze any shifts in these elements as a result of (potential) knowledge gains surrounding the pandemic (further details on the structure of the survey questions and their components can be found in the appendix to this report).

2.3 Sample Description

For the first level of the training, eighteen medical health professionals such as doctors, nurses, public health workers and medical practitioners from the districts of Rupandehi, Dang, Pyuthan, Gulmi, and Banke were selected for the Master Trainer Program. This online training was undertaken from 11th May 2020 to 14th May 2020. Twelve of these master trainers were then invited to lead a second level of training. Ultimately, eight trainers completed a training session from September 1st to 25th October 2020. This culminated in 1,800 participants being trained during the second level of training. Of those trained, 1,531 individuals completed the pre-training survey, and 1,052 individuals completed the post-training survey.

3. Analysis and Results

As mentioned, key research objectives of this project entailed examining the changes in knowledge surrounding COVID-19, the impact/acceptability of the training curriculum, and an assessment of the mental/emotional health of participants in the early-stages of the pandemic. For each objective, indices were created (as appropriate) and differences in the measures’ scores, before and after the training, were compared using visual representations and statistical tests. Each objective is presented separately in the following subsections, with further details on the tests, outcomes, and key findings.

3.1 Analysis: Knowledge Enhancement

To assess changes in knowledge surrounding the topics covered by the COVID-19 training, each question was recoded (0 = Incorrect, 1 = Correct) and classified as either True/False (TF) or Multiple-Choice Correct (MCC). Within each module-topic, a summation index of TF and MCC relevant questions was created, along with cumulative TF and MCC indices and a total cumulative index of all virus knowledge questions. (Further details on the variable definitions and coding scheme can be found in the appendix to this report).

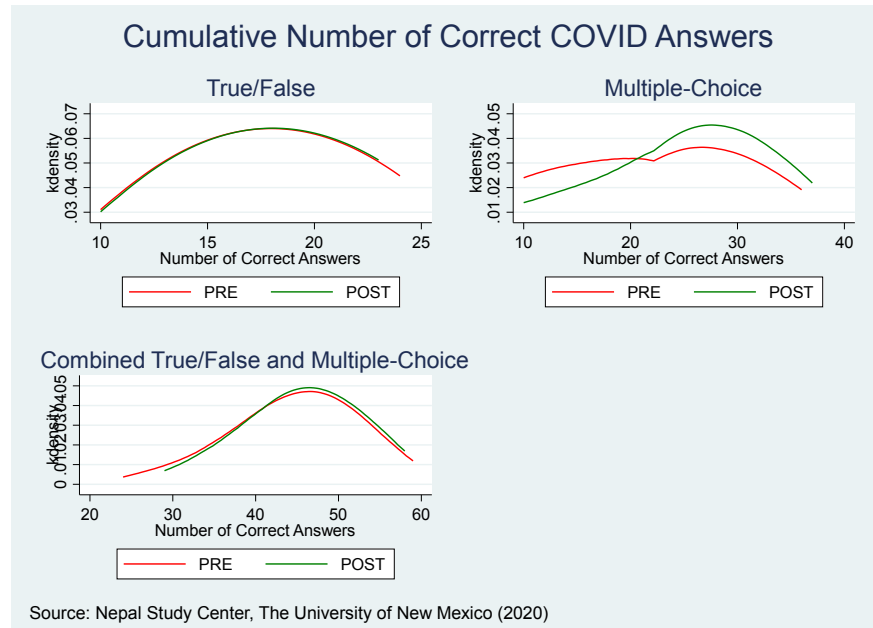
When originally designing the survey, IP addresses were collected to easily link each trainee's pre-training responses with their post-training responses. However, many trainees used different electronic devices before and after taking the training program. This reality meant after merging the data, the sample was reduced to an unacceptable number of observations (under 250 observations). Because of this setback, the main analysis was performed without merging the pre- and post-training datasets by observation. Instead, the datasets were appended (or added to one another) and analyzed as separate entities (with over 1000 observations each). An indicator variable called *MARK* distinguished the pre- and post-training datasets from one-another (indicator variable with 0 = Pre-Training and 1 = Post-Training).

After organizing the data, multiple visual representations were created to illustrate the changes in COVID-19 knowledge, on average. Following this, statistical tests were performed to indicate whether there was a significant change in knowledge before and after the completion of the training program. This process was performed for both the cumulative indices and for each module-topic.

3.1.1: Cumulative Indices

As seen in Figure 1, although minimal, there is a slight indication of improvement in the number of correct TF questions based on post-training surveying compared to pre-training. There is a more noticeable shift from bimodality to unimodality shown in the multiple-choice visualization (this change is going to be investigated further by the project researchers and addressed elsewhere). When combined, the complete cumulative distribution indicates an obvious shift towards the positive (i.e. right) direction. All these shifts indicate an improvement in the number of questions answered correctly, thus indicating a positive shift in overall COVID-19 knowledge.

FIGURE 1



To formally assess the significance of the observed differences in COVID-19 knowledge before and after the COVID-19 training program, the following statistical tests were implemented for each cumulative index: unpaired t-test, Welch’s t-test, Wilcoxon rank-sum test, and Kolmogorov-Smirnov test. Results of these tests are reported in the table below.

Table 1: Cumulative Index Hypothesis Table

Index Name	Unpaired t-test	Welch’s t-test	Wil. rank-sum test	K-S test
<i>CumulativeTFIndex</i>	-0.71	-0.71	-0.92	
<i>CumulativeChkIndex</i>	-8.89***	-9.07***	-8.33***	***
<i>CumulativeCorrIn~x</i>	-2.13**	-2.16**	-1.72*	

* $0.10 > p > 0.05$ ** $0.05 > p > 0.01$ *** $0.01 > p$

The statistical tests confirm the observations made when reviewing the cumulative index visualizations (Figure 1). The negative numbers in the hypothesis table indicate a rightward shift in the distribution. The asterisks indicate statistical significance based on the p-value (one asterisk indicating weak significance and three asterisks indicating strong significance). Primarily, the table indicates that there is a highly significant statistical difference in correct multiple-choice responses between pre- and post-training datasets. This indicates when observing the MCC questions, the training program significantly improved trainees’ COVID-19 knowledge. Furthermore, the table shows there is no statistically significant difference in correct TF responses between pre- and post-training datasets, indicating that the training program had no effect on trainees’ COVID-19 knowledge, when assessed through a true/false set-up. Finally, the table indicates there is a moderately significant statistical difference in TF and MCC question responses between pre- and post-training datasets, when viewed collectively. This would indicate, in totality, the training program moderately improved trainees’ COVID-19 knowledge (with true/false questions dragging down the significance).

These results also would imply the multiple-choice questions likely better evaluate the efficacy of the COVID-19 training program’s effect on knowledge. However, to determine which individual indices contribute to the behavior in the cumulative visualizations, analyses were performed on each of the MCC and TF indices.

3.1.2 Multiple Choice Correct Indices

Visual representations were generated for each multiple-choice index (Figure 2). Following this, the same statistical tests (unpaired t-tests, Welch’s t-tests, Wilcoxon rank-sum tests, and Kolmogorov-Smirnov tests) were performed on each multiple-choice index (as were performed on the cumulative measures). Results of these tests are shown in Table 2.

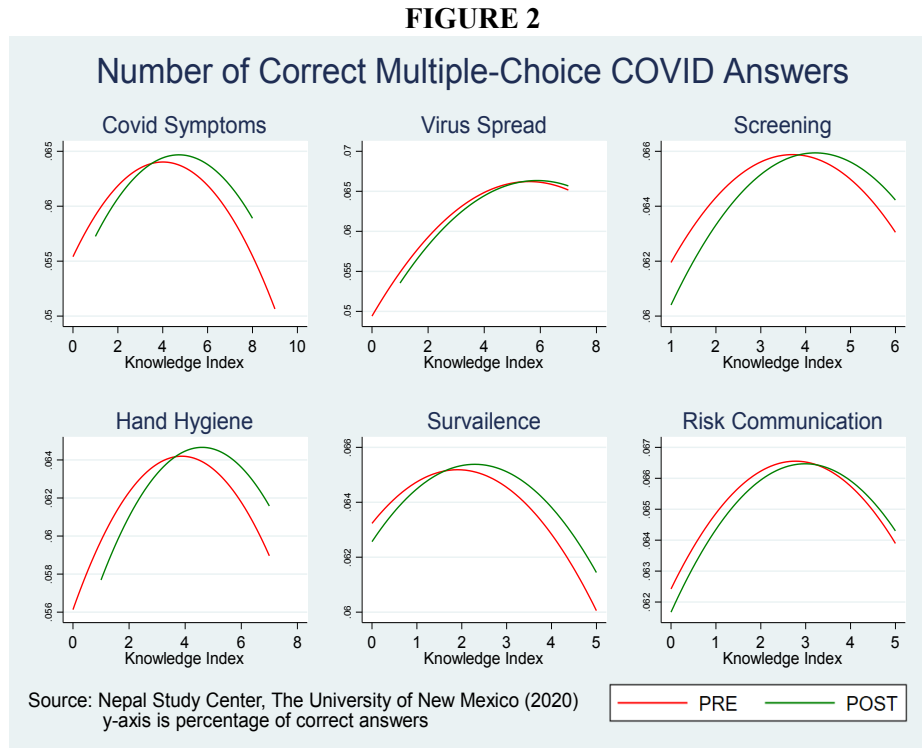


Table 2: Cumulative Multiple Choice Index Hypothesis Table

Index Name	Unpaired t-test	Welch’s t-test	Wil. rank-sum test	K-S test
<i>CovidSymIndex</i>	-7.79***	-7.97***	-7.24***	***
<i>VirusSpreadIndex</i>	-5.86***	-5.95***	-7.04***	***
<i>ImpForScreenIndex</i>	-8.55***	-8.59***	-8.41***	***
<i>HandHygIndex</i>	-8.11***	-8.24***	-7.69***	***
<i>IMPSeveilIndex</i>	-5.20***	-5.25***	-5.85***	***
<i>RiskCommImpIndex</i>	-5.25***	-5.18***	-5.27***	***

* 0.10 > p > 0.05 ** 0.05 > p > 0.01 *** 0.01 > p

All the multiple-choice indices have a visible rightward shift. This shows an improvement in the number of multiple-choice questions answered correctly, thus indicating a positive shift in overall COVID-19 knowledge. These initial interpretations are confirmed by the statistical tests, indicating a highly significant statistical difference in correct responses between pre- and post-training datasets across all multiple-choice indices. This indicates, when observing the multiple-choice questions, that the training program significantly improved trainees’ COVID-19 knowledge in each section/module (represented by an index).

3.1.3 True/False Correct Indices

as was done with the MCC questions/indices, visual representations were generated for each TF index (Figure 3). Additionally, the same sequence of statistical tests was performed on each TF index. Results of these tests are shown in Table 3.

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FIGURE 3

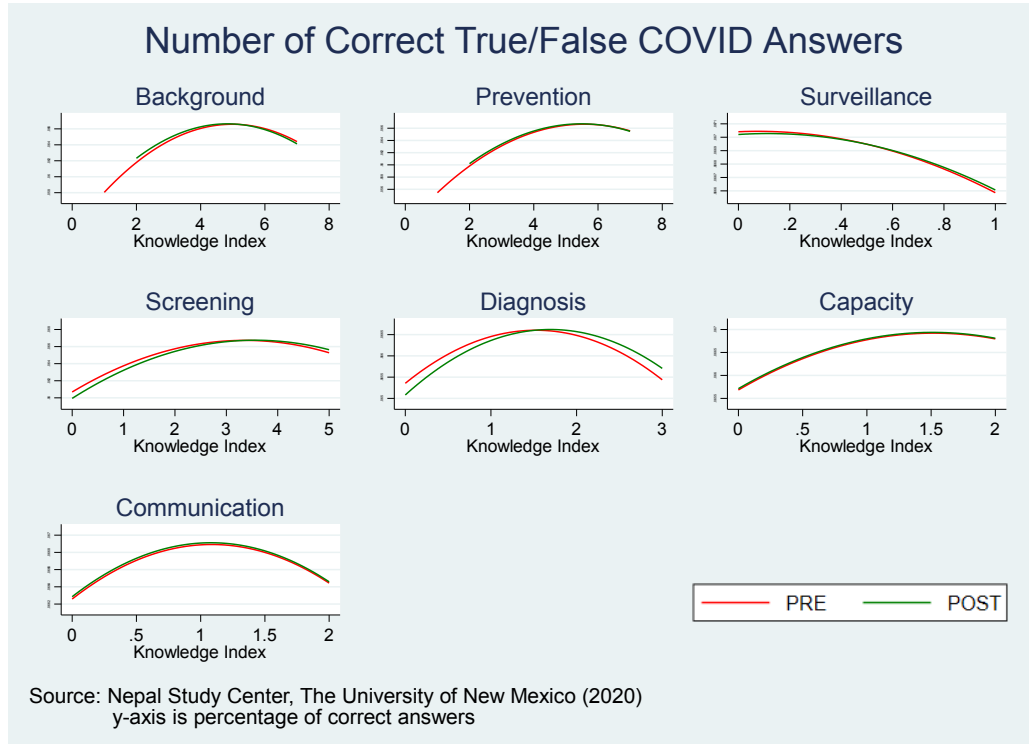


Table 3: True/False Index Hypothesis Table

Index Name	Unpaired t-test	Welch's t-test	Wil. rank-sum test	K-S test
<i>BackGroundIndex</i>	3.52***	3.54***	3.90***	**
<i>PreventionIndex</i>	2.16**	2.18**	3.14***	**
<i>SurveillanceIndex</i>	-2.32**	-2.27**	-2.32**	
<i>ScreeningIndex</i>	-5.31***	-5.32***	-5.52***	***
<i>DiagnosisIndex</i>	-3.71***	-3.72***	-3.68***	**
<i>CapacityIndex</i>	0.27	0.28	0.63	
<i>CommunicationIndex</i>	0.20	0.20	0.26	

* 0.10 > p > 0.05 ** 0.05 > p > 0.01 *** 0.01 > p

The indices representing background and prevention materials shift leftward while surveillance, screening, and diagnosis measures shift rightward (the capacity and communication measures show no

change). These findings point to inconsistent improvement in the number of true/false questions answered correctly, thus indicating no shift in overall COVID-19 knowledge. The statistical tests shown in Table 3 confirm the observations made when reviewing the true/false index visualizations. There are contradictory statistical differences across all true/false indices. The surveillance index, screening index, and diagnosis index have a statistically significant rightward shift in knowledge, while the prevention index and background index have statistically significant leftward shifts in knowledge. The capacity index and communication index have no statistical difference between the pre-training and post-training datasets. This indicates when observing the true/false questions in their totality, the training program does not consistently improve trainees' COVID-19 knowledge in each section/module (represented by an index).

3.2 Analysis: Curriculum Impact/Acceptability

A key component of assessing the efficacy and feasibility of a training program is to assess its acceptability by the trainees who participated. To evaluate the programs efficacy, a variable was generated to essentially determine how training expectation differed from training experience. From the pre-training survey, participants were asked to rate the following statement: "Overall, my expectation is that the training program will enhance my knowledge about coronavirus (COVID-19)". Those participants who completed the post-training survey were similarly asked: "Overall, I feel that the training program enhanced my knowledge about coronavirus (COVID-19)".

For both statements, the rating responses were Likert scaled such that 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. These statements were combined into one variable that could be separated by an indicator (dummy) variable distinguishing the pre- and post-training datasets from one-another. After organizing the data, a visual representation was created to illustrate the differences between training expectation and training experience. Following this, statistical tests (unpaired t-tests, Welch's t-tests, Wilcoxon rank-sum tests, and Kolmogorov-Smirnov tests) were performed to indicate whether any perceived changes were statistically significant.

FIGURE 4

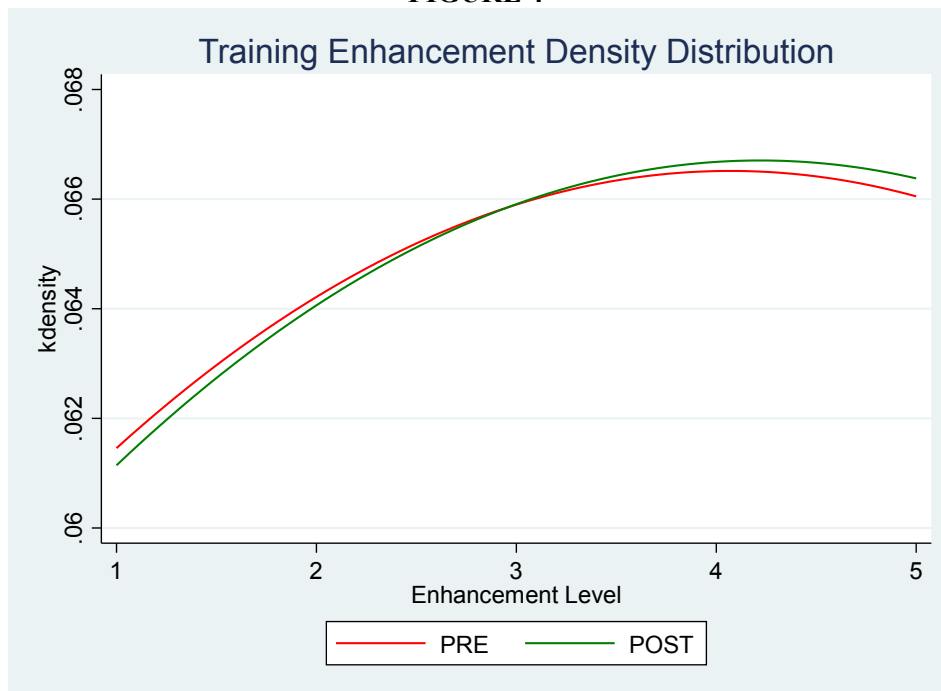


Table 4: Training Expectation vs. Training Experience Hypothesis Table

Index Name	Unpaired t-test	Welch's t-test	Wil. rank-sum test	K-S test
<i>BackGroundIndex</i>	-3.16***	-3.26***	-2.20**	
	* 0.10 > p > 0.05	** 0.05 > p > 0.01	*** 0.01 > p	

The statistical tests confirm observations when reviewing the visualization (Figure 4). The table shows a significant statistical difference in perception between pre- and post-training datasets. This indicates trainees' perception of the training program significantly improved.

3.3 Analysis: Mental/Emotional Health Assessment

The uncertain prognoses, risks of depletion of resources, potential financial losses, public health measures which force isolation and a number of other stressors associated with a global pandemic such as COVID-19 are believed to contribute to widespread emotional distress and increased risks for psychiatric illnesses (Pfefferbaum and North 2020; Brooks et al. 2020). In particular, health care workers may be particularly prone to emotional distress during a pandemic given increased risks of exposure at work, longer work hours, shortages of personal protective equipment (PPE), and the need to balance work-related risks with managing their own family's health (Vigo et al. 2020; Kang et al. 2020; Spoorthy, Pratapa, and Mahant 2020). Given such evidence, we surveyed the training participants on their emotional wellbeing using the Generate Health Questionnaire (GHQ-12).

The GHQ-12 which has been used in many contexts and translated into over 38 languages (Jackson 2007), has been adopted and validated across the developing world (Anjara et al. 2020; Fernandes, Hayes, and Patel 2013; Patel et al. 2008), to assess common psychiatric disorders and help identify those people potentially in need of mental health treatment and support. This 12-item survey instrument asks respondents to report how they have felt in reference to their normal status on a number of items which align with symptoms of anxiety/depression, social dysfunction, and loss of confidence (Goldberg and Hillier 1979; Goldberg et al. 1997). There are two scoring methodologies: bimodal and Likert. The latter is a four-point scale where 0 refers to the symptom being not present/better than usual and 3 refers to the symptom being much more prevalent than normal. Higher scores in summation of the 12-items indicate greater likelihood of psychological difficulties, with a cutoff of 12 as indicative of likely clinical diagnosis of a mental health condition, and a score over 24 indicating severe mental/emotional distress (Marques et al. 2021). In the bimodal scoring approach, the four Likert levels are divided into (0,0,1,1), and the summation of the 12-items results in a score ranging from 0-12, where a score over 5 is indicative of the likely need for mental health treatment.

Table 5: GHQ-12 Assessments

	Mean	Range	% Indicated
Bimodal Indication of	3.95	0-12	40% (<i>Score > 4</i>)
Likert Scale of MH Issues	13.71	0-36	57.8% (<i>Score > 12</i>)
FACTOR	Scale Category	Count	%
Total GHQ-12 (N=623)	NORMAL	263	42.22%
	HIGH	339	54.41%
	SEVERE	21	3.37%
Anxiety and Depression (N=639)	NORMAL	294	46.01%
	HIGH	272	42.57%

	SEVERE	73	11.42%
Social Dysfunction (N=637)	NORMAL	353	55.42%
	HIGH	245	38.46%
	SEVERE	39	6.12%
Loss of Confidence (N=649)	NORMAL	454	69.95%
	HIGH	138	21.26%
	SEVERE	57	8.78%

As shown in Table 5, the results from both scoring approaches are presented for the study sample, with further breakdowns based on severity and the three factors identified as being captured by the GHQ12 instrument. As can be seen, 40% of respondents would be indicated as likely needing mental health treatment based on the bimodal scoring approach.

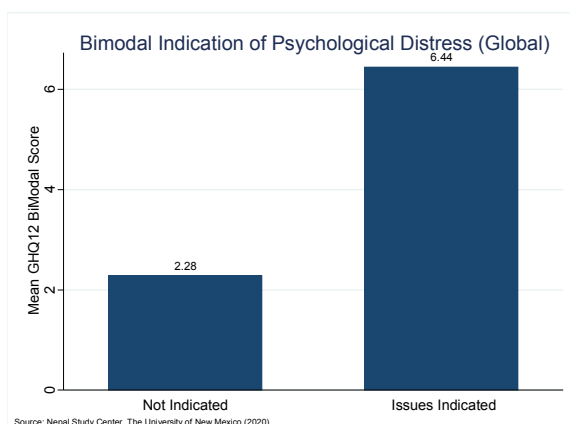


FIGURE 5

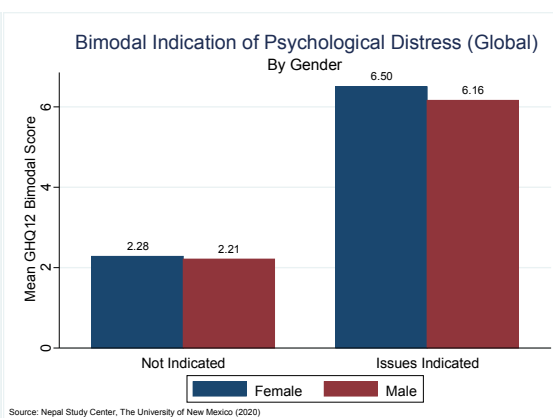


FIGURE 6

As shown in Figure 5, the average score was 2.28 for those not indicated, versus 6.44 among those indicated (range is 0-12). These values appear to be similar across genders (Figure 6), although females appear to score slightly higher within both the non-indicated and indicated groups.

Evaluation based on the Likert-scoring approach shows that 57.8% of the sample would be identified as needing mental health treatment. Globally, 54.4% of respondents scored in the “High” category and 3.4% the “Severe”. Breaking down the global measure into the three subcomponents, 53.1% of respondents scored in the “High” or “Severe” range for anxiety/depression related symptoms/behaviors, while 44.6% and 30% of respondents scored in the “High” or “Severe” range for social dysfunction and loss of confidence-related measures, respectively.

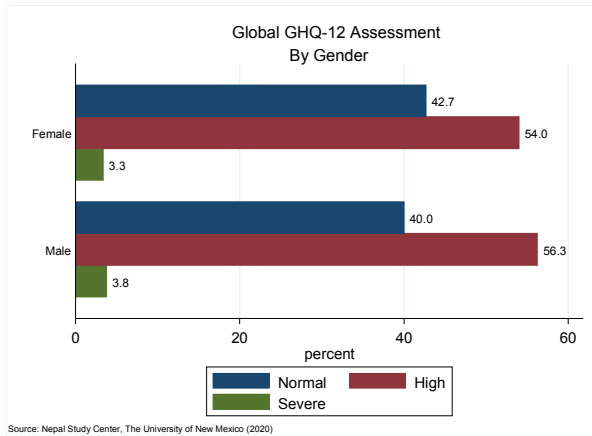


FIGURE 7

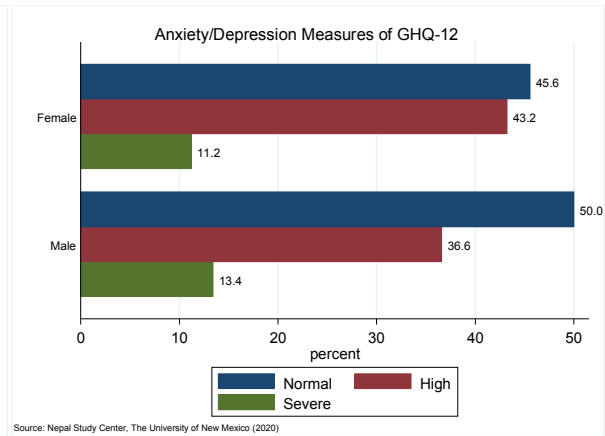


FIGURE 8

Across genders, men appeared on average to have slightly higher prevalence of both “High” and “Severe” categorization (Figure 7). We also see that women appear to have higher prevalence of anxiety/depression symptomology with 54.4% of women scoring in the “High” or “Severe” range versus 50% of men (Figure 8).

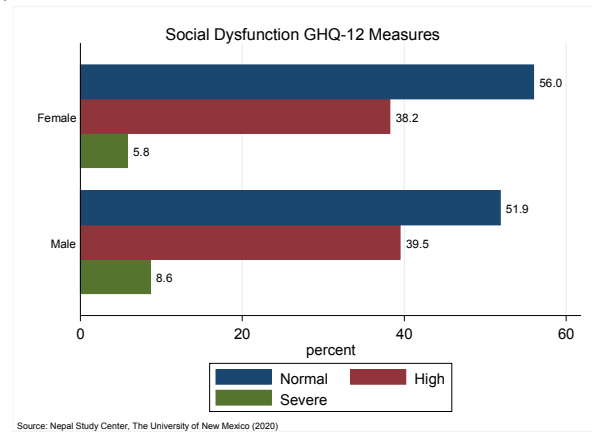


FIGURE 9

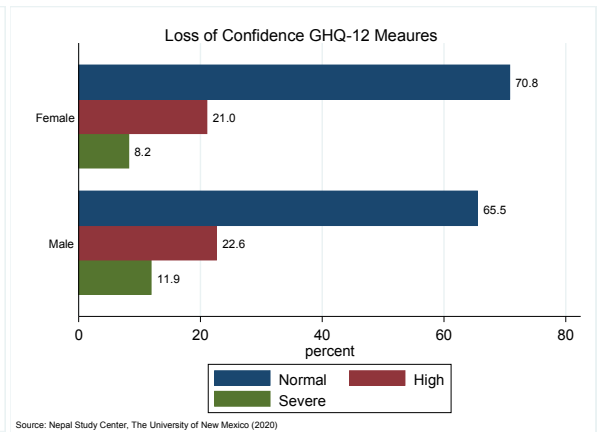


FIGURE 10

Social dysfunction and loss of confidence measures, however, show higher prevalence among men than women (Figure 9 and Figure 10) in both “High” and “Severe” categorizations.

Thus, in summary, there is measurable suffering of emotional/mental health distress across the health workers who participated in the COVID-19 training program, regardless of gender. However, females, on average, appear to be exhibiting more anxiety/depression related distress. This finding fits with existing evidence from literature that indicates such disorders are 1.5-2x more prevalent among women, throughout the world, including Nepal (Kohrt and Worthman 2009; Luitel et al. 2013; Silverstein 2002). Males, on the other hand, appear to be, on average, suffering more from social dysfunction and loss of control-related distress. This is in alignment with cultural/gender roles of the Nepali region, where men typically play a more social role and interact with the outside environment more frequently. The loss of social interaction/support due to pandemic related restrictions may be more strongly felt for men than women (Vlassoff 2007).

Conclusions and Recommendations

The research objectives from this project included the assessment of knowledge enhancement from participation in a COVID-19 training protocol, evaluation of the acceptability of the training itself, and a snapshot of the emotional/psychological wellbeing of healthcare workers participating in the training during the first part of the worldwide COVID-19 pandemic. Each of these objectives has been met and provide some initial insights on policy recommendations.

There is evidence to support the effectiveness of the training program in eliciting knowledge enhancement. All three approaches (cumulative, true/false (TF), and multiple choice correct (MCC)), indicate that there are statistically significant improvements in knowledge/awareness of COVID-19 and appropriate treatment protocols. The strongest results are found in support of the measures based on MCC form questions. This implies when evaluating the effectiveness of such a training, multiple-choice questions may be better utilized to assess trainees' general COVID-19 knowledge than true/false-style questions. Regardless of these findings, participants appear to react favorably to the training itself, generally holding positive reactions to their experience. Together, these findings recommend Project HOPE's free COVID-19 training program be implemented on a larger scale to not only improve the healthcare systems' ability to treat patients, but also to help each healthcare worker emotionally.

Initial assessment indicates health workers who participated in Project HOPE's COVID-19 training program are suffering from mental/emotional distress. Females, on average, are exhibiting more symptoms associated with anxiety/depression while males, on average, are suffering more from social dysfunction symptomology. It is likely this distress is linked to the overwhelming feelings of uncertainty produced by the pandemic (Rettie and Daniels 2020; Smith, Twohy, and Smith 2020). Thus, increased pandemic management awareness among health workers may help. Additionally, greater mental/emotional support should be put in place to support healthcare workers as they continue to try and manage the COVID-19 and any future pandemics.

Despite having positive evidence supporting the efficacy of Project HOPE's COVID-19 training program, more investigation is required to determine the underlying factors driving these trends (i.e., improved demographic information). Additionally, more investigation is required to better understand COVID-19's impact on health-workers' mental health status to determine the best supports/interventions to improve mental health.

Appendix A: Variable Definitions

True/False (TF) Indices

- **BackgroundIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on COVID-19 background information.

Table A1: True/False Background Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>AsymptomaticCovidb</i>	- Individuals can have COVID-19 and display no symptoms (True)	1	0
<i>BetnAnimalManb</i>	- Coronaviruses are passed between animals and humans (False)	1	0
<i>TransmitRespiratDr~b</i>	- Transmission between humans is through respiratory droplets (True)	1	0
<i>AllNeedVentilatorC~b</i>	- Almost all patients will need intensive care and a ventilator (False)	1	0
<i>DiabetesPatientHig~b</i>	- Those with diabetes are at a higher risk of having severe COVID-19 reaction (True)	1	0
<i>LungDiseasePatient~b</i>	- Those with lung disease (such as asthma) are less likely to contract COVID-19 (False)	1	0
<i>YoungHighRiskDying~b</i>	- Younger people are at the highest risk of dying from COVID-19 (False)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **PreventionIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on necessary COVID-19 prevention measures.

Table A2: True/False Prevention Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>ControlCovidSocial~b</i>	Social distancing is necessary to control virus spread (Correct answer: True)	1	0
<i>HandShakeWithInfec~b</i>	It is okay to shake hands with someone who is infected (Correct answer: False)	1	0
<i>CommunitySpreadAnd~b</i>	- Community spread is not a concern with COVID-19 (False)	1	0
<i>NeedOfBootsApronsb</i>	- Boots and aprons are necessary to care for COVID-19 patients (False)	1	0
<i>ShouldUseGlovesb</i>	- Gloves should be put on after a protective gown (True)	1	0
<i>ReUsedMaskb</i>	- Masks can be re-used for up to 5 days (False)	1	0
<i>SurvivalOfVirusb</i>	- Coronaviruses can survive on surfaces more than several hours (True)	1	0

Correct answers were provided by the Center for Disease Control and Prevention and the World Health Organization

- **SurveillanceIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on necessary COVID-19 surveillance measures.

Table A3: True/False Surveillance Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>ConTraceMeansOnlyI~b</i>	- Contact tracing only involves identifying contacts of	0	0

<i>HavingDoubtShouldG~b</i>	a confirmed patient (False) - If an individual thinks that they have COVID-19, they should immediately go to the nearest healthcare facility (False)	1	0
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Correct answers were provided by the Center for Disease Control and Prevention

- **ScreeningIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on necessary screening and triage measures.

Table A4: True/False Screening Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>SeparatCovidAndNon~b</i>	- At care facilities, it is necessary to separate COVID-19 patients from other patients in the facility (True)	1	0
<i>ThreeMeterDistance~b</i>	- Patients should be kept at least 3 meters apart from each other in care setting (False)	1	0
<i>VirtualRoleManageC~b</i>	- There is no role for virtual screening (by phone, online, app) in managing and diagnosing COVID-19 (False)	1	0
<i>TriageIsGoodToDiff~b</i>	- Triage is a system of identifying high, medium, and low risk patients to prioritize care based on risk (True)	1	0
<i>BelowEightyNeedAcu~b</i>	- Oxygen levels below 80% indicate need for acute care (True)	1	0

Correct answers were provided by the Center for Disease Control and Prevention and Mayo Clinic

- **DiagnosisIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on diagnosis information.

Table A5: True/False Diagnosis Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>SingleNegTestMeanN~b</i>	- A single negative COVID-19 diagnostic test means that patient has not contracted the virus (False)	1	0
<i>DiagnosisNeedBlood~b</i>	- Diagnosis of COVID-19 requires a blood test (False)	1	0
<i>PatientMustGoHospi~b</i>	- Once diagnosed with COVID-19, patients must automatically go for hospital for treatment (False)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **CapacityIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on capacity information.

Table A6: True/False Capacity Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>LessThanTenPercent~b</i>	- During a large-scale public illness outbreak, less than 10% of healthcare staff is expected to become ill (False)	1	0
<i>HealthStaffNeedMen~b</i>	- Medical and healthcare staff are likely to experience burn-out and need emotional/mental health support during large public health pandemics (True)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **CommunicationIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables focused on risk communication information.

Table A7: True/False Communication Index Variable Descriptions

Variable Name	Variable True/False Statement and Answer	Max	Min
<i>RiskCommnSoleRespO~b</i>	- Risk communication is the sole responsibility of government organizations (False)	1	0
<i>DispellingMythImpF~b</i>	- Dispelling myths is an important element of risk communication and pandemic management (True)	1	0

Correct answers were provided by the World Health Organization and Mayo Clinic

- **CumulativeTFIndex**: A combination of all true/false indices (higher value = more correct answers).

Table A8: Cumulative True/False Index Summary Statistics

Index Name	Description	Max	Min
<i>BackGroundIndex</i>	- Combination of Background variables	7	1
<i>PreventionIndex</i>	- Combination of Prevention variables	7	1
<i>SurveillanceIndex</i>	- Combination of Surveillance variables	1	0
<i>ScreeningIndex</i>	- Combination of Screening variables	5	0
<i>DiagnosisIndex</i>	- Combination of Diagnosis variables	3	0
<i>CapacityIndex</i>	- Combination of Capacity variables	2	0
<i>CommunicationIndex</i>	- Combination of Communication variables	2	0

Multiple Choice Correct (MCC) Indices

- **CovidSymIndex**: A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables based on a question asking the trainee to select the known COVID-19 symptoms.

Table A9: Multiple Choice Symptom Index Variable Descriptions

Variable Name	Description	Max	Min
<i>CovidSymFeverb</i>	- Covid Symptom: Fever (Yes)	1	0
<i>CovidSymDryCoughb</i>	- Covid Symptom: Dry Cough (Yes)	1	0
<i>CovidSymWetCoughb</i>	- Covid Symptom: Wet Cough (Yes)	1	0
<i>CovidSymShortnessO~b</i>	- Covid Symptom: Shortness of Breath (Yes)	1	0
<i>CovidSymBodyAchesb</i>	- Covid Symptom: Body Aches (Yes)	1	0
<i>CovidSymDiarrheab</i>	- Covid Symptom: Diarrhea (Yes)	1	0
<i>CovidSymStuffyNoseb</i>	- Covid Symptom: Stuffy Nose (Yes)	1	0
<i>CovidSymExtremeFat~b</i>	- Covid Symptom: Extreme Fatigue (Yes)	1	0
<i>CovidSymSneezingb</i>	- Covid Symptom: Sneezing (No)	1	0

Correct answers were provided by the Center for Disease Control and Prevention and WebMD

- **VirusSpreadIndex**: A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables based on a question asking the trainee to select the known ways COVID-19 can spread.

Table A10: Multiple Choice Virus Spread Index Variable Descriptions

Variable Name	Description	Max	Min
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<i>VirusSpreadTouchFa~b</i>	- Spread virus by: Touching Face (Yes)	1	0
<i>VirusSpreadTouchAr~b</i>	- Spread virus by: Touching Arms (No)	1	0
<i>VirusSpreadWearGlo~b</i>	- Spread virus by: Wearing Gloves (No)	1	0
<i>VirusSpreadWashHan~b</i>	- Spread virus by: Washing Hands for 20 Seconds (No)	1	0
<i>VirusSpreadWearMas~b</i>	- Spread virus by: Wearing Masks (No)	1	0
<i>VirusSpreadTouchNo~b</i>	- Spread virus by: Touching Nose (Yes)	1	0
<i>VirusSpreadCoverMo~b</i>	- Spread virus by: Covering Mouth When Sneezing (No)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **ImpForScreenIndexPre:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables based on a question asking the trainee to select which screening questions are important.

Table A11: Multiple Choice Screening Questions Index Variable Descriptions

Variable Name	Description	Max	Min
<i>ImpForScreenTravel~b</i>	- Screening Question: Travel History (Yes)	1	0
<i>ImpForScreenExpose~b</i>	- Screening Question: Exposure to Infected People (Yes)	1	0
<i>ImpForScreenVisitM~b</i>	- Screening Question: Visiting the Market (No)	1	0
<i>ImpForScreenHaving~b</i>	- Screening Question: Having a Fever (Yes)	1	0
<i>ImpForScreenLosing~b</i>	- Screening Question: Losing Sleep (No)	1	0
<i>ImpForScreenTroubl~b</i>	- Screening Question: Having Trouble Breathing (Yes)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **HandHygIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables based on a question asking the trainee to select when hand hygiene should be implemented.

Table A12: Multiple Choice Hand Hygiene Index Variable Descriptions

Variable Name	Description	Max	Min
<i>HandHygAfterTouch~tb</i>	- Hand Hygiene: Before Touching a Patient (Yes)	1	0
<i>HandHygBeforeTouch~b</i>	- Hand Hygiene: After Touching a Patient (Yes)	1	0
<i>HandHygBeforeClean~b</i>	- Hand Hygiene: Before Cleaning (No)	1	0
<i>HandHygAfterTouch~gb</i>	- Hand Hygiene: After Touching a Patient's Things (Yes)	1	0
<i>HandHygBeforeEatingb</i>	- Hand Hygiene: Before Eating (Yes)	1	0
<i>HandHygBeforePutPPEb</i>	- Hand Hygiene: Before Putting on PPE (Yes)	1	0
<i>HandHygAfterBodily~b</i>	- Hand Hygiene: After Bodily Fluid Exposure (Yes)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **IMPSServeilIndex:** A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables based on a question asking the trainee to select which surveillance data should be collected.

Table A13: Multiple Choice Surveillance Index Variable Descriptions

Variable Name	Description	Max	Min
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<i>IMPSeveilDatPersonb</i>	- Surveillance: Person (Yes)	1	0
<i>IMPSeveilDatPla~etb</i>	- Surveillance: Place of Onset (Yes)	1	0
<i>IMPSeveilDatPla~rtb</i>	- Surveillance: Place of Report (Yes)	1	0
<i>IMPSeveilDateOfOn~b</i>	- Surveillance: Date of Onset (Yes)	1	0
<i>IMPSeveilDateOfRe~b</i>	- Surveillance: Date of Report (Yes)	1	0

Correct answers were provided by the Center for Disease Control and Prevention

- **RiskCommImpIndex**: A group of indicator (coded as 0 = Incorrect and 1 = Correct) variables based on a question asking the trainee to indicate why risk communication is important.

Table A14: Multiple Choice Risk Communication Index Variable Descriptions

Variable Name	Description	Max	Min
<i>RiskCommImpMa~mDecnb</i>	- Risk Communication: Allows for Making Informed Decisions (Yes)	1	0
<i>RiskCommImpAllevia~b</i>	- Risk Communication: Alleviates Misunderstanding (Yes)	1	0
<i>RiskCommImpRedTrustb</i>	- Risk Communication: Reduces Trust (No)	1	0
<i>RiskCommImpRedLike~b</i>	- Risk Communication: Reduces Likelihood health Advice is followed (No)	1	0
<i>RiskCommImpMa~EDecnb</i>	- Risk Communication: Minimizes Economic Disruptions (Yes)	1	0

Correct answers were provided by the Environmental Protection Agency

- **CumulativeChkIndex**: A combination of all multiple-choice indices (higher value = more correct answers).

Table A15: Cumulative Multiple-Choice Index Variable Descriptions

Index Name	Description	Max	Min
<i>CovidSymIndex</i>	- Combination of Covid Symptom Variables	9	0
<i>VirusSpreadIndex</i>	- Combination of Virus Spread Variables	7	0
<i>ImpForScreenIndex</i>	- Combination of Screening Question Variables	6	1
<i>HandHygIndex</i>	- Combination of Hand Hygiene Variables	7	0
<i>IMPSeveilIndex</i>	- Combination of Surveillance Variables	5	0
<i>RiskCommImpIndex</i>	- Combination of Risk Communication Variables	5	0

Cumulative Knowledge Index

- **CumulativeCorrKnowIndex**: A combination of both the true/false cumulative index and the multiple-choice index.

Table A16: Cumulative Knowledge Index Variable Descriptions

Index Name	Description	Max	Min
<i>CumulativeTFIndex</i>	- Combination of True/False Indices	24	10
<i>CumulativeChkIndex</i>	- Combination of Multiple-Choice Indices	37	10
<i>CumulativeCorrIn~x</i>	- Combination of True/False and Multiple-Choice Indices	59	24

Appendix B: Surveys

Pre-Training Survey

A. CONTACT INFORMATION

Question Number	Question	Answer
PRA1.	Respondent's Name	
PRA2.	Phone Number	
Training Location Address Information		
PRA3.	District	
PRA4.	VCD	
PRA5.	Ward	
Trainee's Address Information		
PRA6.	District	
PRA7.	VDC	
PRA8.	Ward	

B.

DEMOGRAPHIC INFORMATION

Question Number	Question	Answer		
PRB1.	What is your gender?	1	Female	
		2	Male	
PRB2.	What is your age (in years)?	_____ Years		
PRB3.	How many children do you have?	_____		
PRB4.	What is your primary religion?	1	Hindu	
		2	Buddhist	
		3	Muslim	
		4	Christian	
		5	Others	
PRB5.	What is your caste/ethnicity?	1	Brahmin	
		2	Chhetri	
		3	Newar	
		4	Janajati	
		5	Madhesi, Thaur, Musalman	
		6	Pahadi Dalit	
		7	Madhesi Dalit	
		8	Other (Specify) _____	
PRB6.	What is the highest level of education you have completed?	1	Less than High School	
		2	High School (SLC Pass)	
		3	Some College	
		4	Associate Degree	
		5	Bachelors	
		6	Masters	
		7	Doctor	
PRB7.	Where do you currently work?	1	Government Hospital	
		2	Private Hospital	
		3	Urban Clinic	
		4	Rural Clinic	
		5	Pharmacy	
		6	Community	
		7	Not in Healthcare Job	
		8	Other	
	Please specify the following for your place of work:			
PRB8	District	_____		
PRB9.	VDC	_____		
PRB10.	What is your job title?	1	Physician/Doctor	
		2	Pharmacist	
		3	Nurse	
		4	Midwife	

		5	Community Health Worker	
		6	Technician	
		7	Support Staff	
		8	Other	
PRB11.	How many years of health work experience do you have?	1	Less than 1 Year	
		2	1-5 Years	
		3	6-10 Years	
		4	11-15 Years	
		5	More than 15 Years	
PRB12.	Does anyone else in your family work in the health care field?	1	Yes	
		2	No	
PRB13.	Are COVID-19 positive patients being cared for in your place of work?	1	Yes	
		2	No	
		3	Don't Know	
PRB14.	Do you personally care for or interact with COVID-19 positive patients at your work?	1	Yes	
		2	No	
		3	Don't Know	
PRB15.	Is your house made of cement?	1	Yes	
		2	No	
PRB16.	Do you own land?	1	Yes	
		2	No	
PRB17.	Does your household have electricity?	1	Yes	
		2	No	
PRB18.	Does your household own a functioning landline?	1	Yes	
		2	No	
PRB19.	Does your household have a computer?	1	Yes	
		2	No	

C. VIRUS AWARENESS/KNOWLEDGE

MODULE 1: BACKGROUND

Question No (Orig.)	Question	Code	Answers	
PRC1.	Have you heard of the SARS-CoV-2 or COVID-19 coronavirus worldwide pandemic?	1	Yes	
		2	No	
PRC2.	What is the incubation period of COVID-19?	1	2 days	
		2	4-6 days	
		3	5-6 days	
		4	2-14 days	
		5	Don't Know	
PRC3.	What are known symptoms of COVID-19? <i>[Check All That Apply]</i>	1	Fever	
		2	Dry Cough	
		3	Wet Cough	
		4	Shortness of Breath	
		5	Body Aches	
		6	Diarrhea	
		7	Stuffy Nose	

		8	Extreme Fatigue	
		9	Sneezing	
PRC4.	Spread of the virus occurs through which of the following actions? <i>[Check All That Apply]</i>	1	Touching the Face	
		2	Touching Arms	
		3	Wearing Gloves	
		4	Washing Hands for 20 Seconds	
		5	Wearing Masks	
		6	Touching Nose	
		7	Covering Your Mouth When Sneezing	
PRC5.	What percentage of infections are mild to moderate?	1	5%	
		2	15%	
		3	30%	
		4	50%	
		5	80%	
		6	Don't Know	
PRC12.	Individuals can have COVID-19 and also display no symptoms.	1	True	
		2	False	
PRC13.	Coronaviruses are passed between animals and humans.	1	True	
		2	False	
PRC14.	Transmission between humans is through respiratory droplets.	1	True	
		2	False	
PRC15.	Almost all patients will need intensive care and a ventilator.	1	True	
		2	False	
PRC16.	Those with diabetes are at a higher risk of having severe COVID-19 reaction.	1	True	
		2	False	
PRC17.	Those with lung disease (such as asthma) are less likely to contract COVID-19.	1	True	
		2	False	
PRC18.	Younger people are at the highest risk of dying from COVID-19.	1	True	
		2	False	

MODULE 2: INFECTION PREVENTION & CONTROL

Question No (Orig.)	Question	Code	Answers	
PRC6.	Which elements are important screening questions for early detection of COVID-19? <i>[Check All That Apply]</i>	1	Travel History	
		2	Exposure to Infected People	
		3	Visiting the Market	
		4	Having a Fever	
		5	Losing Sleep	
		6	Having Trouble Breathing	
PRC7.	When should "hand hygiene" be implemented? <i>[Check All That Apply]</i>	1	Before Touching a Patient	

			2	After Touching a Patient	
			3	Before Cleaning	
			4	After Touching Patient's Things	
			5	Before Eating	
			6	Before Putting on PPE	
			7	After Bodily Fluid Exposure	
Please indicate if each of the following statements is True or False.					
PRC19.	Social distancing is necessary to control virus spread.		1	True	
			2	False	
PRC20.	It is okay to shake hands with someone who is infected.		1	True	
			2	False	
PRC21.	Community spread is not a concern with COVID-19.		1	True	
			2	False	
PRC24.	Boots and aprons are necessary to care for COVID-19 patients.		1	True	
			2	False	
PRC25.	Gloves should be put on after a protective gown.		1	True	
			2	False	
PRC26.	Masks can be re-used for up to 5 days.		1	True	
			2	False	
PRC27.	Coronaviruses can survive on surfaces more than several hours.		1	True	
			2	False	

MODULE 3: SURVEILLANCE

Question No (Orig.)	Question	Code	Answers	
PRC8.	What surveillance data is most important to collect? <i>[Check All That Apply]</i>	1	Person	
		2	Place of Onset	
		3	Place of Report	
		4	Date of Onset	
		5	Date of Report	
Please indicate if each of the following statements is True or False.				
PRC28.	Contact tracing only involves identifying contacts of a confirmed patient.	1	True	
		2	False	
PRC29.	If an individual thinks that they have COVID-19, they should immediately go to the nearest healthcare facility.	1	True	
		2	False	

MODULE 4: SCREENING & TRIAGE

Question No (Orig.)	Question	Code	Answers	
PRC9.	What are the three steps of disease screening?	1	Identify, Treat, Discharge	

			2	Identify, Isolate, Inform	
			3	Isolate, Identify, Treat	
			4	Isolate, Inform, Discharge	
			5	Don't Know	
Please indicate if each of the following statements is True or False.					
	PRC22.	At care facilities, it is necessary to separate COVID-19 patients from other patients in the facility.	1	True	
			2	False	
	PRC23.	Patients should be kept at least 3 meters apart from each other in care setting.	1	True	
			2	False	
	PRC30.	There is no role for virtual screening (by phone, online, app) in managing and diagnosing COVID-19.	1	True	
			2	False	
	PRC31.	Triage is a system of identifying high, medium, and low risk patients to prioritize care based on risk.	1	True	
			2	False	
	PRC32.	Oxygen levels below 80% indicate need for acute care.	1	True	
			2	False	

MODULE 5: STABILIZATION/RESUSCITATION

Question No (Orig.)	Question	Code	Answers	
PRC10.	What are the three elements to determine needs for acute care and identifying critical illness?	1	Airway, Breathing, Temperature	
		2	Breathing, Temperature, Heart Rate	
		3	Airway, Breathing, Circulation	
		4	Airway, Circulation, Temperature	
		5	Don't Know	

MODULE 6: DIAGNOSIS & MANAGEMENT

Question No (Orig.)	Question	Code	Answers	
Please indicate if each of the following statements is True or False.				
PRC33.	A single negative COVID-19 diagnostic test means that patient has not contracted the virus.	1	True	
		2	False	
PRC34.	Diagnosis of COVID-19 requires a blood test.	1	True	
		2	False	
PRC35.	Once diagnosed with COVID-19, patients must automatically go for hospital for treatment.	1	True	
		2	False	

MODULE 7: FACILITY OPERATIONS & SURGE CAPACITY

Question No (Orig.)	Question	Code	Answers	
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Please indicate if each of the following statements is True or False.				
PRC36.	During a large-scale public illness outbreak, less than 10% of healthcare staff is expected to become ill.	1	True	
		2	False	
PRC37.	Medical and healthcare staff are likely to experience burn-out and need emotional/mental health support during large public health pandemics.	1	True	
		2	False	

MODULE 8: RISK COMMUNICATION & PUBLIC HEALTH MESSAGING

Question No (Orig.)	Question	Code	Answers	
PRC11.	Why is risk communication important? <i>[Check All That Apply]</i>	1	Allows for Making Informed Decisions	
		2	Alleviates Misunderstanding	
		3	Reduces Trust	
		4	Reduces Likelihood Health Advice is Followed	
		5	Minimizes Economic Disruptions	
PRC38.	Risk communication is the sole responsibility of government organizations	1	True	
		2	False	
PRC39.	Dispelling myths is an important element of risk communication and pandemic management.	1	True	
		2	False	

D. UNCERTAINTY ABOUT COVID-19

Question No.	Question	Code	Answers	
PRD1.	What is your level of worry regarding being personally infected with COVID-19?	1	Very Strong	
		2	Strong	
		3	Moderate	
		4	Low	
		5	None	
		6	Don't Know About COVID-19	
PRD2.	What is your level of worry regarding someone in your family being infected with COVID-19?	1	Very Strong	
		2	Strong	
		3	Moderate	
		4	Low	
		5	None	

		6	Don't Know About COVID-19	
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E. PREPAREDNESS/SYSTEM SUPPORT

Question No.	Question	Code	Answers	
PRE1.	Do you have family you can talk to about any life worries?	1	Yes	
		2	No	
PRE2.	Do you have friends you can talk to about any life worries?	1	Yes	
		2	No	
PRE3.	Do you have colleagues you can talk to about any life worries?	1	Yes	
		2	No	
PRE4.	Do you know where you can access professional counselors to talk to about any life worries?	1	Yes	
		2	No	
PRE5.	Do you know where you can access online resources to manage your life worries?	1	Yes	
		2	No	
PRE6.	Have you received or read leaflets with coronavirus (COVID-19) information?	1	Yes	
		2	No	
PRE7.	Have you received or read books about coronavirus (COVID-19)?	1	Yes	
		2	No	
PRE8.	Have you received or read online media about coronavirus (COVID-19)?	1	Yes	
		2	No	
PRE9.	Have you watched television news about coronavirus (COVID-19)?	1	Yes	
		2	No	
PRE10.	Do you think that healthcare settings have enough masks, gloves, and other protective equipment to manage a public health pandemic?	1	Yes	
		2	No	
PRE11.	What is your level of uncertainty about the healthcare system's ability to manage the COVID-19 infection?	1	Very Strong	
		2	Strong	
		3	Moderate	
		4	Low	
		5	Don't Know About COVID-19	

F. ABOUT HEALTH TRAINING

Question No.	Question	Code	Answers	
PRF1.	Overall, my expectation is that the training program will enhance my knowledge about coronavirus (COVID-19).	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	
		5	Strongly Agree	

G. HEALTH ASSESSMENT

For the following questions, please assess how frequently over the last two weeks you have been experiencing or feeling the following:				
PRG1.	Been Able to Concentrate	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG2.	Lost Much Sleep	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG3.	You Feel You Are Playing a Useful Part	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG4.	Capable of Making Decisions	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG5.	Under Stress	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG6.	Could Not Overcome Difficulties	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG7.	Enjoy Normal Activities	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG8.	Face Up to Problems	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG9.	Feeling Unhappy/Down	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG10.	Losing Confidence	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG11.	Thinking of Self as Worthless	1	Much More Than Usual	

		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	
PRG12.	Feeling Reasonably Happy	1	Much More Than Usual	
		2	Rather More Than Usual	
		3	No More Than Usual	
		4	Less Than Usual	

Post-Training Survey

C. VIRUS AWARENESS/KNOWLEDGE

MODULE 1: BACKGROUND

Question No (Orig.)	Question	Code	Answers	
PRC1.	Have you heard of the SARS-CoV-2 or COVID-19 coronavirus worldwide pandemic?	1	Yes	
		2	No	
PRC2.	What is the incubation period of COVID-19?	1	2 days	
		2	4-6 days	
		3	5-6 days	
		4	2-14 days	
		5	Don't Know	
PRC3.	What are known symptoms of COVID-19? <i>[Check All That Apply]</i>	1	Fever	
		2	Dry Cough	
		3	Wet Cough	
		4	Shortness of Breath	
		5	Body Aches	
		6	Diarrhea	
		7	Stuffy Nose	
		8	Extreme Fatigue	
		9	Sneezing	
PRC4.	Spread of the virus occurs through which of the following actions? <i>[Check All That Apply]</i>	1	Touching the Face	
		2	Touching Arms	
		3	Wearing Gloves	
		4	Washing Hands for 20 Seconds	
		5	Wearing Masks	
		6	Touching Nose	
		7	Covering Your Mouth When Sneezing	
PRC5.	What percentage of infections are mild to moderate?	1	5%	
		2	15%	
		3	30%	
		4	50%	
		5	80%	
		6	Don't Know	
PRC12.	Individuals can have COVID-19 and also display no symptoms.	1	True	
		2	False	
PRC13.	Coronaviruses are passed between animals and humans.	1	True	
		2	False	
PRC14.	Transmission between humans is through respiratory droplets.	1	True	
		2	False	
PRC15.	Almost all patients will need intensive care and a	1	True	

	ventilator.	2	False	
PRC16.	Those with diabetes are at a higher risk of having severe COVID-19 reaction.	1	True	
		2	False	
PRC17.	Those with lung disease (such as asthma) are less likely to contract COVID-19.	1	True	
		2	False	
PRC18.	Younger people are at the highest risk of dying from COVID-19.	1	True	
		2	False	

MODULE 2: INFECTION PREVENTION & CONTROL

Question No (Orig.)	Question	Code	Answers	
PRC6.	Which elements are important screening questions for early detection of COVID-19? <i>[Check All That Apply]</i>	1	Travel History	
		2	Exposure to Infected People	
		3	Visiting the Market	
		4	Having a Fever	
		5	Losing Sleep	
		6	Having Trouble Breathing	
PRC7.	When should “hand hygiene” be implemented? <i>[Check All That Apply]</i>	1	Before Touching a Patient	
		2	After Touching a Patient	
		3	Before Cleaning	
		4	After Touching Patient’s Things	
		5	Before Eating	
		6	Before Putting on PPE	
		7	After Bodily Fluid Exposure	
Please indicate if each of the following statements is True or False.				
PRC19.	Social distancing is necessary to control virus spread.	1	True	
		2	False	
PRC20.	It is okay to shake hands with someone who is infected.	1	True	
		2	False	
PRC21.	Community spread is not a concern with COVID-19.	1	True	
		2	False	
PRC24.	Boots and aprons are necessary to care for COVID-19 patients.	1	True	
		2	False	
PRC25.	Gloves should be put on after a protective gown.	1	True	
		2	False	
PRC26.	Masks can be re-used for up to 5 days.	1	True	
		2	False	
PRC27.	Coronaviruses can survive on surfaces more than several hours.	1	True	
		2	False	

MODULE 3: SURVEILLANCE

Question No (Orig.)	Question	Code	Answers	
PRC8.	What surveillance data is most important to collect? <i>[Check All That Apply]</i>	1	Person	
		2	Place of Onset	
		3	Place of Report	
		4	Date of Onset	
		5	Date of Report	
Please indicate if each of the following statements is True or False.				
PRC28.	Contact tracing only involves identifying contacts of a confirmed patient.	1	True	
		2	False	
PRC29.	If an individual thinks that they have COVID-19, they should immediately go to the nearest healthcare facility.	1	True	
		2	False	

MODULE 4: SCREENING & TRIAGE

Question No (Orig.)	Question	Code	Answers	
PRC9.	What are the three steps of disease screening?	1	Identify, Treat, Discharge	
		2	Identify, Isolate, Inform	
		3	Isolate, Identify, Treat	
		4	Isolate, Inform, Discharge	
		5	Don't Know	
Please indicate if each of the following statements is True or False.				
PRC22.	At care facilities, it is necessary to separate COVID-19 patients from other patients in the facility.	1	True	
		2	False	
PRC23.	Patients should be kept at least 3 meters apart from each other in care setting.	1	True	
		2	False	
PRC30.	There is no role for virtual screening (by phone, online, app) in managing and diagnosing COVID-19.	1	True	
		2	False	
PRC31.	Triage is a system of identifying high, medium, and low risk patients to prioritize care based on risk.	1	True	
		2	False	
PRC32.	Oxygen levels below 80% indicate need for acute care.	1	True	
		2	False	

MODULE 5: STABILIZATION/RESUSCITATION

Question No (Orig.)	Question	Code	Answers	
PRC10.	What are the three elements to determine needs for acute care and identifying critical illness?	1	Airway, Breathing, Temperature	
		2	Breathing, Temperature,	

			Heart Rate	
		3	Airway, Breathing, Circulation	
		4	Airway, Circulation, Temperature	
		5	Don't Know	

MODULE 6: DIAGNOSIS & MANAGEMENT

Question No (Orig.)	Question	Code	Answers	
Please indicate if each of the following statements is True or False.				
PRC33.	A single negative COVID-19 diagnostic test means that patient has not contracted the virus.	1	True	
		2	False	
PRC34.	Diagnosis of COVID-19 requires a blood test.	1	True	
		2	False	
PRC35.	Once diagnosed with COVID-19, patients must automatically go for hospital for treatment.	1	True	
		2	False	

MODULE 7: FACILITY OPERATIONS & SURGE CAPACITY

Question No (Orig.)	Question	Code	Answers	
Please indicate if each of the following statements is True or False.				
PRC36.	During a large-scale public illness outbreak, less than 10% of healthcare staff is expected to become ill.	1	True	
		2	False	
PRC37.	Medical and healthcare staff are likely to experience burn-out and need emotional/mental health support during large public health pandemics.	1	True	
		2	False	

MODULE 8: RISK COMMUNICATION & PUBLIC HEALTH MESSAGING

Question No (Orig.)	Question	Code	Answers	
PRC11.	Why is risk communication important? <i>[Check All That Apply]</i>	1	Allows for Making Informed Decisions	
		2	Alleviates Misunderstanding	
		3	Reduces Trust	
		4	Reduces Likelihood Health Advice is Followed	
		5	Minimizes Economic Disruptions	
PRC38.	Risk communication is the sole responsibility of government organizations	1	True	
		2	False	
PRC39.	Dispelling myths is an important element of risk	1	True	

	communication and pandemic management.	2	False	
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D. UNCERTAINTY ABOUT COVID-19

Question No.	Question	Code	Answers	
PSD1.	What is your level of worry regarding being personally infected with COVID-19?	1	Very Strong	
		2	Strong	
		3	Moderate	
		4	Low	
		5	None	
		6	Don't Know About COVID-19	
PSD2.	What is your level of worry regarding someone in your family being infected with COVID-19?	1	Very Strong	
		2	Strong	
		3	Moderate	
		4	Low	
		5	None	
		6	Don't Know About COVID-19	

E. PREPAREDNESS/SYSTEM SUPPORT

Question No.	Question	Code	Answers	
PSE1.	Do you have access to family you can talk to about any life worries?	1	Yes	
		2	No	
PSE2.	Do you have access to friends you can talk to about any life worries?	1	Yes	
		2	No	
PSE3.	Do you have access to colleagues you can talk to about any life worries?	1	Yes	
		2	No	
PSE4.	Do you know where you can access professional counselors to talk to about any life worries?	1	Yes	
		2	No	
PSE5.	Do you know where you can access online resources to manage your life worries?	1	Yes	
		2	No	
PSE6.	Have you received or read leaflets with coronavirus (COVID-19) information?	1	Yes	
		2	No	
PSE7.	Have you received or read books about coronavirus (COVID-19)?	1	Yes	
		2	No	
PSE8.	Have you received or read online media about coronavirus	1	Yes	

	(COVID-19)?	2	No	
PSE9.	Have you watched television news about coronavirus (COVID-19)?	1	Yes	
		2	No	
PSE10.	Do you think that healthcare settings have enough masks, gloves, and other protective equipment?	1	Yes	
		2	No	
PSE11.	What is your level of uncertainty about the healthcare system's ability to manage the COVID-19 infection?	1	Very Strong	
		2	Strong	
		3	Moderate	
		4	Low	
		5	Don't Know About COVID-19	

F. ABOUT HEALTH TRAINING

Question No.	Question	Code	Answers	
PSF1.	Overall, I feel that the training program enhanced my knowledge about coronavirus (COVID-19).	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	
		5	Strongly Agree	
PSF2.	I would recommend this program to my colleagues.	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	
		5	Strongly Agree	
PSF3.	I would like to take part in a refresher training course in the near future.	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	
		5	Strongly Agree	
PSF4.	The local government should expand this program and Provide financial support.	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	
		5	Strongly Agree	
PSF5.	The instructors were very efficient in explaining the concept and training materials.	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	
		5	Strongly Agree	
PSF6.	The program management team of PNMf & HOPE did a good job in organizing the event.	1	Strongly Disagree	
		2	Disagree	
		3	Neutral	
		4	Agree	

		5	Strongly Agree	
PSF7.	The length of the training program was _____.	1	Just Right	
		2	Not Enough	
		3	Too Long	
		4	Don't Know	

Appendix C: Master Trainers Information

List of Participants in First Level of Training Program

S.N	Full Name	Qualification	Designation	Institution
1	Dr. Rano Mal Piryani	MD, MCPS, DTCD	Head- Department of Internal Medicine	Universal College of Medical Sciences, Rupandehi
2	Dr. Naveen Dranal	MBBS, MD	Medical Superintendent	Bhim Hospital, Rupandehi
3	Dr. Amrit Panthi	MBBS	Ac. Medical Superintendent	Pyuthan Hospital, Pyuthan
4	Dr. Sudarshan Thapa Chhetri	MBBS, MD	Head- Department of Medicine	Lumbini Provincial Hospital, Rupandehi
5	Dr. Rajan Pande	MBBS, MD	Chief Consultant Physician	Bheri hospital, Banke
6	Dr. Sundar Pandey	MBBS, MD	Consultant Physician and Lecturer	Devdaha Medical College, Rupandehi
7	Dr. Uttam Pachya	MBBS, MD	Consultant Medical Generalist	Gulmi Hospital, Gulmi
8	Durga Laxmi Shrestha	Master's in nursing	Nursing Administrator	Bheri Hospital, Banke
9	Jyoti Paudel	Master's in nursing	Nursing Officer	Lumbini Provincial Hospital, Rupandehi
10	Sunita Poudel	Master's in public health	Public Health Officer	Health Office, Dang
11	Shailendra Kumar Pandey	P. G. in Health Promotion Education	Post Health Education Officer	Ministry of Social Development, Province 5
12	Youbraj Neupane	Msc. Medical Biochemistry	Principal	Pratiman-Neema College, Rupandehi
13	Anup Poudel	MSc. Statistics	Research Officer	Pratiman-Neema Memorial Foundation, Rupandehi
14	Sandhya Neupane	Bachelor's in public health	MLT- Coordinator	Pratiman-Neema College, Rupandehi
15	Basanta Mani Pokhrel	Master's in public health	Faculty	Pratiman-Neema College, Rupandehi
16	Gaurav Chaudhary	BMLT	Faculty	Pratiman-Neema College, Rupandehi
17	Kishor Acharya	MBBS Student		Nepalgunj Medical College, Banke
18	Namrata Chaudhary	MBBS Student		Universal College of Medical Sciences,

			Rupandehi
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List of Trainers for the Second Level of the Training Program (Master Trainers)

S.N	Full Name	Designation	Institution
1	Dr. Rano Mal Piryani	Head- Department of Internal Medicine	Universal College of Medical Sciences, Rupandehi
2	Dr. Naveen Dranal	Medical Superintendent	Bhim Hospital, Rupandehi
3	Dr. Sundar Pandey	Consultant Physician and Lecturer	Devdaha Medical College, Rupandehi
4	Durga Laxmi Shrestha	Nursing Administrator	Bheri Hospital, Banke
5	Jyoti Paudel	Nursing Officer	Lumbini Provincial Hospital, Rupandehi
6	Youbraj Neupane	Principal	Pratiman-Neema College, Rupandehi
7	Sandhya Neupane	MLT- Coordinator	Pratiman-Neema College, Rupandehi
8	Kishor Acharya	Nepalgunj Medical College, Banke	

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