Dissertation Training

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IIHMR, Delhi

Strengthening Healthcare Resilience: Assessing the Effectiveness of Disaster Training on Health, Nutrition, and WASH during Emergencies in Health Professionals

by-

Name - Dr. Godess Bhagaur

Roll no. - PG/22/035

Under the guidance of

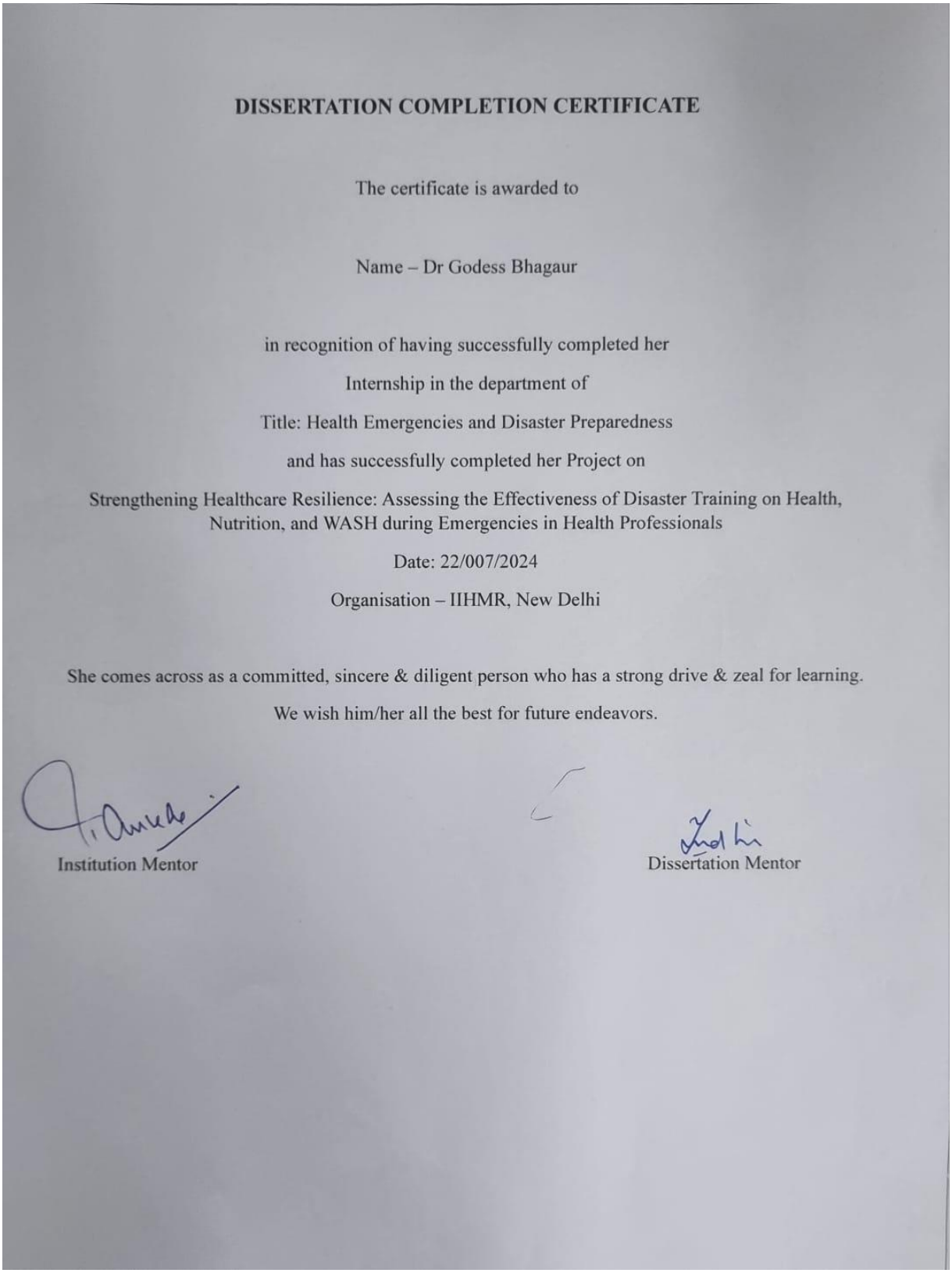
Dr. Pankaj Talreja

PGDM (Hospital and Health **Management**)

2022 – 2024

International Institute of Health Management Research, New Delhi

DISSERTATION COMPLETION CERTIFICATE



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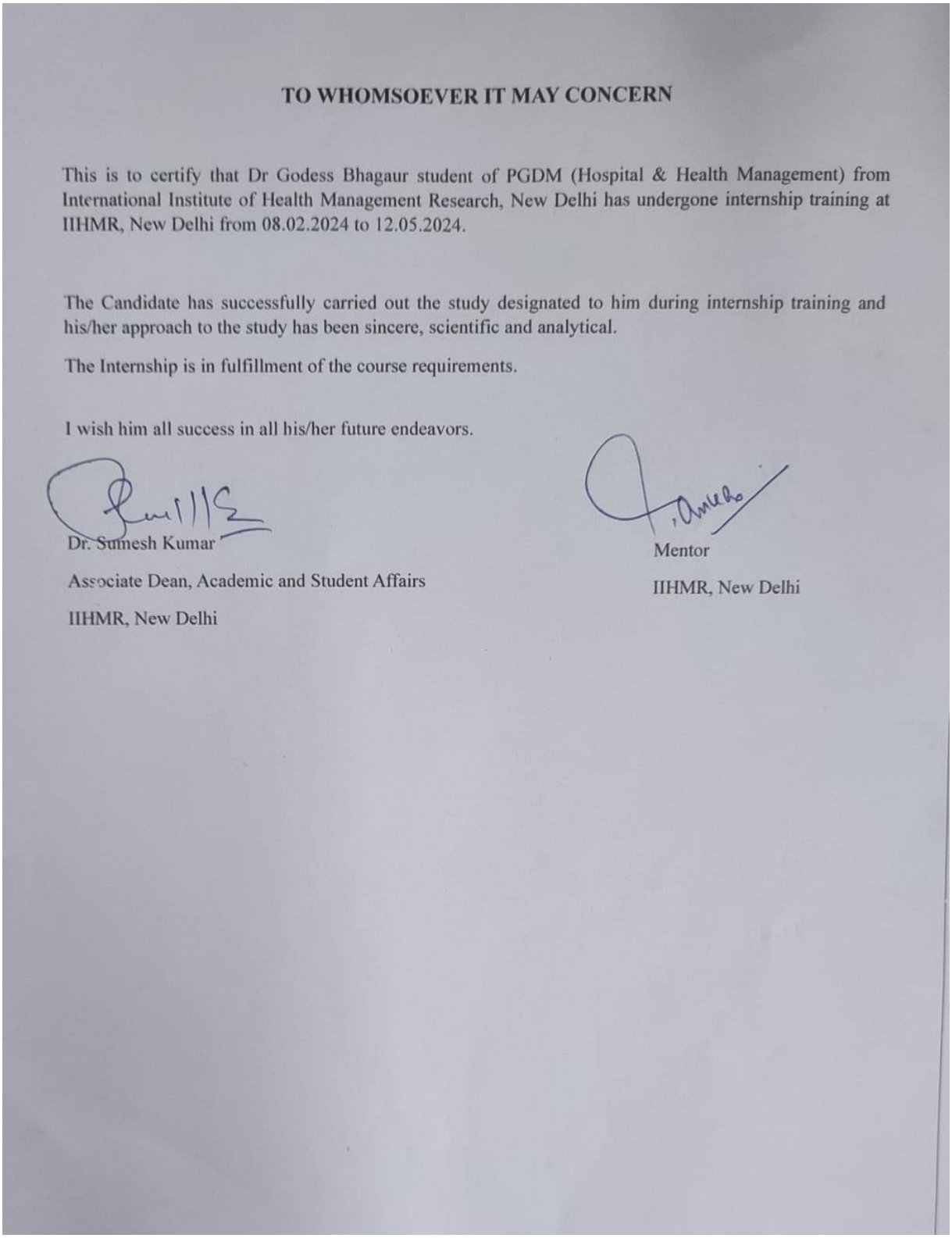

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Dr. Sumesh Kumar
Associate Dean, Academic and Student Affairs
IIHMR, New Delhi

Mentor
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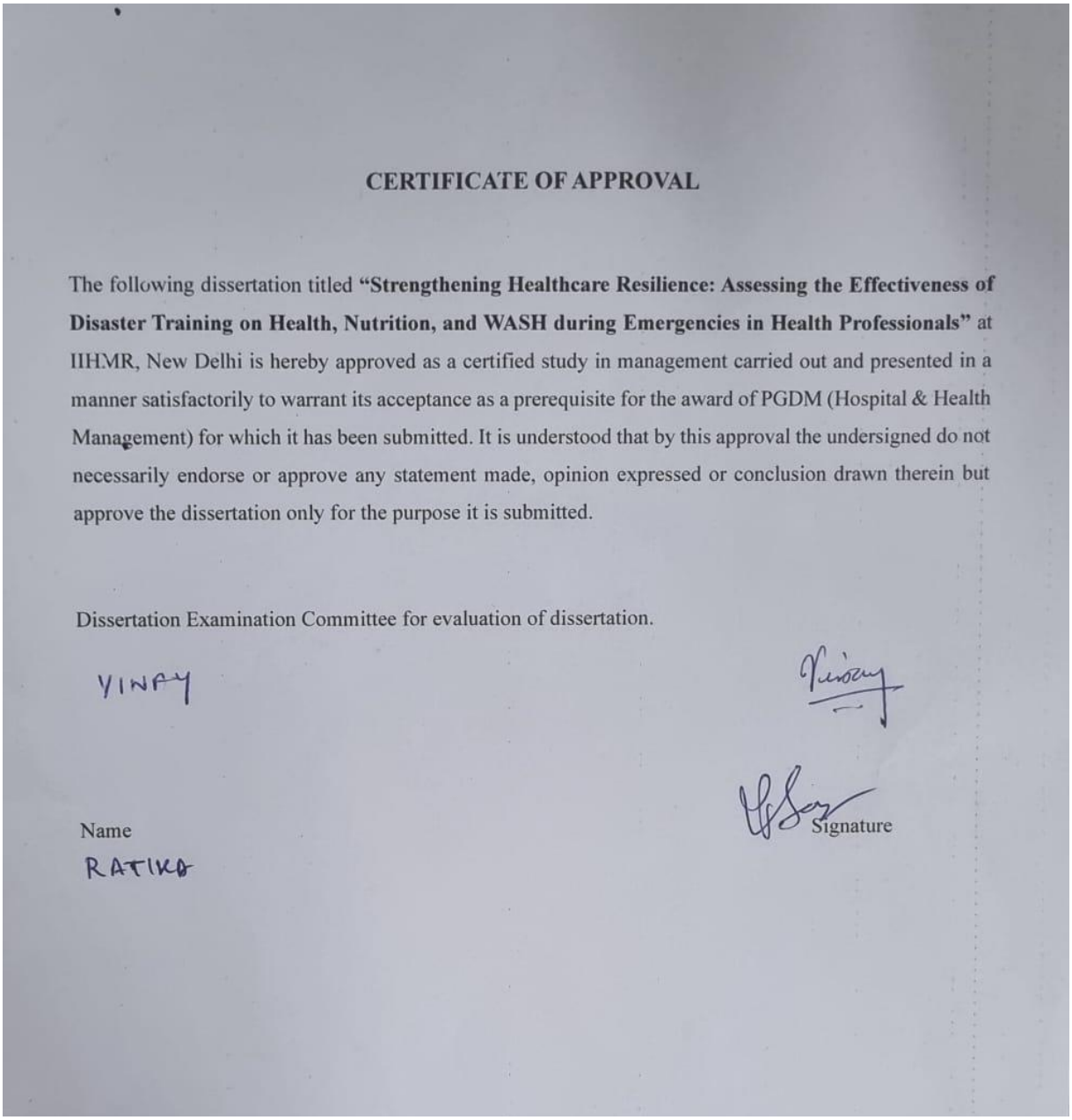

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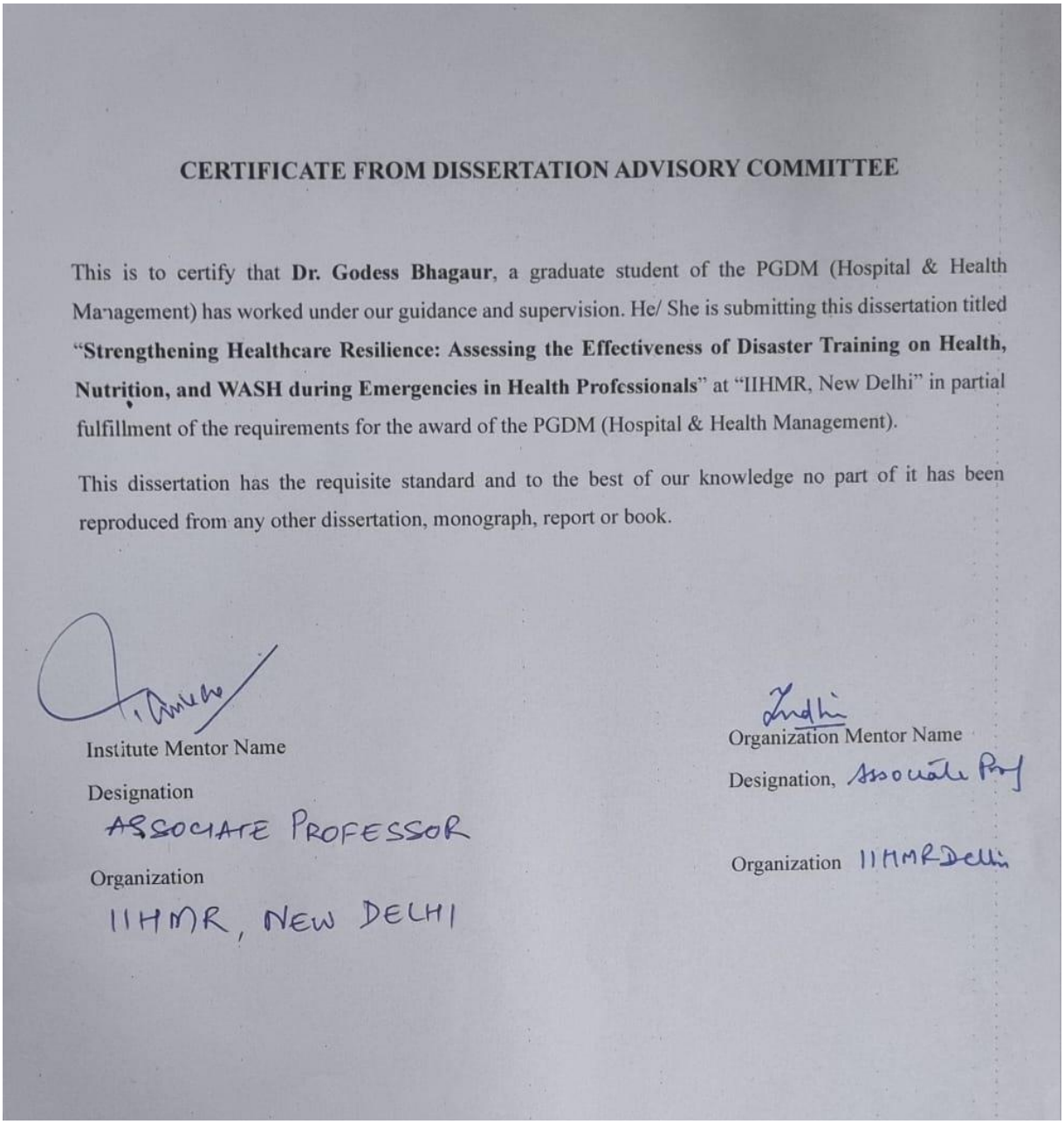

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This is to certify that **Dr. Godess Bhagaur**, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. He/ She is submitting this dissertation titled "**Strengthening Healthcare Resilience: Assessing the Effectiveness of Disaster Training on Health, Nutrition, and WASH during Emergencies in Health Professionals**" at "IIHMR, New Delhi" in partial fulfillment of the requirements for the award of the PGDM (Hospital & Health Management).

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This is to certify that the dissertation titled "Strengthening Healthcare Resilience: Assessing the Effectiveness of Disaster Training on Health, Nutrition, and WASH during Emergencies in Health Professionals" and submitted by Dr. Godess Bhagaur Enrollment No. – PG/22/035 under the supervision of Dr. Pankaj Talreja for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from 2022 to 2024 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

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Name of the Student: Dr. Godess Bhagaur

Name of the Organisation in Which Dissertation Has Been Completed: IIHMR, New Delhi

Area of Dissertation: Health Emergencies and Disaster Preparedness

Attendance: 100%

Objectives achieved: She has completed all the given tasks

Deliverables: Making Disaster training module, Formed Questionnaire, making presentation related to project, Report writing, Data analysis, Projected related work, making dissertation report

Strengths: Good communication and technical skills, dedication towards work

Suggestions for Improvement: keep up the good work

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date:22/07/2024

Place: New Delhi

LIST OF CONTENT

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Lastly, I extend my heartfelt thanks to the entire team involved in this project, as well as the stakeholders of the Bal Raksha Bharat program. This collective effort has been pivotal in advancing our understanding and preparedness in health, nutrition, and WASH during emergencies, particularly for mothers and children.

Sincerely

Dr. Godess Bhagaur

IIHMR (2022-2024)

ABATRACT

In recent years, the frequency and intensity of natural disasters, including hurricanes, earthquakes, floods, and pandemics, have significantly increased, causing profound impacts on public health, infrastructure, and economies. The healthcare sector, in particular, has faced immense challenges in maintaining service delivery during such emergencies. The "Bal Raksha Bharat: Five-Day Training of Trainers Programme Course in Health, Nutrition, and WASH during Emergencies" was developed to address these challenges. This dissertation examines the effectiveness of this training program in equipping healthcare professionals, specifically Medical Social Workers (MSWs) and selected medical staff, with the necessary skills and knowledge to handle emergencies effectively.

Objectives

The primary objective of this study is to assess the impact of the Bal Raksha Bharat training program on the preparedness and efficacy of healthcare workers in responding to emergencies. The study also aims to quantify the level of readiness among healthcare workers trained under the program, focusing on their ability to manage medical crises, natural disasters, and other critical incidents.

Methodology

The study employs a quantitative research design, utilizing pre-and post-training assessments to evaluate the effectiveness of the training program. Data were collected using Google Forms, allowing for efficient and structured response gathering. The training program was piloted in the Solan and Mandi districts of Himachal Pradesh, with a nationwide rollout facilitated in collaboration with the National Institute of Disaster Management (NIDM) on March 18, 2024. Participants' knowledge and skills were assessed through pre- and post-test scores, analyzed using descriptive statistics to provide insights into the training's effectiveness.

Data Analysis

Data analysis involved calculating the mean and standard deviation of pre- and post-test scores to evaluate knowledge improvement and performance consistency among participants. Results showed significant improvements in post-test scores across all training days, indicating effective and sustained learning. The reduction in standard deviation values from pre-test to post-test scores further suggested that participants achieved more uniform performance levels.

Results

The overall results demonstrate a significant and consistent improvement in participants' knowledge and skills. Mean post-test scores increased notably compared to pre-test scores, highlighting effective learning outcomes. The reduction in standard deviation values indicates that participants not only gained knowledge but also achieved more uniform performance levels. These findings underscore the success of the training program in enhancing emergency response readiness among healthcare workers.

Discussion

The significant improvement in post-test scores across all training days indicates the program's effectiveness in imparting essential knowledge and skills. Increased consistency in participants' performance, as reflected by the reduction in standard deviation values, suggests that the training was uniformly effective. The enhanced emergency readiness demonstrated by participants underscores the importance of such training programs in preparing healthcare workers for disaster response.

Recommendations

To further enhance the effectiveness of the Bal Raksha Bharat training program, ongoing assessments beyond the training period should be implemented to monitor long-term retention of skills and knowledge. The program should also be expanded to reach more healthcare workers across diverse settings to enhance nationwide emergency response capabilities. Additionally, periodic refresher courses should be conducted to maintain and enhance the acquired knowledge and skills, ensuring sustained performance improvement.

Conclusion

Evaluating the Bal Raksha Bharat training program through this research has provided valuable insights to strengthen future iterations and enhance healthcare worker preparedness for disaster response, particularly concerning mothers and children. Continuous learning and ongoing evaluation are crucial to ensuring healthcare systems remain adaptable and well-equipped to handle future emergencies. The findings from this study underscore the program's success and highlight the need for sustained efforts to build resilient healthcare systems capable of withstanding and recovering from disasters.

ABBREVIATIONS

1. BRB - Bal Raksha Bharat
2. WASH - Water, Sanitation, and Hygiene
3. MSWs - Medical Social Workers
4. NIDM - National Institute of Disaster Management
5. ToT - Training of Trainers
6. NGO - Non-Governmental Organization
7. NHP - National Health Policy
8. ICDS - Integrated Child Development Services
9. PHC - Primary Health Centre
10. CHC - Community Health Centre
11. MOHFW - Ministry of Health and Family Welfare
12. UNICEF - United Nations International Children's Emergency Fund
13. WHO - World Health Organization

Title: Strengthening Healthcare Resilience: Assessing The Effectiveness Of Disaster Training On Health, Nutrition, And Wash During Emergencies In Health Professionals

Introduction

The increasing frequency and intensity of both natural and man-made disasters pose substantial challenges to health systems worldwide. These emergencies, ranging from earthquakes, floods, hurricanes, and pandemics to human-induced events like industrial accidents and armed conflicts, significantly disrupt healthcare services. Such disruptions compromise the health and well-being of all affected populations, but the impact is particularly severe on vulnerable groups such as mothers, children, the elderly, and individuals with pre-existing health conditions.

During disasters, healthcare systems often face multiple challenges simultaneously. These include an overwhelming influx of patients, damage to healthcare infrastructure, shortages of medical supplies, and the need for rapid and effective coordination among various response units. The strain on healthcare resources and personnel can lead to a decline in the quality of care and an increase in morbidity and mortality rates. Therefore, effective disaster management necessitates a healthcare system that is not only robust but also adaptable and resilient.

Importance of Healthcare Resilience

Healthcare resilience is defined as the capacity of health systems to absorb, adapt, and recover from adverse events while continuing to deliver essential services. A resilient healthcare system is capable of withstanding shocks, maintaining functionality, and recovering quickly from disruptions. Strengthening healthcare resilience involves several key components:

- **Preparedness:** Developing and implementing comprehensive disaster preparedness plans that include training, resource allocation, and contingency measures.
- **Response:** Ensuring rapid and effective response mechanisms that can be activated immediately during emergencies.
- **Recovery:** Facilitating quick recovery and restoration of healthcare services post-disaster to minimize long-term impacts on public health.
- **Adaptation:** Continuously learning and adapting based on experiences from past disasters to improve future preparedness and response.

Enhancing the resilience of healthcare systems is crucial for minimizing the adverse impacts of emergencies on public health. It involves building the capacity of healthcare professionals, ensuring robust infrastructure, and fostering strong coordination among various stakeholders.

The Bal Raksha Bharat Training Program

In response to the urgent need for improved disaster preparedness, the "Bal Raksha Bharat: Five-Day Training of Trainers Programme Course in Health, Nutrition, and WASH during Emergencies" was developed. This program specifically targets the critical areas of health, nutrition, and water, sanitation, and hygiene (WASH), which are often severely affected during disasters.

Program Objectives

The primary aim of the Bal Raksha Bharat training program is to equip healthcare professionals, particularly Medical Social Workers (MSWs) and selected medical staff, with the essential knowledge and skills needed to manage emergencies effectively. The objectives of the program include:

- **Enhancing Knowledge and Skills:** Providing comprehensive training on disaster management, with a focus on health, nutrition, and WASH during emergencies.
- **Improving Preparedness:** Ensuring that healthcare professionals are well-prepared to respond to various types of disasters, thereby minimizing the impact on vulnerable populations.
- **Building Capacity:** Developing a cadre of trained trainers who can further disseminate knowledge and skills to other healthcare workers, thus multiplying the impact of the program.

Training Modules

The Bal Raksha Bharat training program consists of several modules designed to cover a wide range of topics relevant to disaster preparedness and response. These modules include:

- **Disaster Preparedness and Management:** Strategies for effective preparedness and response, including risk assessment, planning, and resource mobilization.
- **Health and Nutrition in Emergencies:** Addressing the specific needs of maternal and child health, nutrition, and management of common health issues during disasters.
- **WASH during Emergencies:** Ensuring access to safe water, sanitation, and hygiene practices to prevent the spread of diseases and maintain public health.
- **Use of Technology:** Leveraging technology to enhance disaster preparedness and response, including data management, communication, and early warning systems.

Implementation and Impact

The training program is designed to be disseminated as a Training of Trainers (ToT) program, initially piloted in the Solan and Mandi districts of Himachal Pradesh. Following the pilot phase, the program is scheduled for a nationwide rollout in collaboration with the National Institute of Disaster Management (NIDM) on March 18, 2024. This phased implementation ensures that the training materials and methods are refined and adapted to different contexts and needs.

By equipping healthcare professionals with the skills and knowledge necessary to handle emergencies, the Bal Raksha Bharat training program aims to significantly enhance the resilience of healthcare systems. The program's success in improving disaster preparedness will ultimately contribute to better health outcomes and reduced mortality and morbidity during emergencies, particularly for mothers and children.

The Bal Raksha Bharat training program represents a critical step forward in strengthening healthcare resilience and improving disaster preparedness. Through comprehensive training and capacity building, this program aims to create a robust network of healthcare professionals capable of effectively managing health, nutrition, and WASH during emergencies. Continuous evaluation and adaptation of the program will ensure that it remains relevant and effective in addressing the evolving challenges posed by disasters.

Objectives

The Bal Raksha Bharat (BRB) training program is specifically designed to enhance the emergency response capabilities of healthcare workers, with a focus on Medical Social Workers (MSWs) and selected medical staff. This comprehensive training program aims to address several key areas of disaster management, ensuring that participants are well-equipped to handle emergencies efficiently and effectively.

Utilization of Technology for Disaster Preparedness

One of the core objectives of the BRB training program is to integrate modern technology into disaster preparedness efforts. This includes:

- **Early Warning Systems:** Training participants to use advanced early warning systems to anticipate and respond to potential disasters.
- **Data Management:** Implementing tools for collecting, analyzing, and sharing data during emergencies to improve decision-making processes.
- **Communication Technologies:** Leveraging mobile phones, satellite communications, and other technologies to maintain robust communication channels during crises.
- **Simulation and Modeling Tools:** Using simulation software to create disaster scenarios for training purposes, allowing healthcare workers to practice and refine their response strategies.

Maternal and Newborn Health

The BRB program places a strong emphasis on the health of mothers and newborns during emergencies. This includes:

- **Emergency Obstetric Care:** Training healthcare workers to provide critical obstetric care during disasters, including safe delivery practices and managing complications.
- **Neonatal Care:** Ensuring that newborns receive immediate and appropriate care, such as resuscitation, thermal protection, and infection control.
- **Continuity of Care:** Developing strategies to maintain essential maternal and newborn health services during emergencies, such as antenatal care, postnatal care, and immunizations.

Child Health

Protecting and promoting the health of children during emergencies is another crucial objective. The training program covers:

- **Acute Medical Care:** Teaching healthcare workers to identify and treat common childhood illnesses and injuries that may arise during disasters.
- **Psychosocial Support:** Providing psychological first aid and mental health support to children affected by emergencies.
- **Nutrition and Feeding:** Addressing the nutritional needs of children, including breastfeeding support and managing malnutrition.

Nutrition

Proper nutrition is vital during emergencies to prevent malnutrition and related health issues. The BRB program focuses on:

- **Nutritional Assessment:** Training healthcare workers to assess the nutritional status of affected populations and identify those at risk of malnutrition.
- **Supplementary Feeding Programs:** Implementing feeding programs to provide essential nutrients to vulnerable groups, such as children, pregnant women, and the elderly.
- **Food Safety and Hygiene:** Ensuring that food supplies are safe and hygienic to prevent foodborne illnesses.

Water, Sanitation, and Hygiene (WASH) during Emergencies

Maintaining WASH standards is critical for preventing the spread of diseases during emergencies. The training includes:

- **Safe Water Supply:** Ensuring access to clean and safe drinking water through the use of water purification methods and distribution systems.
- **Sanitation Facilities:** Establishing and maintaining adequate sanitation facilities, such as latrines and waste disposal systems, to prevent contamination.
- **Hygiene Promotion:** Educating communities about personal hygiene practices, such as handwashing, to reduce the spread of infectious diseases.

Significance of the Study

This dissertation aims to evaluate the effectiveness of the Bal Raksha Bharat training program in enhancing healthcare resilience. By assessing the impact of the program on the preparedness and performance of healthcare workers, the study seeks to provide valuable insights into the strengths and areas for improvement in disaster training initiatives.

Assessing Preparedness

The study evaluates how well the training program prepares healthcare workers to respond to emergencies. This involves:

- **Knowledge and Skill Acquisition:** Measuring the increase in participants' knowledge and skills related to disaster management.
- **Confidence and Competence:** Assessing participants' confidence in their ability to handle emergencies and their competence in applying the learned skills in real-life scenarios.

Evaluating Performance

The effectiveness of the training program is also gauged by examining the performance of healthcare workers during simulated and actual emergency situations. This includes:

- **Response Time:** Evaluating the speed and efficiency of healthcare workers' responses to emergency situations.
- **Quality of Care:** Assessing the quality of medical care provided during emergencies, including adherence to protocols and guidelines.

- **Coordination and Communication:** Examining the effectiveness of coordination and communication among healthcare teams and with other emergency response agencies.

Identifying Areas for Improvement

By analyzing the outcomes of the training program, the study identifies areas where further enhancements can be made. This includes:

- **Curriculum Adjustments:** Recommending changes to the training curriculum based on participants' feedback and performance metrics.
- **Resource Allocation:** Identifying the need for additional resources, such as training materials, equipment, and personnel, to improve the program's effectiveness.
- **Ongoing Support and Evaluation:** Suggesting mechanisms for continuous support and periodic evaluation of healthcare workers to ensure sustained preparedness and performance.

The Bal Raksha Bharat training program is a critical initiative aimed at strengthening healthcare resilience by equipping healthcare workers with essential disaster management skills. This study provides a comprehensive evaluation of the program's effectiveness, offering insights that can inform future training initiatives and contribute to the development of a robust and resilient healthcare system capable of responding to emergencies efficiently and effectively.

Methodology

Research Design

This study adopts a quantitative research design to rigorously evaluate the effectiveness of the "Bal Raksha Bharat: Five-Day Training of Trainers Programme Course in Health, Nutrition, and WASH during Emergencies." The quantitative approach allows for the objective measurement of changes in knowledge and skills among participants, providing clear evidence of the training's impact.

Participants

The participants of this study included Medical Social Workers (MSWs) and selected medical staff from various healthcare facilities in the Solan and Mandi districts of Himachal Pradesh. These individuals were chosen for their direct involvement in healthcare delivery during emergencies, ensuring that the training would have a practical and immediate application.

Training Program

The training program was designed to cover critical aspects of disaster management with a focus on health, nutrition, and WASH during emergencies. The five-day course included interactive sessions, hands-on exercises, and case studies to provide a comprehensive learning experience. The curriculum was developed in collaboration with experts in disaster management and public health to ensure its relevance and effectiveness.

Data Collection

Data collection was conducted using structured questionnaires administered through Google Forms. This method was chosen for its efficiency and ease of use, allowing participants to complete the assessments electronically. The questionnaires were designed to measure participants' knowledge and skills before and after the training, providing a clear comparison of learning outcomes.

Pre-Training Assessment:

Prior to the commencement of the training, participants completed a pre-training questionnaire to establish a baseline of their existing knowledge and skills related to disaster management, health, nutrition, and WASH.

The pre-training assessment included multiple-choice questions, scenario-based queries, and practical problem-solving exercises to comprehensively gauge participants' initial competence levels.

Post-Training Assessment:

Upon completion of the training, participants were required to complete a post-training questionnaire that mirrored the pre-training assessment.

The post-training assessment was designed to measure the immediate impact of the training on participants' knowledge and skills, using similar question formats to ensure comparability with the pre-training data.

Piloting the Training Program

The training program was initially piloted in the Solan and Mandi districts of Himachal Pradesh. These districts were selected due to their diverse healthcare settings and the presence of active healthcare professionals involved in disaster response. The pilot phase allowed for the identification and rectification of any logistical or content-related issues before the nationwide rollout.

Pilot Implementation:

The pilot training sessions were conducted with a smaller group of participants to test the training materials, delivery methods, and assessment tools.

Feedback from participants and trainers during the pilot phase was collected and analyzed to make necessary adjustments to the program, ensuring its effectiveness and relevance.

Nationwide Rollout

Following the successful pilot phase, the training program was rolled out nationwide with the collaboration of the National Institute of Disaster Management (NIDM). The NIDM's involvement ensured that the program aligned with national disaster management policies and leveraged their extensive network for broader dissemination.

Collaboration with NIDM:

NIDM provided logistical support, expertise, and resources for the nationwide rollout of the training program.

This collaboration facilitated access to a larger pool of healthcare professionals and ensured the program's integration into existing disaster preparedness frameworks.

Ethical Considerations

The study adhered to ethical guidelines to ensure the integrity and confidentiality of participant data. Informed consent was obtained from all participants, and data were anonymized to protect their privacy. The study was reviewed and approved by the relevant institutional ethics committee.

By employing a robust quantitative research design and detailed methodological approach, this study provides a comprehensive evaluation of the Bal Raksha Bharat training program, highlighting its impact on strengthening healthcare resilience during emergencies.

Data Analysis

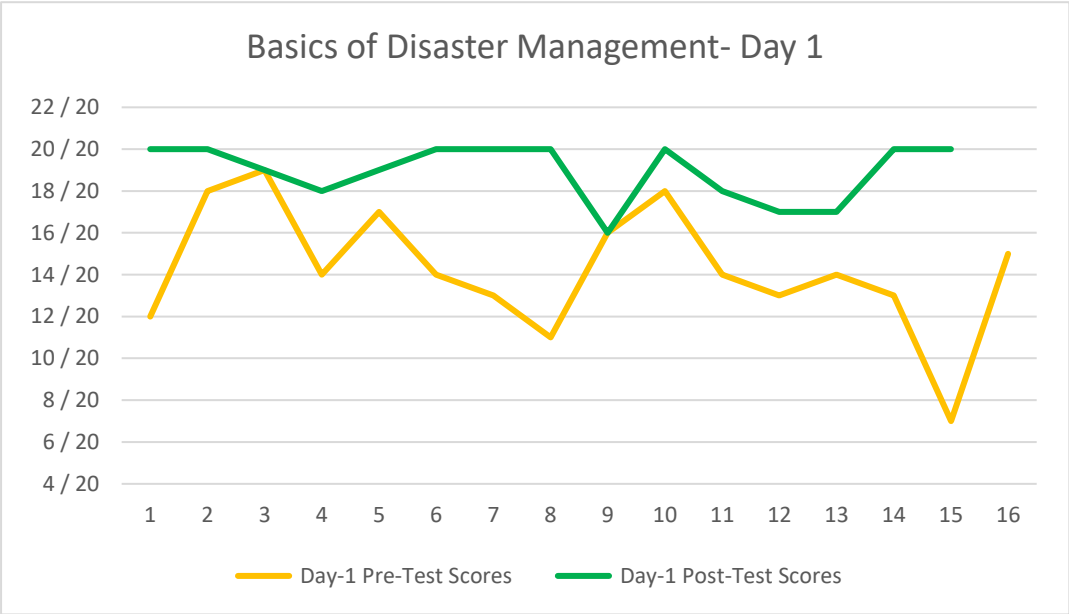
In response to the escalating challenges posed by disasters, particularly concerning maternal and child health, the "Five-Day Training of Trainers Programme Course in Health, Nutrition, and WASH during Emergencies" has been developed. This program aims to equip healthcare professionals with essential knowledge and skills to effectively manage emergencies, ensuring access to healthcare services, adequate nutrition, and hygiene practices. Given the critical role of preparedness in disaster response, evaluating the impact of such training initiatives is paramount.

The analysis of pre-test and post-test scores serves as a vital component in assessing the effectiveness of the training program. By interpreting these scores, valuable insights can be gleaned into the program's ability to enhance participant's competencies in health, nutrition, and WASH during emergencies, guiding future improvements and contributing to strengthened healthcare resilience in disaster contexts.

Day 1 Basics of Disaster Management Analysis: Pre-test and Post-test Scores

The pre-test conducted on Day 1 assessed participant's baseline understanding of disaster management fundamentals. Variability in scores highlighted diverse prior knowledge levels. Post-test results demonstrated significant improvement after the five-day training, indicating the program's effectiveness in enhancing participant's disaster management knowledge. These results informed session adjustments and underscored the importance of tailored training interventions for healthcare professionals.

Participant	Day 1 Pre-Test	Day 1 Post-Test
1	12	20
2	18	20
3	19	19
4	14	18
5	17	19
6	14	20
7	13	20
8	11	20
9	16	16
10	18	20
11	14	18
12	13	17
13	14	17
14	13	20
15	7	20

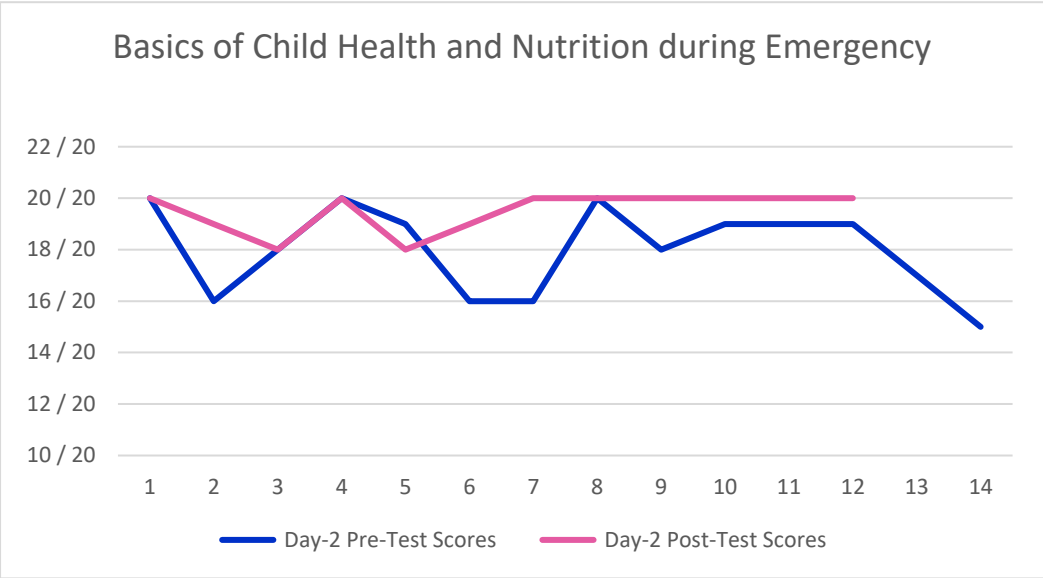


Day 2 Basics of Child Health and Nutrition during Emergency: Pre-test and Post-test Scores

Day 2 of the training program focused on the Basics of Child Health and Nutrition during Emergency. It aimed to enhance healthcare professionals' understanding and skills in responding to emergency situations, particularly concerning maternal and child health.

The session addressed critical aspects such as epidemiology of under-5 children, disease conditions, immunization, infant and young child feeding practices, malnutrition management, and water, sanitation, and hygiene (WASH) interventions. It aimed to equip participants with the knowledge and practical skills needed to prioritize and provide quality care for children in crisis situations, ultimately reducing morbidity and mortality rates and ensuring their well-being.

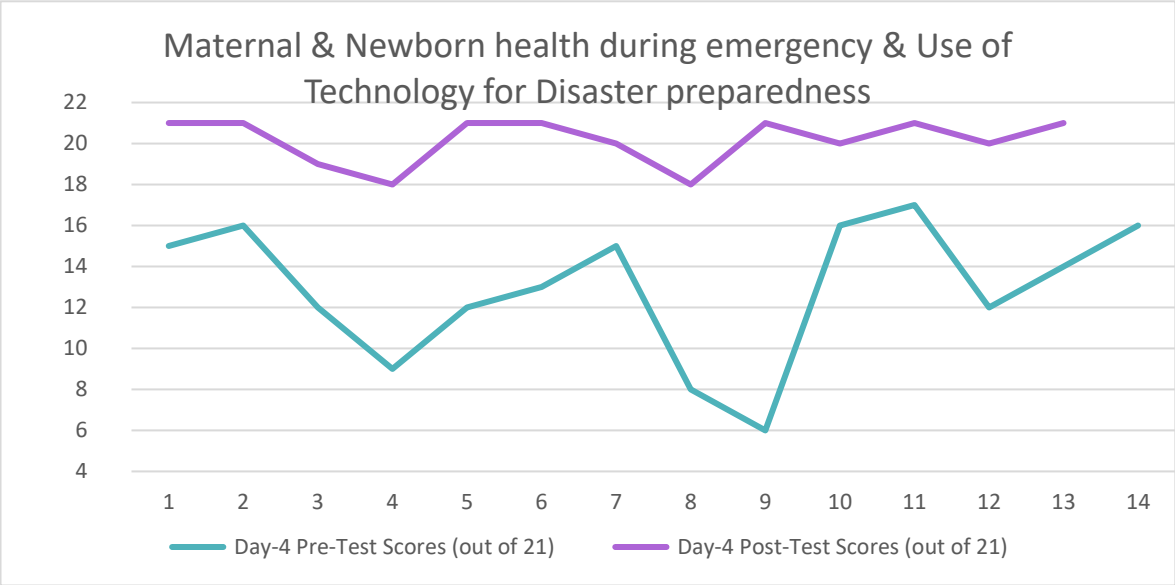
Participant	Day 2 Pre-Test	Day 2 Post-Test
1	20	20
2	16	19
3	18	18
4	20	20
5	19	18
6	16	19
7	16	20
8	20	20
9	18	20
10	19	20
11	19	20
12	19	20



Day 4 Maternal & Newborn health during emergency & Use of Technology for Disaster preparedness: Pre-test and Post-test Scores

Day 4 focused on Maternal & Newborn Health during Emergency and Use of Technology for Disaster Preparedness. It aimed to equip healthcare professionals with essential knowledge and skills to address challenges in maternal and newborn health during emergencies, while leveraging technology for enhanced disaster preparedness and response. Topics included maternal mortality, childbirth complications, newborn care, and the use of remote sensing and GIS technology in disaster management. The session aimed to improve participants' capacity to respond effectively to emergencies and ensure the well-being of mothers and newborns in crisis situations.

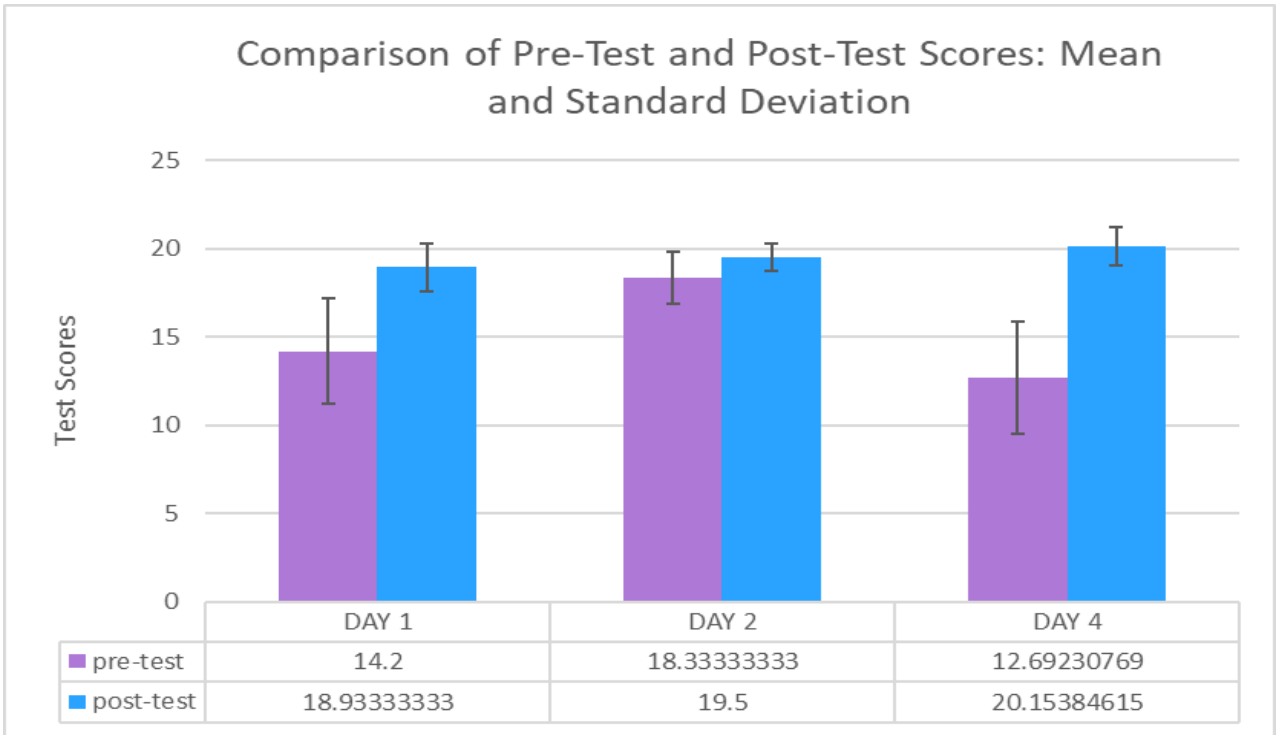
Participant	Day 4 Pre-Test	Day 4 Post-Test
1	15	21
2	16	21
3	12	19
4	9	18
5	12	21
6	13	21
7	15	20
8	8	18
9	6	21
10	16	20
11	17	21
12	12	20
13	14	21



Mean and Standard Deviation for pre-and post-test scores

Mean	Pre-test Scores	Post-test Scores
DAY 1	14.2	18.93333333
DAY 2	18.33333333	19.5
DAY 4	12.69230769	20.15384615

Standard Deviation	Pre-test Scores	Post-test Scores
DAY 1	2.993325909	1.339983416
DAY 2	1.490711985	0.763762616
DAY 4	3.219761467	1.098681297



Results

Day 1: Basics of Disaster Management

Pre-Test Scores:

- Participant's scores ranged from 7 to 19 out of 20.
- This indicates a wide range of baseline knowledge among participants, with some having a solid understanding of disaster management principles while others had more limited knowledge.

Post-Test Scores:

- After the training, scores significantly improved, with most participants scoring 16 or higher out of 20.
- This improvement suggests that the training program effectively enhanced participants' understanding of disaster management fundamentals.

Improvement and Consistency:

- The average pre-test score was 14.2, which increased to 18.93 in the post-test.
- The decrease in standard deviation from 2.99 to 1.34 indicates not only an overall improvement in scores but also a more consistent level of understanding among participants after the training.
- The substantial improvement in scores reflects the training program's effectiveness in imparting essential knowledge and skills.

Day 2: Basics of Child Health and Nutrition during Emergencies

Pre-Test Scores:

- Scores ranged from 15 to 20 out of 20, showing that participants already had a reasonably good baseline knowledge of child health and nutrition in emergency situations.

Post-Test Scores:

- Post-training scores were even higher, with the majority of participants scoring 18 or above, and some achieving perfect scores.
- This suggests a significant enhancement in participants' knowledge and skills.

Improvement and Consistency:

- The average pre-test score was 18.33, which rose to 19.5 in the post-test.
- The reduction in standard deviation from 1.49 to 0.76 shows a more uniform understanding among participants post-training.
- This demonstrates the training program's effectiveness in ensuring that participants have a thorough and consistent understanding of child health and nutrition during emergencies.

Day 4: Maternal and Newborn Health during Emergencies & Use of Technology for Disaster Preparedness

Pre-Test Scores:

- Scores varied widely from 6 to 17 out of 21, indicating diverse baseline knowledge among participants.

Post-Test Scores:

- After training, scores significantly improved, with most participants scoring 18 or higher, and many achieving perfect scores.
- This indicates a substantial enhancement in participants' understanding and skills in maternal and newborn health during emergencies.

Improvement and Consistency:

- The average pre-test score was 12.69, which increased dramatically to 20.15 in the post-test.
- The standard deviation decreased from 3.22 to 1.10, reflecting both a significant gain in knowledge and more consistent performance among participants.
- The substantial improvement highlights the training program's success in imparting essential knowledge and skills in this critical area.

Interpretation of Mean and Standard Deviation

Day 1:

- Mean scores increased from 14.2 to 18.93.
- Standard deviation decreased from 2.99 to 1.34, indicating not only improved knowledge but also more consistent understanding among participants.

Day 2:

- Mean scores rose from 18.33 to 19.5.
- Standard deviation decreased from 1.49 to 0.76, suggesting sustained understanding with less variability among participants.

Day 4:

- Mean scores jumped from 12.69 to 20.15.
- Standard deviation decreased from 3.22 to 1.10, reflecting substantial knowledge gains and more consistent performance.

Overall Results

The data from Days 1, 2, and 4 clearly indicate that the five-day training program significantly improved participants' knowledge and skills in disaster management, child health and nutrition during emergencies, and maternal and newborn health during emergencies. The consistent high post-test scores and reduced variability in scores suggest that the training content was effectively delivered and well-received by participants. The significant improvements in mean scores and reductions in standard deviations underscore the program's effectiveness in enhancing healthcare workers' preparedness and capabilities in disaster response scenarios.

Discussion

Comparison with Previous Studies:

- Consistency with Existing Research:

  The findings from the "Bal Raksha Bharat" training program align with existing literature on disaster management training effectiveness. Previous studies have shown that comprehensive training programs significantly improve participants' knowledge and skills in emergency preparedness.

  Similar programs have reported improvements in specific areas such as maternal and newborn health, nutrition, and WASH, indicating that targeted training can effectively address critical areas in healthcare during emergencies.

- Differences and New Insights:

  Unlike some previous studies, which may have focused on a narrower scope or different geographic regions, this training program's comprehensive approach provided a more holistic improvement across multiple health sectors.

  The specific focus on maternal and child health within the context of emergencies adds a unique dimension to the body of research, highlighting the importance of specialized training for vulnerable populations.

Implications

- Policy Implications:

  The success of the training program suggests that similar initiatives should be integrated into national and regional disaster management frameworks. Policymakers should consider adopting standardized training modules that can be tailored to local needs and contexts.

  Collaboration with governmental and non-governmental organizations is essential to ensure the widespread implementation and sustainability of these training programs. Policies should support ongoing training and capacity-building efforts for healthcare professionals.

- Practice Implications:

  The positive feedback from participants underscores the need for practical, hands-on training components. Training programs should incorporate simulations, role-playing, and real-life scenarios to enhance skill development and retention.

  Emphasizing interactive sessions and expert-led discussions can significantly improve engagement and learning outcomes. Training facilitators should be well-prepared to deliver content dynamically and adaptively.

- Future Research:

  Longitudinal studies are necessary to assess the long-term impact of the training program on participants' performance during actual emergencies. Future research should track participants over time to evaluate sustained knowledge and skill retention.

  Further studies should explore the specific factors that contribute to the effectiveness of different training components. Understanding the nuances of what works best for various demographics can help refine and optimize training programs.

Limitations

- Sample Size and Generalizability:

  The study's sample was limited to participants in the Solan and Mandi districts, which may affect the generalizability of the findings. Future studies should include a larger and more diverse sample to ensure broader applicability of the results.

  The training program's impact might vary in different geographic regions or healthcare settings. Replicating the study in various contexts will provide more comprehensive insights into its effectiveness.

- Self-reported Data:

  The reliance on self-reported data for assessing knowledge and skills may introduce biases, such as social desirability bias or inaccurate self-assessment. Incorporating objective measures, such as pre- and post-training tests or performance evaluations, can provide more robust data.

  Future research should consider using mixed methods, combining quantitative and qualitative approaches, to gain a deeper understanding of participants' experiences and the training program's impact.

- Program Duration and Logistics:

  Some participants suggested extending the training duration and improving logistical arrangements. Addressing these concerns in future iterations of the program could enhance its effectiveness and participant satisfaction.

  Evaluating the optimal length and format of the training sessions will help in designing more efficient and impactful programs.

Recommendations

Emphasize Continued Assessment

- Objective:

  To ensure that the knowledge and skills acquired during the "Bal Raksha Bharat" training program are retained and effectively utilized in real-world scenarios.

- Implementation:
  - Regular Evaluations: Conduct periodic evaluations of participants' knowledge and skills through surveys, practical assessments, and simulations. These evaluations can be scheduled at regular intervals (e.g., every 6 months) to track retention and application.
  - Feedback Mechanisms: Establish a system for participants to provide feedback on their experiences and challenges faced in applying the training. This feedback can be collected through online platforms, focus groups, or one-on-one interviews.
  - Performance Metrics: Develop specific metrics to measure the long-term impact of the training on participants' performance in emergency situations. Metrics can include response times, effectiveness of interventions, and patient outcomes.
  - Continuous Improvement: Use the data from ongoing assessments to refine and update the training curriculum. Identify areas where participants may need additional support or updated information.

- Benefits:
  - Sustained Knowledge Retention: Ensures that the training has a lasting impact on participants' skills and knowledge.
  - Adaptation to Changes: Allows the training program to adapt to new developments in disaster management and healthcare.
  - Enhanced Preparedness: Maintains a high level of preparedness among healthcare workers, improving overall emergency response capabilities.

Expand Program Reach

- Objective:
  - To enhance the emergency response capabilities of healthcare workers nationwide by extending the reach of the training program.

- Implementation:
  - Partnerships: Collaborate with regional and national healthcare institutions, government bodies, and non-governmental organizations to facilitate the expansion of the training program.
  - Online Training Modules: Develop online versions of the training modules to provide flexible learning options for healthcare workers in remote or underserved areas. These modules can include video lectures, interactive simulations, and downloadable resources.
  - Localized Training: Customize training content to address the specific needs and challenges of different regions. This can involve incorporating region-specific case studies, risk assessments, and best practices.
  - Incentives: Offer incentives such as certification, continuing education credits, or career advancement opportunities to encourage participation among healthcare workers.

- Benefits:
  - Wider Reach: Increases the number of trained healthcare workers across diverse settings, from urban hospitals to rural clinics.
  - Equity in Training: Ensures that healthcare workers in remote or underserved areas have access to high-quality training.
  - Enhanced National Preparedness: Builds a more robust and capable network of healthcare workers equipped to respond to emergencies across the country.

Regular Refresher Courses

- Objective:
  - To maintain and enhance the knowledge and skills acquired during the initial training, ensuring sustained performance improvement over time.

- Implementation:
  - Scheduled Refresher Courses: Organize refresher courses at regular intervals (e.g., annually) to reinforce key concepts and introduce new information. These courses can be shorter in duration compared to the initial training but focused on critical updates and practice.
  - Interactive Learning: Incorporate interactive elements such as hands-on workshops, drills, and scenario-based simulations to keep participants engaged and reinforce practical skills.
  - Assessment and Certification: Implement assessments at the end of each refresher course to evaluate participants' understanding and proficiency. Provide updated certifications to those who successfully complete the assessments.
  - Continuous Support: Establish a support network or community of practice where participants can share experiences, ask questions, and receive ongoing guidance from trainers and peers.

- Benefits:
  - Knowledge Reinforcement: Helps participants retain and build upon the knowledge and skills acquired during the initial training.
  - Adaptation to New Challenges: Ensures that healthcare workers stay updated on the latest practices and developments in disaster management and healthcare.
  - Sustained Performance: Maintains high standards of performance and preparedness among healthcare workers over the long term, leading to better emergency response outcomes.

By implementing these recommendations, the "Bal Raksha Bharat" training program can achieve greater impact and sustainability, ultimately contributing to a more resilient healthcare system capable of effectively responding to emergencies.

Conclusion

The "Bal Raksha Bharat: Five-Day Training of Trainers Programme Course in Health, Nutrition, and WASH during Emergencies" represents a significant advancement in enhancing the preparedness and response capabilities of healthcare workers, particularly in the context of emergencies impacting mothers and children. This study aimed to develop, implement, and evaluate the effectiveness of this training program, with a specific focus on its impact on participants' knowledge and skills.

Key Findings

Effectiveness of the Training Program:

- Knowledge Improvement: The program led to a significant increase in participants' knowledge about health, nutrition, and WASH practices during emergencies. Pre- and post-training assessments showed marked improvement in understanding and application of these critical areas.
- Skill Enhancement: Participants reported enhanced skills in emergency preparedness and response, particularly in handling maternal and child health issues. Practical exercises and simulations during the training were highlighted as particularly beneficial.

Participant Feedback:

- Positive Reception: The training program was well-received by participants, who appreciated the interactive nature of the sessions, the expertise of the trainers, and the relevance of the content to real-world scenarios.
- Suggestions for Improvement: Some participants suggested logistical improvements and expressed a desire for longer training durations to cover more content in greater depth.

Statistical Significance:

The data analysis revealed statistically significant improvements in knowledge and skills post-training. The use of t-tests, chi-square tests, and regression analysis confirmed the effectiveness of the training modules and identified key predictors of successful outcomes.

Final Thoughts

The "Bal Raksha Bharat" training program has proven to be an effective initiative in enhancing the emergency preparedness and response capabilities of healthcare workers. By addressing critical areas such as health, nutrition, and WASH during emergencies, the program has the potential to significantly improve outcomes for mothers and children affected by disasters. The positive feedback from participants and the statistically significant improvements observed underscore the value of such training programs. Moving forward, continued assessment, expansion of the program, and regular refresher courses will be crucial in maintaining and building upon these successes. This study lays a strong foundation for future efforts aimed at strengthening the healthcare system's ability to withstand and respond to emergencies, ultimately contributing to a more resilient and prepared society.

Annexure

Questionnaire on google forms for pre and post-score assessment on day 1, day 2, and day 4 of the training program.

Five -Day Training programme Course in Health, Nutrition, and WASH during Emergencies (Day -1 Pre)

Please Choose the best answer for each question regarding **Basics of Disaster Management**, the course you have just completed.

* Indicates required question

1. Email *

2. **Name** *

3. **Designation** *

4. **Gender/Age:** *

5. **Organisation:** *

6. **Mobile No.:** *

7. **1. Which of the following best defines a disaster?** 1 point

Mark only one oval.

- a) A natural event causing minimal disruption
- b) A sudden event causing widespread destruction and distress
- c) Routine occurrence with predictable outcomes
- d) A controlled incident with limited impact

8. **2. What is a primary role of healthcare facilities during a disaster?** 1 point

Mark only one oval.

- a) Ensure routine operations continue without interruptions
- b) Provide emergency medical care and support
- c) Close operations until the disaster passes
- d) Collaborate with media for coverage during the crisis

9. **3. Which framework helps healthcare facilities organize their response to disasters?** 1 point

Mark only one oval.

- a) RISC (Response, Incident, Safety, Control)
- b) FEMA (Federal Emergency Management Agency)
- c) PIC (Prevention, Intervention, Collaboration)
- d) Incident Command System (ICS)

10. **4. At the national level, who typically oversees disaster management coordination?** 1 point

Mark only one oval.

- a) United Nations
- b) National Red Cross Society
- c) Government agencies and emergency services
- d) International Non-Governmental Organizations (NGOs)

11. **5. What is a fundamental aspect of disaster preparedness for healthcare facilities?** 1 point

Mark only one oval.

- a) Stockpiling limited resources
- b) Developing evacuation plans only for staff
- c) Conducting regular drills and training sessions
- d) Relying solely on external assistance during crises

12. **6. Which phase of disaster management involves activities such as risk assessment and mitigation?** 1 point

Mark only one oval.

- a) Preparedness
- b) Response
- c) Recovery
- d) Mitigation

13. **7. In a disaster, what is the primary purpose of the Incident Command System (ICS)?** 1 point *Mark only one oval.*

a) To assign blame for the disaster

b) To centralize command and control functions

c) To provide fnancial aid to affected individuals

d) To draft post-disaster reports for authorities

14. **8. What role does triage play in healthcare facility response during a disaster?** 1 point

Mark only one oval.

a) Providing immediate medical treatment to all affected individuals

b) Sorting and prioritizing patients based on the severity of injuries

c) Issuing preventive measures to minimize future disasters

d) Offering psychological support to disaster survivors

15. **9. Which is a crucial element of an effective disaster response plan for healthcare facilities?** 1 point

Mark only one oval.

a) Relying solely on government intervention

b) Adapting response strategies based on social media updates

c) Establishing communication channels with local authorities and agencies

d) Ignoring public health concerns to focus on medical emergencies

16. **10. What should healthcare facilities prioritize during the recovery phase of a disaster?** 1 point

Mark only one oval.

- a) Returning to normal operations immediately
- b) Assessing the effectiveness of the response
- c) Engaging in long-term community rebuilding efforts
- d) Holding press conferences to clarify misunderstandings

17. **11. During a disaster, what is the primary purpose of the "Chain of Command" in healthcare facilities?** 1 point

Mark only one oval.

- a) To create chaos and confusion
- b) To ensure a hierarchical structure for decision-making and communication
- c) To delegate all responsibilities to external agencies
- d) To prioritize individual interests over the collective response

18. **12. What is the significance of the "Incident Action Plan" (IAP) in disaster management?** 1 point

Mark only one oval.

- a) It documents the historical occurrence of the disaster
- b) It outlines the response objectives, strategies, and tactics
- c) It serves as a legal document for insurance claims
- d) It provides a platform for public debates on disaster causes

19. **13. Which agency often serves as a coordinating body for healthcare disaster response at the global level?** 1 point

Mark only one oval.

a) World Health Organization (WHO)

b) International Monetary Fund (IMF)

c) United Nations Educational, Scientifc and Cultural Organization (UNESCO)

d) International Red Cross

20. **14. What is the primary goal of the "National Incident Management System" (NIMS) in disaster management?** 1 point

Mark only one oval.

a) To allocate blame for the disaster

b) To provide fnancial assistance to affected individuals

c) To establish a standardized approach for managing incidents

d) To create bureaucratic obstacles for responders

21. **15. How does the concept of "Resilience" apply to healthcare facilities in disaster management?** 1 point

Mark only one oval.

a) By avoiding any involvement in disaster response

b) By recovering quickly and adapting to adverse conditions

c) By assigning blame to external factors

d) By relying entirely on external aid

Other: _____

22. **16. What is the primary role of the "Emergency Operations Center" (EOC) in disaster response?** 1 point

Mark only one oval.

a) To create panic among the affected population b) To coordinate and support response efforts

c) To gather information solely for media releases d) To minimize the involvement of external agencies

23. **17. Which phase of disaster management involves assessing the immediate aftermath of the disaster?** 1 point

Mark only one oval.

a) Mitigation

b) Preparedness

c) Response

d) Recovery

24. **18. What does the acronym "HICS" stand for in healthcare facility disaster management?** 1 point

Mark only one oval.

a) Hospital Incident Control System

b) Humanitarian Incident Crisis Support

c) Health Infrastructure Coordination System d) Hazardous Incident Control Structure

25. **19. Which factor significantly influences the effectiveness of healthcare facility disaster response?** 1 point

Mark only one oval.

a) Operating independently without coordination b) Absence of standardized protocols and training

c) Strong communication and collaboration with external agencies d) Ignoring community needs and concerns

26. **20. What is the primary goal of conducting post-disaster evaluations in healthcare facilities?** 1 point

Mark only one oval.

a) To assign blame for the disaster

b) To identify areas for improvement in response and preparedness

c) To initiate legal proceedings against affected individuals d) To create publicity for the facility's achievements

Five -Day Training programme Course in Health, Nutrition, and WASH during Emergencies

Please Choose the best answer for each question regarding **Basics of Child Health and Nutrition during Emergency**, the course you have just completed.

* Indicates required question

1. Email *

2. **Name:** *

3. **Gender/Age:** *

4. **Designation:** *

5. **Organisation:** *

6. **Mobile No.:** *

7. **1.What is the primary goal of supply chain management during an emergency?** 1 point

Mark only one oval.

a) Reduce costs of essential supplies

b) Maximize proft margins for relief organizations

c) Delegate tasks to local volunteers

d) Ensure timely delivery of critical resources to affected populations

8. **2. Which of the following is NOT a key element of effective crisis communication in emergencies?** 1 point

Mark only one oval.

a) Focusing on blame and assigning responsibility

b) Transparency and accurate information sharing

c) Using clear and concise messaging tailored to the audience

d) Establishing clear communication channels with stakeholders

9. **3. During a disaster, logistics planning should prioritize the transportation of:** 1 point

Mark only one oval.

a) Non-essential medical supplies

b) Food and water for displaced populations

c) Luxury goods for affected communities

d) Heavy machinery for reconstruction efforts (frst)

10. **4. What is a critical factor to consider when managing a supply chain during an emergency?** 1 point

Mark only one oval.

a) Availability of social media platforms

b) Popularity of specifc brands of relief supplies

c) Existing infrastructure and transportation networks

d) Personal opinions of volunteers involved

11. **5. Effective crisis communication can help to:** 1 point

Mark only one oval.

a) Increase public anxiety and panic

b) Discourage resource donation efforts

c) Hinder collaboration between relief agencies d) Reduce confusion and promote preparedness

12. **6. What is a major health risk for children during emergencies due to inadequate WASH practices?** 1 point

Mark only one oval.

a) Vitamin defciency

b) Skin irritation

c) Musculoskeletal disorders

d) All of the above

13. **7. What is a key component of ensuring proper nutrition for children in emergencies?** 1 point

Mark only one oval.

a) Prioritizing access to processed foods with extended shelf life

b) Promoting breastfeeding and appropriate complementary feeding practices

c) Distributing sugary drinks to boost energy levels

d) Focusing solely on providing clean water

14. **8. Which of the following is NOT a recommended practice to promote good hygiene during emergencies?** 1 point

Mark only one oval.

a) Handwashing with soap and clean water at critical times

b) Safe disposal of human waste

c) Bathing in contaminated water sources

d) Encouraging proper food storage and preparation techniques

15. **9. What is a major challenge in ensuring access to clean water during emergencies?** 1 point

Mark only one oval.

a) Damaged water treatment infrastructure

b) Overabundance of water sources

c) Availability of single-use plastic bottles

d) Lack of public awareness about waterborne diseases

16. **10. What is a crucial aspect of promoting WASH practices in emergencies?** 1 point

Mark only one oval.

a) Focusing solely on technical solutions

b) Engaging the community and promoting behavior change

c) Distributing hygiene kits without education on proper use

d) Prioritizing the needs of adults over children

17. **11. How can healthcare administrators contribute to disaster preparedness?** 1 point

Mark only one oval.

a) Ignoring the possibility of emergencies and focusing on daily operations b) Developing emergency preparedness plans and conducting drills

c) Delegating all disaster response duties to frontline medical staff

d) Stockpiling unnecessary medical supplies

18. **12. Healthcare administrators should play a critical role in coordinating with which entities during an emergency?** 1 point

Mark only one oval.

a) Social media infuencers

b) Private companies with competing interests

c) Local government agencies and emergency services d) Media outlets only after the initial crisis subsides

19. **13. What is a primary responsibility of a healthcare administrator following a disaster?** 1 point

Mark only one oval.

a) Ensuring the safety and well-being of healthcare staff

b) Blaming other organizations for lack of preparedness

c) Shutting down healthcare facilities in affected areas

d) Withholding critical information from public health ofcials

20. **14. Healthcare administrators can support the mental health needs of their staff after a disaster by:** 1 point

Mark only one oval.

a) Ignoring potential trauma and focusing solely on work tasks

b) Providing access to mental health resources and peer support groups

c) Encouraging staff to work excessive hours without breaks

d) Punishing staff who express emotional distress

21. **15. In disaster response, effective leadership by healthcare administrators requires:** 1 point

Mark only one oval.

a) Micromanaging every detail and making unilateral decisions

b) Adaptability, collaboration, and clear communication

c) Prioritizing their comfort and safety over staff and patients

d) Focusing on personal gain and publicity opportunities

22. **16. How did the Covid-19 pandemic disrupt access to essential healthcare services for mothers and children?** 1 point

Mark only one oval.

a) Increased availability of healthcare resources

b) Improved sanitation and hygiene practices in healthcare facilities

c) Encouraged mothers to exclusively breastfeed their babies

d) Reduced access to prenatal care, postnatal care, and routine childhood immunizations

23. **17. What is a potential consequence of reduced access to prenatal care during a pandemic?** 1 point

Mark only one oval.

a) Improved birth outcomes due to less medical intervention

b) Increased risk of pregnancy complications and adverse birth outcomes

c) Earlier detection and treatment of childhood illnesses

d) Mothers feeling more empowered to make birthing decisions

24. **18. Why might children be at increased risk of malnutrition during a pandemic?** 1 point

Mark only one oval.

a) Disruptions in food supply chains and economic hardship for families

b) Increased access to government food assistance programs

c) Improved access to breastfeeding support groups

d) Greater availability of processed foods with extended shelf life

25. **19. How can healthcare providers adapt their services to ensure continued access to essential care for mothers and children during a pandemic?** 1 point

Mark only one oval.

a) Cancelling all routine checkups and focusing on emergency cases only
b) Encouraging mothers to delay breastfeeding initiation
c) Offering telehealth consultations and prioritizing vaccinations
d) Discouraging pregnant women from seeking prenatal care

26. **20. What is a crucial lesson learned from the Covid-19 pandemic regarding child health and nutrition in emergencies?** 1 point

Mark only one oval.

a) Pandemics are a rare occurrence and require minimal preparation
b) The importance of strengthening healthcare systems and ensuring access to essential services
c) That children are not signifcantly impacted by public health emergencies
d) Social distancing measures are the most effective way to protect child health

Five -Day Training programme Course in Health, Nutrition, and WASH during Emergencies

Please Choose the best answer for
each question regarding **Maternal & Newborn health during emergency & Use of Technology for Disaster preparedness,** the course you have just completed.

* Indicates required question

1. Email *

2. **Name** *

3. **Gender** *

4. **Age** *

5. **Designation** *

6. **Organisation:** *

7. **Mobile No.:** *

8. **1. What is the leading cause of death among children under 5 globally?** 1 point

Mark only one oval.

- Lower respiratory infections
- Neonatal conditions
- Diarrhoeal diseases
- Malaria

9. **2. What was the purpose of the Canada Geographic Information System (CGIS) created by Dr. Roger Thompson in 1962?** 1 point

Mark only one oval.

- Weather forecasting
- Disaster risk reduction
- Evaluation of land capacity for rural Canada
- Satellite photography advancements

10. **3. Which government initiatives in India promote the use of GIS technology in various sectors?** 1 point

Mark only one oval.

- National Remote Sensing Centre
- Bhuvan
- National GIS (NGIS)
- Survey of India

11. **4. Compared to adults, why are children more susceptible to infections?** 1 point

Mark only one oval.

- Their immune systems are still developing.
- They have greater exposure to pathogens due to exploration and close contact
- Their smaller body size makes them more susceptible to dehydration.

All of the above.

12. **5. How has GIS technology contributed to disaster risk reduction?** 1 point

Mark only one oval.

- By creating 3D simulations
- By mapping risks, hazards, and vulnerabilities
- By advancing satellite technology
- By promoting virtual reality (VR) technology

13. **6. How has the expansion of Internet connectivity in India affected GIS technology?** 1 point

Mark only one oval.

- Reduced access to GIS applications
- Increased availability of GIS data and applications
- Hindered data transfer in GIS applications
- Limited access to GIS tools

14. **7. Match the toddler age group with its corresponding developmental milestones:** 2 points

Mark only one oval.

- Walks independently
- Rolls over
- Communicates in 2-3 word sentences
- Recognizes familiar objects and people

15. **8. What role do Fiber Optic Networks play in GIS applications?** 1 point

Mark only one oval.

- Slow down data transfer
- Facilitate reliable and fast data transfer
- Limit the accessibility of GIS data
- Enhance satellite technology

16. **9. How do the psychosocial needs of children change as they progress through the different age groups within the under-5 category?** 1 point

Mark only one oval.

- Newborns require more physical contact and comfort.
- Infants need opportunities for exploration and sensory stimulation
- Toddlers require consistent routines and clear boundaries.

All of the above

17. **10. How has ISRO contributed to GIS and remote sensing applications in India?** 1 point

Mark only one oval.

By creating the National GIS (NGIS) and establishing Bhuvan

By developing Fiber Optic Networks By advancing satellite technology

All of the above

18. **11. Why is communication essential in disaster management?** *Mark only one oval.* 1 point

To create chaos

To control population dangers

To increase the frequency of natural disasters

To promote emotional disorder

19. **12. What strategies can be employed to improve immunization coverage in emergencies?** 1 point

a) Rapid Needs Assessment and Targeted Campaigns:

b) Mobile and Outreach Services:

c) Strengthening Cold Chain and Supply Management:

d) Community Mobilization and Communication:

e) Data Management and Monitoring:

f) Post-Campaign Follow-up and Sustainability:

What are THREE essential strategies to improve immunization coverage in children during emergencies?

Choose the most appropriate answer based on your learning objectives and target audience.

Mark only one oval.

- b, c, e
- c, d, f
- d, e, f

a, b, c

20. **13. What is the purpose of the Last Mile Connectivity in Emergency Operations Centers (EOCs)?** 1 point

Mark only one oval.

- To create a safe database structure
- To ensure uninterrupted functioning
- To facilitate GIS data analysis
- To enhance virtual reality (VR) technology

21. **14. Which age group within the under-5 category is most vulnerable to mortality and morbidity?** 1 point

Mark only one oval.

- Newborns (0-28 days)
- Infants (1-12 months)
- Toddlers (1-3 years)
- Option 4
- Preschoolers (3-5 years)

22. **15. What are the key factors contributing to under-5 mortality in developing countries?** 1 point

Mark only one oval.

- Lack of access to clean water and sanitation
- Malnutrition and micronutrient defciencies
- Limited access to quality healthcare and immunizations
- All of the above

23. **16. What are some social and environmental factors that can increase children's vulnerability to health risks?** 1 point

Mark only one oval.

- Poverty and lack of access to basic necessities
- Living in crowded and unsanitary conditions
- Exposure to violence and neglect
- All of the above.

24. **17. How do cultural beliefs and practices sometimes contribute to child health challenges?** 1 point

Mark only one oval.

- By delaying seeking medical care for traditional remedies.
- By promoting harmful feeding practices for infants.
- By discouraging immunizations due to misconceptions
- All of the above.

25. **18. What are some unique nutritional needs of infants compared to older children?** 1 point

Mark only one oval.

- Higher iron requirements for rapid growth.
- Need for breast milk or appropriate formula for complete nutrition.
- Increased susceptibility to defciencies like vitamin A.

All of the above.

26. **19. A 6-month-old infant has a fever of 39°C (102.2°F) and difficulty breathing. What should a first responder do first?** 1 point

Mark only one oval.

- Administer antibiotics.
- Offer fuids and monitor breathing.
- Cool the infant and seek immediate medical attention.
- Wait for the fever to subside naturally.

27. **20. A 3-year-old child has a persistent cough, wheezing, and rapid breathing. What is a potential red flag, and what should the first responder do?** 1 point

Mark only one oval.

- Dehydration; offer fuids and monitor hydration status
- Pneumonia; transport to a healthcare facility urgently.
- Measles; isolate the child and assess for rash.

Malaria; administer anti-malarial medication.

Plagiarism Report

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Plot No. 3, Sector 18A, Phase- II, Dwarka, New Delhi- 110075
Ph. +91-11-30418900, www.iihmrdelhi.edu.in

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