Impact of Covid-19 in Health Emergency and Disaster Risk Management System: Healthcare Workforce Management in Covid-19

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Introduction: COVID-19 conforms to key baseline characteristics of disaster which is defined as "a situation or event that overwhelms local capacity, necessitating a request for national or international level of assistance." Many countries faced shortages of health workforce, maldistribution, misalignment of needs and skills of healthcare workers.

The research goal is to identify the country responses on the shortage of workforce, their best practices and the lessons learned that may help to better handle any similar crisis in the future.

Method: The scoping review was conducted in four electronic academic databases, namely, Medline, Web of Science, EBSCO, and TRIP and 24 scientific articles were reviewed. This study is funded by the World Health Organization Centre for Health Development (WKC-HEDRM-K21001).

Results: The main strategies implemented were a financial coordination mechanism, relaxing standards/rule, redeployment, recruiting volunteers, fast tracking medical students, and using other resources in the workforce such as: the recruitment of inactive healthcare workers, returnees whose registration has lapsed within the last 1-2 years and integration of internationally educated health professionals. All these strategies demonstrated advantages like establishing mutual support across nations, organizations, motivating healthcare workers, lessening the workload of healthcare workers, and creating a new staff model for the next pandemic. If a pandemic lasts longer, financial support mechanisms are no longer feasible and longer working hours result in burnout. Managing volunteers, including supervision of their safety and allocation to the area in need, required hard effort and high-level coordination, especially when a needs assessment is unavailable. Another problem was the absence of an available list of resources, including volunteers and retired medical personnel.

Conclusion: To date, countries have not yet determined clear policies on how to ensure the sustainability and resilience of the workforce during major health shocks. A follow-up study investigating the strategies implemented is needed.

Evaluation of Inconclusive Results on the Cepheid X-Pert Xpress Platform (GXP) for the Diagnosis of Severe Acute Respiratory Syndrome-2: A Narrative Literature Review

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Introduction: Molecular assay for diagnosing and detecting SARS-COV-2 is an essential tool in pandemic management, allowing for early informed decision-making. Worldwide, the gold standard for testing SARS-COV-2 includes real-time reverse transcription-polymerase chain reaction assay (RT-PCR). The Cepheid Xpert-Xpress was authorized for emergency diagnosis of SARS-COV-2. This platform demonstrated various advantages, including faster results, due to a decreased turnaround time, and decreased contamination risk. However, inconclusive results often leave clinicians uncertain regarding individual patient management decisions. Often leading to more confusion than answers.

The aim of this literature review includes the following:
- identify the frequency and clinical implications of inconclusive results for SARS-COV-2 diagnosis utilizing GeneXpert assay
- whether inconclusive results should be interpreted as negative
- assessing the reliability of the GeneXpert platform to diagnose SARS-COV-2

Method: A narrative literature review was conducted with eight critically appraised articles which met the inclusion criteria.

After the initial data collection, the SANRA Framework was implemented to aid in the sorting and filtering of data. The analysis of data was conducted with a critical appraisal tool.

Results: The GeneXpert SARS-COV-2 assay demonstrated high sensitivity and specificity. Studies indicated that inconclusive results associated with a high cycle-threshold value (CT-value) of more than thirty-five on the Cepheid Xpert Xpress were associated with a decreased viral load and, thus, decreased infectivity. However, numerous factors influence the CT-value, such as specimen integrity. Thus, results must not be interpreted in isolation.

Conclusion: This narrative literature review demonstrated the need for institutions to assist clinicians with decision-making regarding inconclusive results. A flow diagram grading a patient's risk of having SARS-COV-2 with an inconclusive result could be of immense value. The flow diagram should incorporate the current epidemiology in the area, patient symptomology and risk and duration of exposure.

"This is a T.E.S.T." (Tabletop Exercise Simulation Tool): Using Gamification to Train Public Health Staff in Community Reception Centers for a Nuclear or Radiological Incident

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Introduction: After a nuclear or radiological (nuc/rad) incident, there is a need to screen, potentially decontaminate, and monitor the affected population. A Community Reception Center (CRC) is a site that provides these services,