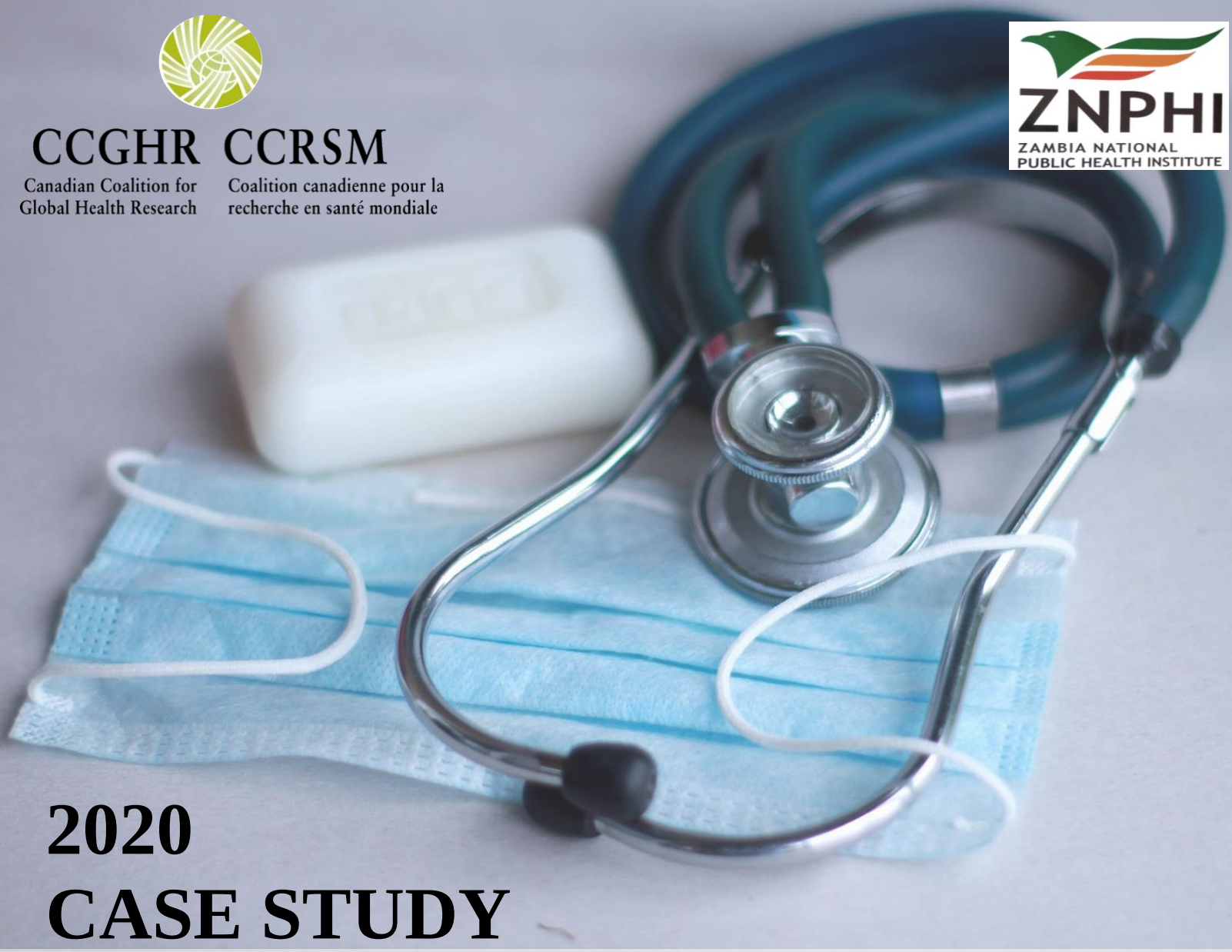
CCGHR CCRSM
Canadian Coalition for Global Health Research
Coalition canadienne pour la recherche en santé mondiale

ZNPHI
ZAMBIA NATIONAL PUBLIC HEALTH INSTITUTE



2020 CASE STUDY

Implementation and Effectiveness of the Non-Pharmaceutical Interventions for COVID-19 in Lower-middle-income countries: A Rapid Review

PREPARED BY:

Kutha Banda
Vyshnave Jeyabalan
Christine Arquero
Prachi Patel
Zoe Astaidis
Oluwasegun Ogundele

SUPPORTED BY:

Nelly Olke
Associate Professor,
School of Nursing
Faculty of Health and Social Development
UBC, Canada

CCGHR CCRSM
Canadian Coalition for Global Health Research
Coalition canadienne pour la recherche en santé mondiale

ZNPHI
ZAMBIA NATIONAL PUBLIC HEALTH INSTITUTE

What is the KTA problem?

1. There is limited literature that describes the effectiveness of implementing non- pharmaceutical interventions (NPIs) such as handwashing, social distancing, and the wearing of face masks in public spaces in lower-middle-income countries (LMICs).
2. Zambia, like many LMICs, is anticipating a second-wave of Covid-19 and a lack of context-relevant evidence on the effectiveness of NPIs makes it hard to design and implement evidence-based policies to limit the spread of the virus.

Who does it affect?

While SARS-CoV-2 disease (COVID-19) continues to impact people worldwide, certain groups are disproportionately affected by the devastating effects of the virus. Vulnerable populations living in countries with limited access to resources to effectively adopt the NPIs have an increased risk of infection. For example, a larger proportion of the LMIC population does not have basic handwashing facilities.

How does it affect them?

The impact of the pandemic varies across sociodemographic and socioeconomic strata. Many LMICS have responded to the pandemic differently with the aim of containing and reducing the transmission so as to avoid/reduce the strain on the already weak health systems. The government of Zambia, for instance, has had to take decisive measures to curb the spread of coronavirus disease.

These measures such as self-quarantine on arrival, suspension of international train and bus services, closure of bars and ban of public gathering affect the population. The impact of implemented public health measures on the population makes it difficult to implement and consequently less effective.

What do we know about it?

The world came to a standstill when World Health Organisations (WHO) declared a public health emergency after the severe cases of Pneumonia in Wuhan, China on 30th Jan 2020. Things escalated rapidly and a pandemic was announced on March 11th, 2020 by WHO for the novel coronavirus disease. (1) In all its uncertainties, it was natural to draw comparisons with some deadly outbreaks in the past such as the plague, Spanish flu, H1N1. But the current outbreak took an entirely different path despite the global preparedness and responsiveness. As of December 2020, there are nearly 75 million cases and approximately 1.65 million deaths worldwide as a result of COVID-19. (2) In the absence of treatment modalities and vaccines, curbing the transmission by avoiding exposure was an imperative step. The countries across the world started implementing various NPIs based on their respective socio-economic backgrounds.

What are the biggest gaps?

There is general information in the literature demonstrating that NPIs are efficacious in reducing the spread of COVID 19, however, there is little information on the effectiveness of the implementation of the NPIs. The issue is paramount in LMICs as they are burdened with pre-existing paucity in their healthcare and other socio-economic issues.

The aim of our study is to synthesize the knowledge from available literature on how the different LMICs have implemented NPIs as well as assess the effectiveness of their implementation.

A rapid scoping review was performed following the methodology detailed in Maureen Dobbin's "Rapid Review Guidebook Steps for conducting a rapid review" to produce a concise understanding of the cardinal issues with keeping in mind the timeline and urgency. (3)

Study Method:

We consulted with stakeholders from the Zambia National Public Health Institute which is a statutory body under the Ministry of Health Zambia leading the COVID-19 response in the country regarding the knowledge gaps in the implementation of the COVID-19 response and this study was proposed to provide adequate and appropriate evidence to inform policy and program decisions on effective implementation of NPIs.

Literature search and study selection:

We searched MEDLINE and CINAHL electronic databases for studies that explored the effectiveness of NPIs for COVID-19 using keywords "COVID-19", "Handwashing", "Social isolation". "Border closure", "masks", "school closure", "social distancing", "sterilization and disinfection", "infection control", "Non-Pharmaceutical Interventions". and "lower-middle-income countries". The world bank country classification of 2019-2020 was used to include the LMICs.

A total of 2,534 Peer-reviewed articles were obtained from databases on 18 August 2020. Mendeley was used to manage the search results and remove the duplicates.

Four authors carried out the title and abstract screening in pairs (2 independent reviews for each of half of the articles) for eligibility and excluded publications based on pre-set inclusion/exclusion criteria. A third rater did the title and abstract screening when there was a discrepancy between included and excluded articles. We included articles that report on the implementation of the NPIs in LMICs. We scanned for articles that discussed lockdown for inclusion. We excluded articles that report on (1) Pharmaceutical interventions; (2) NPIs in hospitals, outpatient clinics and other clinical settings; (3) Reported the use of oxygen and/or respiratory support; (4) Examined use of medical/non-medical products, herbal products, ingestible or injectable, self-medication to prevent COVID-19; (5) Investigated populations who are subject to mandatory COVID-19 tests upon crossing international borders; and (6) Examined the ban on alcohol and tobacco sales to control COVID-19.

After title and abstract screening, 45 articles were included. Four of the authors conducted the full-text screening and included 20 articles in the study.

Data extraction and analysis

The team extracted the data using a data extraction sheet that was developed by all authors based on a pilot paper and was then reviewed by the stakeholders.

Directed thematic and descriptive analysis will be done from coded articles to generate the results.

Note: The study is still undergoing and authors are aiming to complete it in early 2021.

References:

(1) Coronavirus disease (COVID-19) – World Health Organization. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019. Accessed Nov 21, 2020.

(2) Coronavirus Update (Live): 77,167,027 Cases and 1,699,498 Deaths from COVID-19 Virus Pandemic - Worldometer. Available at: https://www.worldometers.info/coronavirus/. Accessed Dec 20, 2020.

(3) Dobbins M. Rapid review guidebook. National Collaborating Centre for Methods and Tools, Hamilton, ON 2017.