COMMENTARY ARTICLE

Preparation for a public health emergency

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Pathak V. Preparation for a public health emergency. J Nurs Res Pract. 2022; 6(12):186-187.

ABSTRACT

Objectives: The early COVID-19 epidemic undoubtedly impacted the critical response readiness of healthcare staff due to their increased infection risk and exhaustion. We wanted to know how institutional and individual characteristics affected how prepared people were to act during the initial stages of a public health emergency.

Methods: In the second and third months of the COVID-19 outbreak in Portugal, we conducted a survey of healthcare professionals from a Local Health Unit in Portugal, which includes primary healthcare facilities and hospital services, including intensive care units and public health units. Descriptive statistics and multiple logistic regressions were used to examine the 460 responses, which were submitted by 252 individuals. We calculated the preparedness and willingness to respond adjusted odds ratios.

Results: The perception of adequate infrastructures, a lack of access to personal protective equipment, and organization were all related to response readiness. The perception of not being able to change things, the possibility of experiencing burnout at work, and witnessing the deaths of coworkers or patients due to COVID-19 were all related to the willingness to act.

Conclusions: It may be essential for workers' readiness in a new public health emergency to have adequate infrastructures, access to personal protective equipment, and knowledge of their duties and predicted effects. When preparing for future public health catastrophes, healthcare institutions must take into account these issues as well as the possibility of burnout associated to the workplace.

Keywords: Pandemic; health services management; Health services research

INTRODUCTION

SARS-CoV-2 has spread quickly over the globe. The majority of infected people exhibit mild symptoms or none at all, but diagnosing SARS-CoV-2 infection, treating patients with moderate to severe symptoms, and tracing contacts all demand significant resources that healthcare facilities might not have, especially during times of high frequency.

Healthcare services may not be able to respond as quickly or as effectively to public health emergencies or pandemics as they would be able to without this demand, which is foreseeable. However, it is expected that healthcare services will be ready and able to respond quickly to public health emergencies as well as adapt and upgrade their response to meet new demands.

The infrastructure, supplies, tools, personnel, and level of readiness of the healthcare system all affect how quickly it can respond. recommended three essential components for enhancing the framework for public health emergency preparedness: Ability refers to the aptitudes, traits, skills, and knowledge acquired during education or training. Willingness is the emotional or affective dimension that depends on personal and contextual factors. Readiness is the availability to respond and the possession of the necessary resources in terms of staff, structure, equipment, and plans.

However, this pandemic has been directly and indirectly affecting healthcare professionals, which may have an impact on their readiness. Healthcare workers are more likely to experience burnout, and some authors have demonstrated a link between psychological distress and a reduced sense of coherence and COVID-19 symptoms or risk contacts.

However, nothing is known about how this pandemic's experience, including burnout, affected people's willingness and readiness to act, nor what causes people to be more prepared. We hypothesize that factors including the lack of formal organizational support, training, or equipment, as well as employees' experiences with the pandemic, may alter their willingness and preparedness to act if little to no institutional and psychological support is provided to healthcare personnel. This study attempts to comprehend the human and organ-

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Received: Dec 10, 2022, Manuscript No. PULJNRP-22-5861;Editor assigned: Dec 14, 2022, PreQC No. PULJNRP-22-5861 (PQ); Reviewed: Dec 18, 2022, QC No. PULJNRP-22-5861 (Q); Revised: Dec 24, 2022, Manuscript No. PULJNRP-22-5861 (R); Published: Dec 30, 2022, DOI: 10.37532/ Puljnrp .22.6(12).186-187.

-izational elements that have contributed to healthcare personnel' readiness and desire to respond during the SARS-CoV-2 pandemic's initial phase.

METHOD

This observational cross-sectional study, which was based on a self-administered survey, investigated the underlying factors, such as personal, patient, and work-related burnout, that may affect readiness and willingness to respond in the COVID-19 pandemic. All employees of a Local Health Unit from a region with around 180,000 residents that was particularly hit in the early months of the pandemic received this questionnaire. This Unit consists of a hospital that offers services in internal medicine, intensive care, and infects ology, as well as primary health care facilities that include a public health unit. 252 respondents completed 460 of the questions that were distributed between May and June 2020. The Matosinhos Local Health Unit's ethical committee gave the study their approval. We performed logistic regression analyses, mutually adjusting all models, and adjusting for sex, age, working in the frontline, working at the institution, education, and questionnaire wave. We stratified the descriptive analysis by working or not at the frontline, as respondents' and institution's characteristics were likely to differ.

RESULTS

Frontline employees completed 60.2% of the questionnaires overall; 78.0% of them were female, and 72.4% of them were under 44 years old. Most people were prepared to respond to the epidemic, and those on the front lines were more prepared than others. 85% of respondents indicated a willingness to respond, however 40.1% said they lacked the necessary understanding. A third of those working in the frontline felt they lacked sufficient training, compared to 52.8% of those not in the frontline. These outcomes remained essentially unchanged throughout time. Most participants believed infrastructures, tools, and information systems to be adequate in terms of the possible preparedness determinants. The majority of people believed that the institution was prepared for the response and were aware of the contingency preparations. The majority reported adequate psychological working circumstances. There were differences in the factors related to the willingness to respond: the perception of not being able to make a difference, the perception that their actions would not be effective in stopping the pandemic, and the perception that they lacked the skills to help were all higher among those not working on the front lines. With statistically significant differences, more than a quarter of respondents reported a high or severe risk of burnout, but the proportion was higher among those who were not on the front line. Patients or colleagues dying as a result of COVID-19 occurred more frequently for those in the front line.

CONCLUSION

The impression of appropriate infrastructures, access to PPE, and institutional organization all had a role in determining the workers' readiness to respond during the early stages of the response to a pandemic brought on by an unidentified pathogen. Their propensity to respond was impacted by their sense of helplessness, moderate to high risk of work-related burnout, and personal experience with colleagues' or patients' deaths brought on by COVID-19. The structure, physical surroundings, tools, and organisational requirements are partially supported by these results, which encoura--re preparedness to act. It should be mentioned that during the initial stages of the epidemic, there were restrictions on the availability of PPE, and hospitals had to reorganize due to the unprecedented need for a significant number of isolation rooms and ventilators. As a result, organisational aspects as well as equipment and circumstances were seen as crucial for a healthcare worker's preparedness to act.

As predicted, the belief that one couldn't possibly change anything lessened the willingness to react. This conclusion is useful for managers since it shows that each employee needs to be aware of their job and how they contribute to the solution. The relevance of training and perceived knowledge on the readiness to act may have decreased due to the paucity of information regarding the disease or the specifics of its treatment. In terms of the correlation between job-related burnout and readiness to respond, a stronger willingness may be linked to higher work intensity and, therefore, a larger risk of burnout, particularly in the early stages of the pandemic. According to a review, frontline healthcare workers experienced higher rates of insomnia, stress, and burnout during the COVID-19 pandemic, and higher levels of responsibility and working hours also raised the chance of experiencing mental distress.

Except for the interaction with the death of patients or colleagues as a result of *COVID*-19, our data do not indicate any significant correlation between having encountered transmission of *COVID*-19 in the workplace or in the milieu of family or friends and the desire to respond to the pandemic. The worker's readiness to respond may not have been as affected by these encounters due to a strong feeling of obligation. The benefit of this method for enhancing their well-being and motivation to act may have been dampened by the limited number of employees who used psychological help.

Public health crises like the *COVID*-19 pandemic can strain healthcare systems, and healthcare professionals may react differently to them. A sense of readiness is crucially influenced by the perception of proper infrastructures, organization, and access to PPE, and the motivation to act is influenced by the understanding that one's own actions can have an impact. For team managers to provide safe and healthy workplaces and a sufficient response to this public health emergency and others that may emerge in the future, they must be aware of these factors as well as the risk of work-related burnout.