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Risk Management at Public University in Central Mexico

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ABSTRACT

Risk management is a key axis in the research agenda on the pandemic, although the media focus their attention on risk communication. The objective of this work was to review the literature related to the problem to establish a neural network for learning the management of COVID-19. The results show that collective, transportation and family spaces are central axes of the agenda. In relation to the literature consulted, the inclusion of other categories related to risk perception is recommended to contrast the types of efforts and establish the public agenda. The innovation of this work lies in the review of categories alluding to the problem but based on the epidemiological traffic light as the guiding axis of anti-COVID policies.

Keywords: Public Administration; Agenda; Risk Communication; COVID-19; Risk Management; Civil Protection

Introduction

The relationship between public administration, civil protection and the COVID-19 pandemic has been crucial in managing the health crisis (Wang, et al. [1]). The public administration, through its different levels (national, regional and local), has assumed a fundamental role in the coordination and execution of measures to contain the spread of the virus and protect the population. In the context of the pandemic, civil protection has overseen implementing prevention and response strategies to COVID-19 (Gasmi, et al. [2]). This includes the planning and organization of the human, material and logistical resources necessary to deal with the health emergency. Civil protection has collaborated in the management of medical care centers, the distribution of medical supplies, the performance of diagnostic tests and the coordination of the response in emergency situations. The public administration, for its part, has been responsible for establishing public health policies, decreeing confinement measures, promoting social distancing and the use of masks, as well as implementing information and awareness campaigns (McAleer, [3]). In addition, it has coordinated collaboration between different entities and actors involved in the response to the pandemic, such as health services, security forces, local governments and civil society organizations. Likewise, the public administration has had to adapt and strengthen its response capacity to face the challenges generated by the pandemic (McMaster, et al. [4]). This has implied the creation of emergency committees, the reorganization of services and rapid decision-making based on scientific evidence.

Public administration and civil protection have played a crucial role in managing the COVID-19 pandemic (Presman, et al. [5]). They have worked together to implement prevention measures, coordinate the response and protect the population. The collaboration between the two has been essential to face the challenges posed by the health crisis and minimize its impact on society. The relationship between public administration and civil protection is close and essential to guarantee the safety and well-being of society (Ceriello, et al. [6]). The public administration oversees planning, organizing, directing and controlling the resources and services necessary for the functioning of the State and the fulfillment of its functions. On the other hand, civil protection deals with preventing, mitigating and addressing risks and disasters that may affect the population and their assets. The public administration is responsible for establishing public policies on civil protection, as well as preparing and executing emergency and contingency plans (Zhong, et al. [7]). This implies the coordination of

different agencies and entities, such as security forces, health services, emergency services, among others, that intervene in situations of natural disasters, accidents or any other circumstance that requires an immediate response. In addition, the public administration is also in charge of promoting education and public awareness regarding civil protection, through information and training campaigns that seek to prepare the population for possible emergency situations (Hartmann-Boyce, et al. [8]).

Likewise, it oversees coordinating and facilitating collaboration with non-governmental organizations, academic institutions and other relevant actors to strengthen the response and recovery capacity in case of disasters. The public administration and civil protection work together to guarantee the safety and protection of the population in emergency situations (Richter, et al. [9]). The public administration establishes the policies and coordinates the necessary resources, while civil protection oversees implementing the prevention, preparation, response and recovery measures in case of disasters. Both areas are complementary, and their collaboration is essential for efficient risk management and adequate protection of society. The relationship between public administration, civil protection and the COVID-19 pandemic has been crucial in managing the health crisis (Mishra, [10]). The public administration, through its different levels (national, regional and local), has assumed a fundamental role in the coordination and execution of measures to contain the spread of the virus and protect the population. In the context of the pandemic, civil protection has overseen implementing prevention and response strategies to COVID-19 (Hohenstein, [11]). This includes the planning and organization of the human, material and logistical resources necessary to deal with the health emergency. Civil protection has collaborated in the management of medical care centers, the distribution of medical supplies, the performance of diagnostic tests and the coordination of the response in emergency situations.

The public administration, for its part, has been responsible for establishing public health policies, decreeing containment measures, promoting social distancing and the use of masks, as well as implementing information and awareness campaigns (Chan, et al. [12]). In addition, it has coordinated collaboration between different entities and actors involved in the response to the pandemic, such as health services, security forces, local governments and civil society organizations. Likewise, the public administration has had to adapt and strengthen its response capacity to face the challenges generated by the pandemic (El Baz, et al. [13]). This has implied the creation of emergency committees, the reorganization of services and quick decision-making based on scientific evidence. Public administration and civil protection have played a crucial role in managing the COVID-19 pandemic (Yue, et al. [14]). They have worked together to implement prevention measures, coordinate the response and protect the population. The collaboration between the two has been essential to face the challenges posed by the health crisis and minimize its impact on society. The General Civil Protection Law, federal and Mexico City regulatory references: Government model, background, variants and alternative models of civil defense, civil protection, emergency management and comprehensive risk management (Rahman, et al. [15]). The articles that are the basis of the General Civil Protection Law, raise the problems and discuss alternative solutions in legal and procedural matters, but the limits of the Comprehensive Disaster Risk Management underlie the light of the administrative structure and the normative reference.

The understanding of the laws, the regulatory framework and legal regimes based on the political constitution which limits the actions of public officials to avoid abusive practices that threaten the population (Yang, et al. [16]). Article 135 talks about the reforms to the constitution that can only be modified by two thirds of the chamber of senators, representatives (congress of the union). In this sense, the relationship between federal law and local law (CDMX) in relation to the international scene means that International Law, international treaties and guarantees must establish a dialogue with the constitution. In all cases, the protection of human rights and the dignity of human life prevail over international laws and federal laws. The Vienna convention that talks about the international convention of human rights is the key juncture for the dialogue between the political constitution and international law once confirmed and reaffirmed. However, the asymmetries between constitutional laws, civil protection guidelines, and pandemic management do not contemplate the regulation of policies, strategies, and programs based on an epidemiological traffic light (Nabe-Nielsen, et al. [17]). The epidemiological traffic light, the Political Constitution, civil protection and risk management are related in the context of emergency and disaster management, such as the COVID-19 pandemic. The epidemiological traffic light is a tool used by health authorities to assess and communicate the level of risk and the health situation of a certain geographical area. This traffic light is based on epidemiological, health and hospital capacity indicators (Akhtaruzzaman, et al. [18]).

Set different colors or alert levels (usually green, yellow, orange, and red), each with specific measures associated with it. The Political Constitution of a country establishes the fundamental rights of citizens and the guiding principles for the functioning of the State (Kendzerska, et al. [19]). In the context of risk management and civil protection, the Constitution can establish the legal bases and regulatory frameworks for decision-making, the assignment of responsibilities, and the protection of the rights of the population during emergencies. Civil protection is a system that aims to protect the life, physical integrity and property of people in emergency or disaster situations. It includes prevention, preparation, response and recovery from adverse events (Wong, et al. [20]). In the case of the COVID-19 pandemic, civil protection plays an important role in the implementation of prevention measures, the coordination of resources and services, and the communication of relevant information to the population. Risk management is a comprehensive approach to identify, assess, prevent

and reduce disaster risks, as well as to increase response and recovery capacity. It implies the planning and implementation of measures and strategies at different levels (national, regional, local) to minimize the impacts of adverse events (Giritli Nygren, et al. [21]). In the context of the pandemic, risk management focuses on preventing the spread of the virus, containing infections and mitigating the effects on public health. The epidemiological traffic light is used as a tool to assess risk and establish appropriate measures in the framework of risk management (Wu, et al. [22]).

The Political Constitution establishes the fundamental principles and rights that guide decision-making and the protection of the population. Civil protection oversees implementing prevention measures and coordinating the necessary resources during emergencies, while risk management encompasses a comprehensive approach to identify, assess, and respond to disaster risks. All these elements are intertwined in the management of the COVID-19 pandemic and other emergency situations. The public administration, through the health authorities and other competent bodies, is responsible for implementing and monitoring the epidemiological traffic light (Stange, et al. [23]). This implies evaluating the epidemiological and health indicators, determining the level of risk in each geographic area, and establishing the corresponding measures for each level of traffic light alert. The public administration must ensure that the measures are communicated clearly to the population and are implemented effectively. The public administration oversees coordinating the actions between the different levels of government (national, regional and local) and health agencies to ensure a coordinated and coherent response based on the level of risk determined by the traffic light (Weil, et al. [24]). This implies establishing protocols, guidelines and guidelines for the implementation of preventive measures, mobility restrictions, hospital capacities and other actions necessary to deal with the pandemic. The epidemiological traffic light serves as a guide for decision-making by the public administration (Abrams, et al. [25]).

Authorities can use the traffic light indicators to assess the effectiveness of the implemented measures, adjust them as necessary, and make informed decisions about lifting or imposing restrictions based on the epidemiological situation in each area. The public administration has the responsibility of communicating to the population the relevant information related to the epidemiological traffic light (Ozdemir, et al. [26]). This includes the explanation of the different alert levels, the measures associated with each level, prevention recommendations and updates on the health situation. Effective communication is essential for the population to understand the measures, follow them and collaborate in preventing the spread of the virus. The public administration plays a central role in the implementation, monitoring and coordination of the measures based on the epidemiological traffic light (Alicke, et al. [27]). It is responsible for making decisions, establishing protocols and communicating relevant information to the population based on the risk assessment determined by the traffic light. Collaboration between the public administration, health authorities and the population is essential to deal effectively with the COVID-19 pandemic. Therefore, a review of the literature during the period to date of the pandemic will anticipate discussion scenarios and central axes of the research agenda regarding public administration in the face of the pandemic and its risk management for civil protection. In this way, the objective of this work is to establish the axes and topics of discussion around the public administration of risk management in the face of the pandemic considering the period from 2020 to 2023.

Method

A cross-sectional, exploratory and retrospective study was carried out with a sample of experts in public administration, civil protection, risk management and crisis management considering their index published in google scholar. The focus group technique was used with the purpose of homogenizing the concepts and categories for the preliminary analysis of the summaries (Soriano, et al. [28]). A Likert-type scale was considered for the qualification of the summaries: The maximum value of 5 for the summaries that included an analysis of the pandemic from strategies based on the epidemiological traffic light and a minimum value for risk management without considering the epidemiological traffic light. The subsequent second, third and fourth phases were carried out using the Delphi technique. In the second phase of analysis, the experts assigned ratings according to the stated scale. In the third phase, the judges compared their scores to the averages. In the third phase, the experts ratified or modified their qualifications. At all times the confidentiality and anonymity of the answers is guaranteed, as well as the information of the objectives of the study and those responsible for the project. Data were captured in Excel and processed in JASP version 16. Centrality, grouping, and structuring parameters were estimated in order to test the null hypothesis of differences between the structure reported in the literature with respect to expert evaluations. Values close to unity were assumed as evidence of non-rejection of the hypothesis.

Results

Centrality is a characteristic of the network that explains the relationships between peripheral nodes or edges with respect to the central nodes or graphs. The indicators of proximity, interdiction, gradation and influence suggest that transport is the riskiest space and therefore the riskiest space to manage in the face of the health crisis. Clustering is a property of networks that are configured around a guiding axis. The coefficients indicate that transport is evaluated as the risk management area. In this way, both centrality and grouping reveal that transport is the space for risk management in the face of the pandemic. The structuring of the network is read from left to right because it assumes an entry of data and information that are processed in nodes and because of the process, learning is observed throughout the analysis phases of the study. In this sense, the network includes collective spaces as the beginning of the learning

process and culminates with family spaces. Both nodes are related to prevention and not to the reaction to the health crisis. In this sense, the neural network consists of the anticipation of exposure scenarios to collective and family risks from prevention.

Discussion

The contribution and innovation of this work to the state of the art consists in the establishment of a pandemic management learning network. Such a structure starts from the prevention of risks in collective spaces to the anticipation of infections in family spaces. In relation to the state of the art, the results show that the pandemic is a crisis managed from prevention and not from stigma as reported in the literature (Purnomo, et al. [29]). In this way, the contrast of the hypothesis related to the significant differences between the neural network of the literature with respect to the observed neural network is not rejectable. Therefore, it is recommended to extend the study to other neural networks where the results of risk management in the face of the pandemic are reported. Such is the case of the management of vaccines and immunization of people where the translation of knowledge prevails in order to generate confidence in people exposed to risks (Abbas, et al. [30,31]). In the present work, it is suggested that the action be oriented in the collective spaces, once the pandemic passes, the risks in transport are managed and finally, immunization is managed in family spaces.

Conclusion

The objective of this work was to establish the learning network for risk management in the face of the pandemic. A structure of central nodes oriented towards transport spaces was found, which transfers the impact of risk prevention in collective spaces to family spaces. Thus, the expert judges favorably evaluated the neural network reported in the literature. Based on these findings and considering the state of the art where risk management prevails as a translation of knowledge for the promotion of immunization, it is advisable to extend the study to samples of experts who evaluate more up-to-date and specialized summaries of risk management in the COVID-19 era.

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