



Managing COVID-19 with Traffic Transport Measures

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Article Info

Article History:

Submitted September 2021

Accepted January 2023

Published January 2023

Keywords:

COVID-19; Coronavirus;

Transportation; Travel; Iran

DOI

<https://doi.org/10.15294/ujph.v12i1.50222>

Abstract

Since transmission of the infection happens by interaction among individuals, the transportation framework is the most calculate within the spread of the COVID-19. The purpose of the study was to explain traffic transport measures to managing COVID-19 in Iran. This was a qualitative study using conventional content analysis that, categories containing code are taken directly from textual data. In this study, our data was approvals of the Iran Committee against COVID-19. Measures of travel restrictions in 120 approvals were selected and categorized by the research team. All the measures associated with travel restrictions were inspired from the information analysis and were classified into four categories, including private transportation within the city, travel by private transportation means, travel between countries, and public transportation. Travel restrictions have a severe impact on the sector, causing major dysfunction in activities at airlines and airplane terminals and significantly increase the chance of failure for air transport-related businesses. Therefore, developing the strategies to correct and re-orientate their businesses is urgently necessitating. To decrease the impacts of the COVID-19, it is necessary the engagement of citizens, the private sector, governments at all levels, as well as international agencies, and all other related organizations.

INTRODUCTION

In December 2019, a novel coronavirus is named COVID-19 that is a new strain of the infectious disease that had not been previously recognized in humans (WHO, 2021). Since at that point, worldwide this virus has caused many cases of intense respiratory infection. Due to quick geographical spread, WHO pronounced a state of the widespread in March 2020 (Carvalho et al., 2020). In IRAN, the primary case of COVID-19

was confirmed on 18th February 2020 ("Daily situation on coronavirus disease (COVID-19) in Iran,").

Globally, all countries were impacted by the pandemic. The pandemic is a complex crisis to manage. Characteristics of COVID-19 in terms of root, transmission, severity, contagion, control, treatment, and recapture are challenges for crisis management. However, the impacts of the worldwide pandemic have been varied and depending

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on elements such as access to health care, wealth, community welfare, and government authority (Parr, Wolshon, Renne, Murray-Tuite, & Kim, 2020). A vaccine or medicine was not developed timely to avoid the spread of COVID-19. Therefore, interventions of non-pharmaceutical such as using personal protective equipment, social distancing, quarantine, travel restrictions, and isolation are most needed (Cartaud, Quesque, & Coello, 2020; Chinazzi et al., 2020; Wu et al., 2020).

Among the ways that governments and health authorities endeavor to decrease the incidence and the speed of pandemics is to physically partitioned individuals. In specific, isolation, quarantines, social distancing, limit contact with others through measures for example the closure of schools and universities, businesses and limit travel, and gatherings and activities (Parr et al., 2020).

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Since transmission of the infection happens by interaction among individuals, the transportation framework is the main factor in the spread of the COVID-19 (Carteni, Di Francesco, & Martino, 2020). Specially, public transport had the most direct effect on the COVID-19 pandemic (Bucsky, 2020). Many cases of COVID-19 cases were imported from China to the other continents (Kim et al., 2020; Rodriguez-Morales et al., 2020). One study found that traveler air traffic increases the number of patients (Sokadjo & Atchadé, 2020). Therefore, policymakers should stop air travel to their countries. Also, when internal transmissions have been controlled, they can open their air travel progressively and reinforce the Covid-19 screening for travelers (Sokadjo & Atchadé, 2020). There have been major bans on national and international travel (Gössling, Scott, & Hall, 2020). Transport measures have been broadly actualized for a run of modes, maritime, railways, and urban transport (Zhang, Hayashi, & Frank, 2021).

The cancellation of flights and the closure of parks, donning occasions, traditions, conferences, and other exercises since of the COVID-19 has had critical impacts on travel behavior (Gibney, 2020). Since, there is the risk of COVID-19 infection for travelers, therefore implementing the

preventive actions on public transportation is necessary (Hu et al., 2021).

Since the mechanisms for the transmission of the infection were mainly obscure and there was a restricted capability to test for the disease, public authorities all over the nation had few alternatives to diminish the quick spread of the infection. One of the options was travel restrictions. The purpose of the study was to explain traffic transport measures to managing COVID-19 in Iran. So we assessed the approvals of the Iran Committee against COVID-19.

METHODS

Data gathering and analysis was done by two women and one man authors who had formal education in qualitative studies. They are the PHD and faculty members of Kashan University of Medical Sciences.

This study was conducted with a qualitative approach using conventional content analysis. In conventional content analysis, categories containing code are taken directly from textual data.

In this study, our data was approvals of the Iran Committee against COVID-19. We first received the approvals of the Iran Committee against COVID-19 available from <http://imed.ir/userfiles/files/23/159946590065333800.pdf>. Then, measures of travel restrictions in 120 approvals were selected, the key themes were identified, named, coded and categorized by two women authors of the research team. To increase the trustworthiness and validity of the data analysis, the key themes, quotations and codes and were double checked with all authors of the research team. Also, the study methods and the analyses were double-checked and confirmed by two specialists (faculty members) in qualitative research. MAXQDA software was used to manage the data.

Ethical approval for this study was obtained from the Ethics Committee of KAUMS (under the code of ethics IR.KAUMS.NU-HEPM.REC.1399.061).

RESULTS AND DISCUSSION

All the measures related with travel restrictions were elicited from the analysis then we classified them into four categories, including private transportation within the city, travel by private transportation means, travel between countries, and public transportation. The table below shows our results.

In this study, we report some traffic transport measures to managing the COVID-19 pandemic (Table 1). Our results indicated that one

Table 1. Traffic transport measures to managing COVID-19

Category	Measures
Taveling by Private transportation within the city	Ban on private cars from 9 PM to 3 AM Implementing an odd-even traffic restriction
Traveling by private transportation between cities	Prohibiting the departure of private cars from high-prevalence cities to other cities Traffic control at the entrance and exit of cities Implementing mobile screening instead of Thermometry for passengers return
Traveling between countries	Traffic control at the entrance and exit of countries Safe entry of Iranian travelers into the country
Public transportation	Reconstruction and renovation of worn-out transport vehicles in the city Allowing air, rail, and land travel only to healthy people through the mask application Disinfecting public transport (bus) Preventing the activity of offending taxis Mandatory use of a mask on public transport

of the effective measures to managing the COVID-19 pandemic was related to private transportation within the city. To avoid night family gatherings, no cars were allowed to driving between 9 PM to 3 Am. Also to avoid having a social gathering occasion (e.g., street, park, and mosque) a car traffic plan was implemented that cars had allowed driving based on the car score of even and odd. Many countries took measures such as restrictions on social gatherings to prevent the spread of the COVID-19 pandemic (De Vos, 2020; Kraemer et al., 2020).

To travel restriction, Iran approved some health guidelines for travel by private transportation means between cities and travel between countries. Travel restrictions are one of the decisions that have been apply to control and decrease the spread of the pandemic (Chinazzi et al., 2020). The first cases of the COVID-19 have been imported from other cities and nations (Hellewell et al., 2020; Wu et al., 2020; Yuan, Li, Lv, & Lu, 2020). Also, it has been shown that people's movement can altogether influence the COVID-19 epidemic (Kraemer et al., 2020; Zhao et al., 2020). Particularly, transportation means can influence the spread of COVID-19 within the world. Through the transportation system, various events take place, including business trips, leisure trips (Carteni et al., 2020). At the starting of the pandemic, the Wuhan airport terminal did not halt any flights (Bogoch et al., 2016; Wilson & Chen, 2020). Many COVID-19 cases were imported from China to the other continents (Kim et al., 2020; Rodriguez-Morales et al., 2020).

Unfortunately, several countries did not halt air travel whereas people were infected with the virus. A study suggested that for controlling the COVID-19 pandemic, policymakers should halt air travel to their countries, except for emergent cases. Also, when inner transmissions have been controlled, they will open their air travel progressively and fortify the Covid-19 screening for travelers (Sokadjo & Atchadé, 2020).

As public transport causes individuals into near contact in a constrained space, expanding the chance of presentation to the COVID-19 infection (Yezli & Khan, 2020). There is the chance of COVID-19 disease at the individual level for travelers that is a critical public wellbeing implication. Therefore implementing the health guidelines for the prevention of COVID- 19 on public transportation is necessary (Hu et al., 2021). In Iran, the health guidelines of COVID-19 were implemented for all public transportation systems, especially the bus system, including reconstruction and renovation of old buses, increasing the number of buses, disinfection of buses, and mandatory use of a mask on public transport. Of all kinds of transport, public transport had the most direct effect on the COVID-19 pandemic (Bucsky, 2020). A study conducted on what types of measures were taken on the transport and logistics sector reported that in all countries, regions, cities that have health guidelines for transportation systems, the bus system pays more attention than other transportation systems (Zhang et al., 2021). A study suggested that avoiding congestion on public transportation, could cause an increment

within the number of private cars (Mogaji, 2020). Assumed that public transport has been recognized as a high-risk place for transmission. It is needed to wear a face mask in public vehicles (Dzisi & Dei, 2020). Also, taxi drivers increase the risk of exposure to the virus, due to their close contact with their passengers (Yezli & Khan, 2020). For this reason, in Iran health guidelines (like using masks, having fewer passengers) were approved for taxi drivers that would prevent their activity if they were not followed.

The present study can be criticized that we did not state impacts these measures because of lack of researches about that in Iran. However, we considered reasons each measure and, we compared with measures of other countries.

CONCLUSION

Despite investigation on the special effects of these guidelines is very limited, but it's clear that the pandemic effects on worldwide aviation have been dramatic. Travel restrictions and quarantines have a severe impact on the sector, causing major dysfunction in activities at airlines and airports terminals and significantly increase the risk of failure for air transport-related businesses. Therefore, developing the strategies to correct and re-orientate their businesses is urgently necessitating. The safety and health strategies play important role in develop long, medium and short term policies to decrease the spread of the infection, also will decrease the harmful socioeconomic influences of the COVID-19 pandemic. To decrease the impacts of the COVID-19 pandemic, it is essential the engagement of citizens, the private sector, governments at all levels, as well as international agencies, and all other related organizations.

ACKNOWLEDGMENT

The authors thankfully acknowledge the support of KAUMS, who supported this study.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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