



BÖLÜM 3

Determination Of Possible Strategic Pandemic Health Center Locations For Turkey In The COVID-19 Pandemic

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1. INTRODUCTION

On December 31, 2019, the World Health Organization Office of the People's Republic of China reported cases of pneumonia of unknown cause in the city of Wuhan, China and on January 5, 2020, a new coronavirus which has not been seen before in humans was detected. COVID-19, which has a very high transmission rate, soon affected the whole world and was recognized as a pandemic by the World Health Organization on March 11, 2020. The locations of health center organizations throughout the country in the pandemic are of great importance in terms of managing the pandemic, accelerating the treatment processes, and rapid implementation of vaccines under development. In this study, according to the regional distribution of the number of COVID-19 cases in Turkey, the places where possible pandemic health centers can be established were determined by using Particle Swarm Optimization (PSO), one of the

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5. CONCLUSION

In this study, according to the data obtained from the Ministry of Health's COVID-19 Information page, the regional distribution of the total number of cases in Turkey from the beginning of the pandemic to August 9, 2020 (including August 9, 2020) was studied, and with the PSO Algorithm, possible pandemic health center locations that can be established from 1 to 5 have been determined to manage the pandemic in the best way.

Within the framework of the results obtained, it was observed that the best cost value decreased as the number of centers increased. 1 center is selected with the best cost value of 327545.04, when 2 centers were selected, the best cost value was 179759.60, the best cost value was 127543.91 when 3 centers were selected, the best cost value was 101633.84 when 4 centers were selected, and the best cost value was 49352.31 when 5 centers were selected. According to these values, it was seen that the lowest cost value was calculated for the selection of 5 centers, and it has been concluded that the situation in which the centers will provide the most comfortable access to the infected is achieved by choosing 5 centers.

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