

Interests and Knowledge of the People on Non-Pharmaceutical Measures - DMHTT of Thailand During the Third Wave of the COVID-19 Pandemic



Pathana Rachavong¹, Tanyaluck Chansombat¹, and Jiranya Duangfu²

¹Thailand Geographical Association, Email: pathanar@gmail.com, tanyalaks@nu.ac.th

²Geographic Information Sciences, Naresuan University
Email: jiranyad63@nu.ac.th

INTRODUCTION

Non-pharmaceutical or non-pharmaceutical intervention measures Interventions are the most effective public health measures for managing, preventing, and controlling the spread of SARS-CoV-2 in the communities that will cause the COVID-19 outbreak. Not only does it provide a moment for all countries to deal with epidemics without a vaccine to help control the outbreak, but also to prevent and control disease at a time when the health sciences have developed a vaccine. Such measures are still important to make effective control of this emerging disease more successful. The ECDC (ECDC, 2020) points out that non-pharmaceutical measures play an important role in reducing transmission rates and the impact of COVID-19 in the European Union, the European Economic Area and the United Kingdom. Until a safe and effective vaccine is available for everyone at risk of severe COVID-19, non-pharmaceutical measures will remain the primary public health tool against SARS-CoV-2.

Department of Disease Control asks people to cooperate with the principle of "D-M-H-T-T" to protect themselves; D: Social Distancing Maintain a distance of 1-2 meters, avoid being in crowded places M: Mask Wearing Wear a cloth mask or hygienic mask at all times H: Hand Washing Wash your hands often with soap and water. or alcohol gel T: Testing, temperature measurement and T: Thai Cha Na, scan Thai Chana application before entering and leaving public places every time to make information easier to coordinate.

Based on the aforementioned policies, this research aims to explore the knowledge, interests and behavior of the people by using data from Google Trend from searching with relevant keywords and then organizing the data to find the spatial relationship of important measures to the epidemic situation of COVID-19 in each region of Thailand.

METHODOLOGY

Data Management

This research used data from keyword-driven google trend search results using keywords related to non-pharmaceutical interventions in accordance with guidelines recommended by the Ministry of Public Health for delaying progression. epidemic of covid-19

The Coronavirus Disease 2019 Epidemic Situation Administration has issued a notification to the provincial governor, provincial public health office doctors, and the provincial infectious disease committee asking all citizens to comply with DMHTT measures, including Distancing, Mask. wearing, hand washing, testing and inviting people to use the application "Thai wins" by adding 7 more words related to social distancing, mask wearing and hand washing that the World Health Organization has designated as an important measure. These are 3 words corresponding to Social distancing: Distancing, Isolation and Quarantine, 2 words corresponding to Mask wearing, Surgical mask and Mask, and 3 words corresponding to Hand washing: Hygiene, Alcohol and Bleach.

Method of Data Analysis

Spatial analysis of data to show distribution of popularity of COVID-19 epidemic prevention knowledge research using descriptive statistics. The spatial correlation model of knowledge obtained from public search related to the COVID-19 outbreak was analyzed using Geographically weighted regression Analysis by sorting Explanatory Variables and Dependent Variables by province for a total of 77 provinces

	Variable I	Variable II	Variable III	Variable IV
Explanatory Variables	AVG Distancing	AVG Mask wear	AVG Hand wash	AVG Total
Dependent Variables	The number of cases in the first period	The number of cases in the second period	The number of cases in the third period	
Number of Cases	77 provinces			

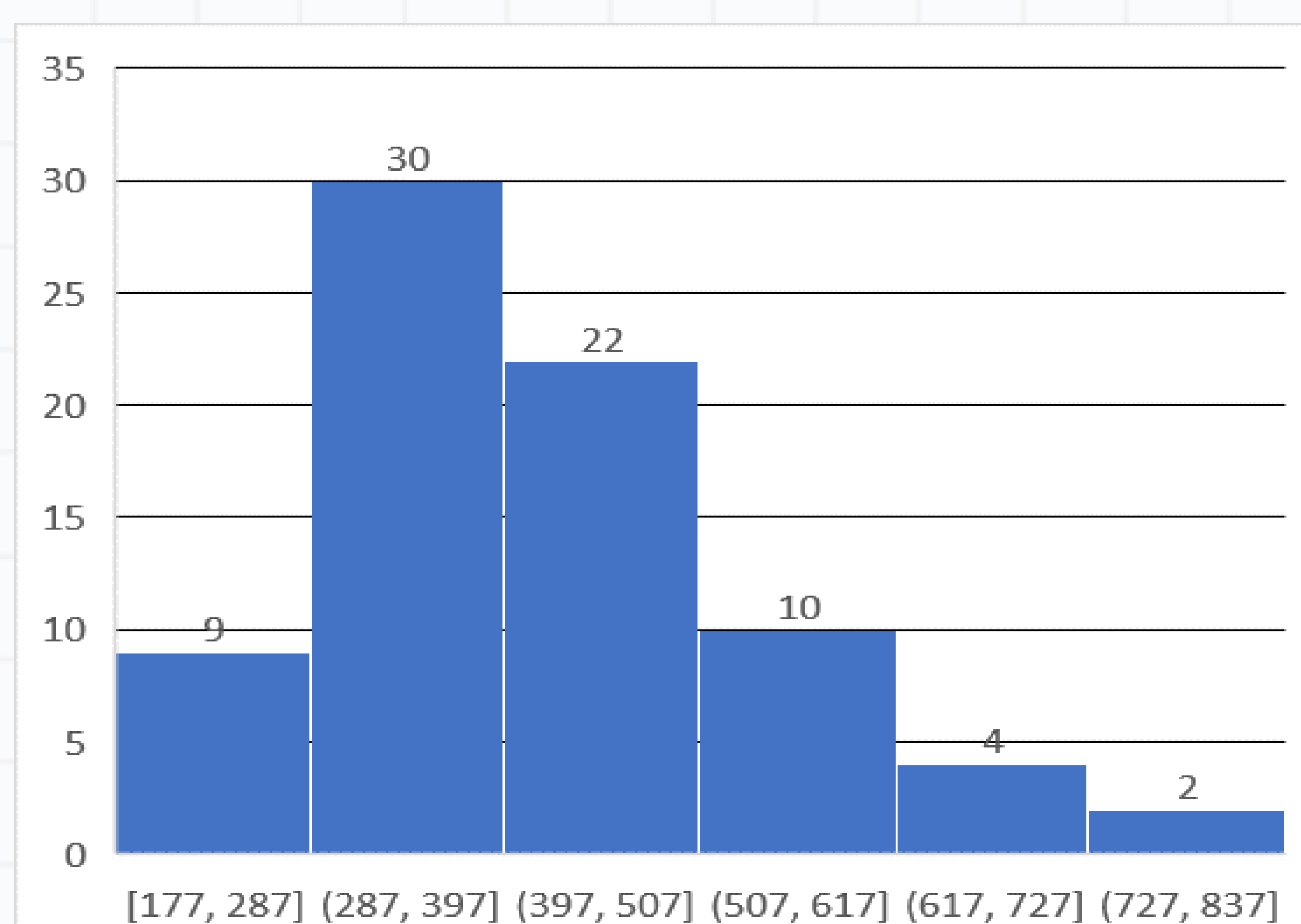
RESULT AND DISCUSSION

Properties of statistical distributions

On average, people in each province of Thailand had 418 searches for knowledge about self-protection against the COVID-19 outbreak, with a median of 396 and a baseline of 227 in the past 12 months. Phuket had the most searches at 809 times, followed by Bangkok at 770, and people in Yasothon province the least, only 177 times.

Properties of statistical distributions.

MEAN	418	MAXIMUM	809
MODE	227	MINIMUM	177
MEDIAN	397	STD	127.3787075
		SKEWNESS	0.776320985

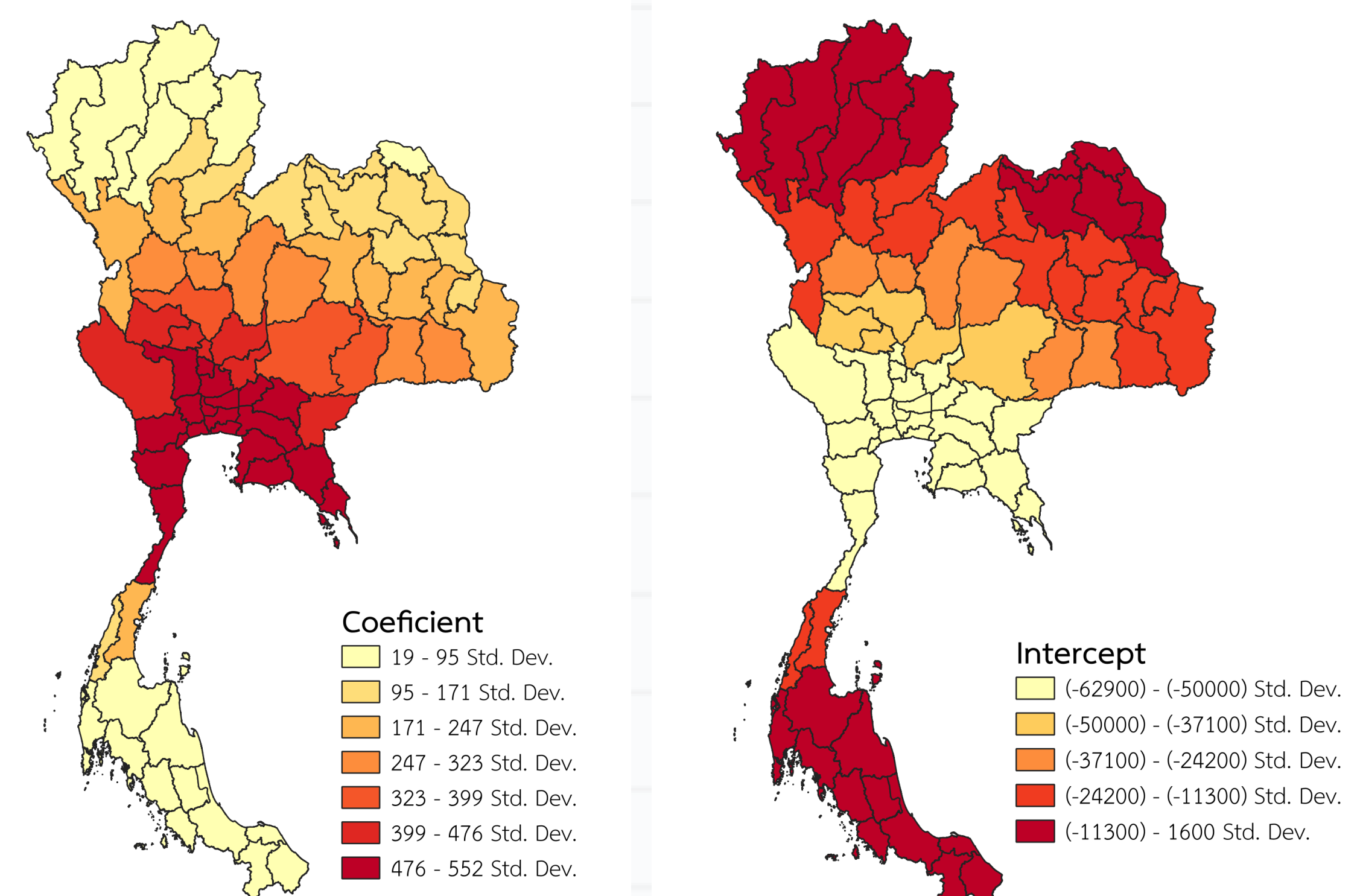


Distribution of the frequency of knowledge searching according to NPI of Thai people in each province.

Spatial relationship model parameters

Correlation analysis between the mean of keyword searches. These included four words of social distancing, three words of mask wearing, four words of hand washing, and the average of all keyword searches (AVG Total) and the number of confirmed cases during the first wave of outbreaks, the second wave, and the third wave of the outbreak. The study found that the mean of the total number of search queries (AVG Total) correlated with the level of the COVID-19 outbreak

The results of the GWR analysis were presented to show the importance of search in each province. It was found that there was a very high rational correlation in the central region, especially the provinces surrounding Bangkok, including the eastern region and the upper southern region as shown in the map



A map showing the spatial distribution of Explanatory variables' Influence towards Dependent variable through the two parameters: local coefficients and local intercepts.