

A Study on Awareness and Prevalence of Corona Virus Infection (Covid-19) in Virudhunagar District, Tamil Nadu, India

P. Veeramuthumari¹, P. Vijaya²

^{1,2}Assistant Professor of Zoology, V. V. Vanniaperumal College for Women, Virudhunagar- 626 001

Abstract - COVID-19 pandemic has challenged the world affects global psychosocial and economic health. The scientific world is taken on this challenge and is investigating this virus, the COVID-19 disease, and pathogenesis, and has developed systems in epidemiology, diagnosis, clinical management, and development of vaccines in a timeline. Hence the study focused on the prevalence of corona viral infection and its complications among the human population. The survey study also revealed that the best COVID-19 vaccines are available such as Covishield, Covaxin and Sputnik V which are currently authorized and recommended COVID-19 vaccines. Based on the WHO, 2021 (WHO Coronavirus (COVID-19) Dashboard) and Government of India, the study also suggested and recommended that the three vaccines are safe, effective and reduce the risk of COVID-19.

Index Terms - SARS-CoV-2, Omicron, COVID vaccine, Viral disease and Wuhan Lab.

INTRODUCTION

The coronavirus outbreak came to light on December 31, 2019, when China informed the World Health Organisation of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei Province. Subsequently the disease spread to more Provinces in China, and to the rest of the world. The WHO has now declared it a pandemic. The virus has been named SARS-CoV-2 and the disease is now called COVID-19 (The Hindu, 2029). Novel Corona virus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience from mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory

disease, and cancer are more likely to develop serious illness and leads to death (Bwire, 2020). In India, Tamilnadu, as of September 2021 Virudhunagar District also found as one of the high COVID-19 diagnosed cases (14,066 thousand) compared with other Districts. Hence, the study focused on awareness and prevalence of COVID-19 infection.

Cascella *et al.*, (2021) reported that coronavirus disease 2019 (COVID-19), the highly contagious infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has had a catastrophic effect on the world's demographics resulting in more than 2.9 million deaths worldwide, emerging as the most consequential global health crisis since the era of the influenza pandemic of 1918. After the first cases of this, predominantly respiratory viral illness was first reported in Wuhan, Hubei Province, China, in late December 2019, SARS-CoV-2 rapidly disseminated across the world in a short span of time, compelling the World Health Organization (WHO) to declare it as a global pandemic on March 11, 2020. Since being declared a global pandemic, COVID-19 has ravaged many countries worldwide, overwhelming many healthcare systems.

Corona virus disease (COVID-19) is the highly contagious infectious disease caused by a newly discovered coronavirus. Most people who fall sick with COVID-19 will experience mild to moderate symptoms and recover without special treatment. The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air, and quickly fall on floors or surfaces. COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization. Most common symptoms: Fever, dry

cough and tiredness. Less common symptoms: Aches and pains, sore throat, diarrhea, conjunctivitis, headache, loss of taste or smell, a rash on skin, or discoloration of fingers or toes. Coronavirus disease 2019 (COVID-19) leads to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and it is found to be a catastrophic effect on the world's demographics resulting in more than 2.9 million deaths worldwide (Casella *et al.*, 2021). Hence the study leads to following objectives (i) Identify prevalence and awareness status of COVID-19 in Virudhunagar District, Tamil Nadu, India (ii) Summarize the latest available treatment in the management of COVID-19 and different vaccines available to prevent COVID-19.

METHODOLOGY

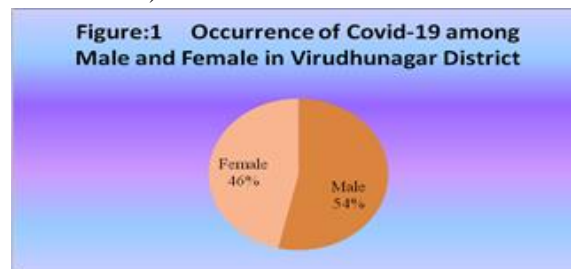
Prevalence of Corona Virus Infection (COVID-19) in Virudhunagar District, Tamil Nadu, India and awareness on COVID-19 among the population was surveyed using questionnaire contains height, weight, health status, basic awareness questions of COVID-19 and self-assessment questions regarding COVID-19. Our II B.Sc., Zoology students surveyed three hundred people who suffered from COVID-19 in the villages such as Sevalpatti, Arrupukottai, Rajapalayam, Chettipatti, Allampatti, Pandalkudi, M. Puthupatti, Kottur, Puthur, Virudhunagar, Srivilliputhur, Pullakkottai, K. Usilampatti, Soolakarai, Palavanatham, Krishnanayankanpatti, Lakshmpuram, R.R. Nagar, Maniparaipatti, Erichanatham, Satur, Sevulur, Puliampatti, Pudukottai, S.N. Patti, Chathirettiypatti, Nattampatti, Sangaranatham, Alamapatti, Kumaralingapuram, Irrukankudi and Puliangulam, Karupampati located in the Virudhunagar District using the questionnaire.

Statistical analysis: Occurrence ratio of COVID between Male and female calculated using *Student t test*.

RESULT

Three hundred COVID-19 infected and get cured people were interviewed through questionnaire, among them 161 was males and 139 were females (Figure:1). People affected by COVID-19 are suffered from the common corona virus symptoms that are headache, sore throat, vomiting, persistent cough,

running nose, sneezing, Muscle ache, abdominal pain, fever, diarrhoea and feeling tired. The current study found that older age (more than 55 years) were associated with higher severity and mortality in patients with both COVID-19 and age was comparable between men and women in all data sets. In the study men tended to be more serious than women ($P = 0.025$; *Student t test*).



The people shared their experience on disease complication and treatment during the quarantine period to the students. A total of 300 people gave their responses on the question what do you know about corona virus? to found out the awareness status of the infection in Virudhunagar District. The study revealed that 241 were responded "Yes" and , 50 were gave "No" answer and 9 were nothing bother about the disease (Table:1; Figure:2).

Table:1 Awareness study on Corona virus and COVID-19 Disease among Virudhunagar District population:

What do you know about corona virus?	Yes	No	Do not know
It is caused by Virus	277	13	10
It can spread from one person to another	288	4	8
It can be prevented	200	70	30
It is the same as common cold	242	11	47
COVID-19 symptoms are worse among diabetic/Cardiovascular disease, Respiratory problems and Kidney failure	275	13	12
Hand washing is important for controlling the COVID-19	241	50	9
Average	254	27	19

However, the result showed that the people in the villages are not familiar and aware about the tobacco smokers (cigarettes and heated tobacco products) are more vulnerable to contracting COVID-19, as the act of smoking involves contact of fingers (contaminated cigarettes) with the lips, which increases the

possibility of transmission of viruses from hand to mouth. Hence, according recent research evidences, the current study explained clearly the consequence of COVID-19 infection and transmission from tobacco and cigarettes smokers to health individuals.

DISCUSSION

Three hundred people those who suffered and recovered from COVID-19 interviewed through framed questionnaire. The people were responded well to the students. The students from II B.Sc., Zoology involved in the survey project and collected the data from their own villages and other villages in around the Virudhunagar District, Tamilnadu, India. In year 2019 to till date, in the study area, 2021 both males and females were affected by the diseases. The result revealed that males are more suffered from the disease compared to females. Conti and Younes (2020) reported that the reason for the women, compared to men, are less susceptible to viral infections based on a different innate immunity, steroid hormones and factors related to sex chromosomes. The presence of two X chromosomes in women emphasizes the immune system even if one is inactive. The immune regulatory genes encoded by X chromosome in female gender causes lower viral load levels, and less inflammation than in man, while CD4+ T cells is higher with better immune response. In addition, women generally produce higher levels of antibodies which remain in the circulation longer. The levels of activation of the immune cells are higher in women than in men, and it is correlated with the trigger of TLR7 and the production of IFN. TLR7 is higher in women than in men (Conti and Younes, 2020).

Global data indicate higher COVID-19 case fatality rates among men than women. Jin *et al.*, (2020) concluded that in his study, men and women have the same prevalence and men with COVID-19 are more at risk for worse outcomes and death, independent of age. The Village people in Virudhunagar District awaked on COVID-19 infection, its complications, preventive measures and personal hygiene but they are not following health practices to prevent infection and to slow transmission of COVID-19, such as washing hands regularly with soap and water, maintain at least 1 metre distance between people coughing or sneezing, avoid touching face, cover mouth and nose when coughing or sneezing, stay home if feel unwell,

refrain from smoking and other activities that weaken the lungs and practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

Linton *et al.*, (2020) and Backer *et al.*, (2020) revealed that the mean or median incubation period of the disease ranges from 5 to 6 days. In accordance with of the report Bwire (2020), the current study corona virus disease 2019 (Covid-19) is found to be at high risk who have preexisting health conditions such as obesity, hypertension, and diabetes as being at high risk of contracting and/or dying of Covid-19. In WHO Corona virus (COVID-19). COVID-19 is an infectious disease, posing a massive challenge to global health, which will probably run a prolonged course till an effective vaccine, is found, or herd immunity is achieved. Until availability of effective vaccines for a large percentage of the global population, public health measures such as social distancing, isolation, and quarantine are needed to prevent the spread of the virus. WHO recommends protective measures such as frequent hand washing, avoiding touching of eyes, nose or mouth, maintaining a distance of at least 1 m between people, and practicing respiratory hygiene, to help prevent the spread of the disease (Chowdhury and Oommen 2020; WHO, 2020).

CONCLUSION/RECOMMENDATION

In accordance with World Health Organization (WHO), the study suggested and recommended that the currently authorized as COVID-19 vaccines are Covishield, Covaxin and Sputnik V and are safe, effective and reduce the risk of COVID-19. So, the current survey study also gave awareness about the available authorized vaccines and the importance of vaccination among the virudhunagar district population. Hence the project work concluded that the people all should be administered the vaccine to live safe and healthy.

ACKNOWLEDGEMENT

Our heartfelt thanks to the Department of Biotechnology, New Delhi for providing financial support and good opportunity to utilize the equipments and chemicals purchased under DBT-Star College Scheme. I also thank the Principal and Management of

V.V.Vanniaperumal College for Women, Virudhunagar for their support and encouragement throughout the study period and providing this kind of opportunity under this scheme.

REFERENCES

- [1] Backer JA, Klinkenberg D, and Wallinga J, (2020). Incubation period of 2019 novel coronavirus (2019-nCoV) infections among travellers from Wuhan, China. *Euro Surveill.* 25(5):20-28
- [2] Bwire GM, (2020). Coronavirus: Why Men are More Vulnerable to Covid-19 Than Women? *SN Comprehensive Clinical Medicine.*
- [3] Cascella M, Rajnik M, Aleem A, Dulebohn SC, and Napoli RD, (2021). Features, Evaluation, and Treatment of Coronavirus (COVID-19). NCBI, COVID information, update April 2021.
- [4] Chowdhury S, and Oommen AM, (2020). Epidemiology of COVID-19. *J. of Digest. Endoscopy.* 11(1): 3–7.
- [5] Conti P, and Younes A, (2020). Coronavirus COV-19/SARS-CoV-2 affects women less than men: clinical response to viral infection, *J Biol Regul Homeost Agents.* 34(2):339-343.
- [6] Jin J-M, Peng Bai, Wei He, Fei Wu, Xiao-Fang Liu¹, De-Min Han, Shi Liu and Jin-Kui Yang, (2020). Gender Differences in Patients With COVID-19: Focus on Severity and Mortality. *Frontiers in Public Health.* 8: (152).
- [7] Linton N M, Kobayashi T, and Yang Y, (2020). Incubation period and other epidemiological characteristics of 2019 novel Coronavirus infections with right truncation: a statistical analysis of publicly available case data. *J Clin Med.* 9(02):E538–E538.
- [4] <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>. Accessed April 18, 2020.
- [5] <https://www.google.com/search?q=coronavirus+in+virudhunagar>
- [6] <https://www.thehindu.com/topic/coronavirus/>
- [7] <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>
- [8] <https://www.biospace.com/article/https-www-nature-com-articles-s41422-020-00430-4/>.
- [9] <https://apps.who.int/iris/handle/10665/331693>. 2020.
- [10] <https://www.ecdc.europa.eu/en/publications-data/using-face-masks-community-reducing-covid-19-transmission>. 2020.

WEBSITE REFERENCES

- [1] “District list/tamil Nadu Government Portal”. Archived from the original on 9 July 2020. Retrieved 9 July 2020.
- [2] <https://www.newindianexpress.com/states/tamil-nadu/2020/apr/23/covid-19-contact-tracing-an-uphill-battle-in-virudhunagar-village-2134416.html>
- [3] <https://www.tnurbantree.tn.gov.in/virudhunagar/>