



# A STUDY TO ASSESS THE POST COVID SYNDROME AMONG HEALTH CARE PERSONALS IN SELECTED HOSPITAL, PERINTHALMANNA

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**Abstract :** The present study entitled “A study to assess the Post COVID syndrome among healthcare personals in selected hospital, Perinthalmanna” is based on following Objectives: Assess the Post COVID syndrome among health care personals and Associate the Post COVID syndrome among health care personals with selected socio-demographic variables, Methodology: Quantitative approach was used for the study and Non experimental correlational retrospective research design was selected. The study was based on the concepts of Rosenstock’s Health Belief Model. The study was conducted in KIMS Al Shifa hospital, Perinthalmanna among the health care personals after COVID-19 using non probability convenient sampling technique. The data was collected through structured questionnaire and checklist from 100 healthcare personals after COVID-19 Analysis: Data were analysed by using descriptive and inferential statistics. Result: The Post COVID syndrome among health care personals using checklist revealed that fifty seven percentage of participants had mild symptoms, forty three percentage had moderate symptoms and nine of them had severe symptoms. Conclusion: The study concluded that there is a significant association between Post COVID syndrome and socio-demographic variables such as age, gender, type of health worker.

**IndexTerms** – Health care personals, Post COVID syndrome

## INTRODUCTION

The COVID-19 pandemic has upended the lives of humans across the globe. The dramatic effects of COVID-19 outbreak taught us that pandemics can turn the world upside down. On December 31, 2019, the China Health Authority alerted the World Health Organization (WHO) to several cases of pneumonia of unknown etiology in Wuhan City in Hubei Province in central China. As we continue to learn about COVID-19 we are understanding more regarding how it affects the multiple organs during acute illness afterwards. And this is especially true with viruses and ongoing variants as well. Many research studies support that about 85% of people reported breathing difficulty after COVID-19 infection. About 80% reported persistence of at least one symptom, particularly dyspnea and fatigue.

On January 7, a novel coronavirus, originally abbreviated as 2019-nCoV by WHO, was identified from the throat swab sample of a patient. This pathogen was later renamed as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the Coronavirus Study Group [3] and the disease was named coronavirus disease 2019 (COVID-19) by the WHO. As of January 30, 7736 confirmed and 12,167 suspected cases had been reported in China and 82 confirmed cases had been detected in 18 other countries. In the same day, WHO declared the SARS-CoV-2 outbreak as a Public Health Emergency of International Concern (PHEIC).

## NEED OF THE STUDY

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the pathogen responsible for the coronavirus disease 2019 (COVID-19) pandemic, which has resulted in global healthcare crises and strained health resources. As the population of patients recovering from COVID-19 grows, it is paramount to establish an understanding of the healthcare issues surrounding them. COVID-19 is now recognized as a multi-organ disease with a broad spectrum of manifestations. Similarly to post-acute viral syndromes described in survivors of other virulent coronavirus epidemics, there are increasing reports of persistent and prolonged effects after acute COVID-19.

Assess the Post COVID syndrome among health care personals and Associate the Post COVID syndrome among health care personals with selected socio-demographic variables .

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the pathogen responsible for coronavirus disease 2019 (COVID-19), has caused morbidity and mortality at an unprecedented scale globally. Scientific and clinical evidence is evolving on the subacute and longterm effects of COVID-19, which can affect multiple organ systems<sup>2</sup>. Early reports suggest residual effects of SARS-CoV-2 infection, such as fatigue, dyspnea, chest pain, cognitive disturbances, arthralgia and decline in quality of life. Cellular damage, a robust innate immune response with inflammatory cytokine production, and a pro-coagulant state induced by SARSCoV2 infection may contribute to these sequelae. Survivors of previous coronavirus infections, including the SARS epidemic of 2003 and the Middle East respiratory syndrome (MERS) outbreak of 2012, have demonstrated a similar constellation of persistent symptoms, reinforcing concern for clinically significant sequelae of COVID-19.

## Population and sample

In this study, the population is health care personals after COVID-19 of KIMS Alshifa hospital Perinthalamanna.

Sample and subset population comprising those selected to participate in a study .

## Data and sources of data

The study was conducted in health care personals after COVID-19 with the age group of 20-59 years in KIMS Alshifa Hospital Perinthalamanna, is a 350 bedded multi-specialty hospital that is located on the central region of Malappuram district. The hospital was having adequate facilities with 24 hours emergency services, laboratory, scanning services. They offer comprehensive care for low cost to the people from various part of Kerala. The rationale for selecting this area was because of adequate samples of health care personals with Post COVID syndrome who had satisfied the inclusion and exclusion criteria of our study is available in this setting.

Data is a piece of information obtained by a study. Data collection is gathering of information to address the research problem. Data collection tool is the device used to collect data. In the present study the tool was prepared on the basis of objectives of the study. In the development of tool, the following steps are involved which are review of literature, preparation of first draft, personal consultation and discussion with experts from field of nursing.

## Theoretical framework

Conceptual frame work is interrelated concept on abstraction that are assembled together in some rational scheme by virtue of relevance to a common team. It is a device which stimulates research and the exertion of knowledge by carrying out prescribed therapies and learning to live with the effect of illness or treatment.

The present study adapted the concepts of Rosenstock's Health Belief Model.

The Health Belief Model (HBM) was developed by Rosenstock in 1974 and BeccarMainanim in 1975. In this model, the relationship between the person's belief and behaviour is explained. This model helped to understand clients behaviour towards his health and also how he adjusts with intervention of health services.<sup>14</sup>

## Statistical tool and econometric models

Data is a piece of information obtained by a study. Data collection is gathering of information to address the research problem. Data collection tool is the device used to collect data. In the present study the tool was prepared on the basis of objectives of the study. In the development of tool, the following steps are involved which are review of literature, preparation of first draft, personal consultation and discussion with experts from field of nursing.

Structured questionnaire consist of 6 items seeking information about socio demographic variables are age, gender, level of education, type of health worker, number of COVID attack, presence of comorbidities.

Checklist consist of 15 questions for assessing post syndrome among health care personals. Each positive response carried 1 mark and negative response carried 0 mark.

## Descriptive statistics

Checklist consist of 15 questions for assessing post syndrome among health care personals. Each positive response carried 1 mark and negative response carried 0 mark.

Range	Grade
Severe	11-15
Moderate	5-10
Mild	0-4

## RESULTS AND DISCUSSION

Distribution of socio-demographic variables of health care personal after COVID-19.

- Forty nine percentage of participants are belong to the age group of 20-29 years, twenty nine percentage of the participants belong to the age of 30-39 years, eighteen percentage of the participants belong to the age group of 40-49 years and four percentage participants are belong to the age group of 50-59 years.
- Seventy three percentage participants were females, twenty seven percentage were males and none in other category.
- Sixty five percentage of the participants are graduates, twenty one percentage participants had secondary education, ten percentage had primary education and four percentage had post-graduation.
- Forty eight percentage of the participants are nurses, twenty eight percentage of the participants are involved in other health care works, thirteen percentage of the participants are lab technicians and eleven percentage are pharmacist.
- Seventy two percentage of the participants are exposed to COVID-19 once, twenty eight percentage twice, and none above three.
- Eighty percentage of study participants have no comorbidities, ten percentage have diabetes mellitus, five percentage have hypertension, three percentage have asthma, two percentage have kidney disease and no one reported other comorbidities.

Assessment of Post COVID syndrome.

- The Post COVID syndrome among health care personals using checklist revealed that fifty seven percentage of participants had mild symptoms, forty three percentage had moderate symptoms and nine of them had severe symptoms.

Association between Post COVID syndrome to health care personals after COVID-19 and selected socio-demographic variables.

- There is significant association between Post COVID syndrome and sociodemographic variables such as age, gender and type of health worker ( $p$  value $<0.05$ ). There is no association between Post COVID

syndrome and sociodemographic variables such as level of education, number of COVID attacks and comorbidities ( $p$  value $>0.05$ ).

The present study was done to assess Post COVID syndrome among health care personal in selected hospital at Perinthalmanna. The study was to evaluate the association between Post COVID syndrome and selected socio-demographic variables. The present study result was fifty seven percentage of participants have mild range of Post COVID symptoms and forty three percentage participants have moderate range of symptoms. The finding of the present study were in line with another descriptive cross sectional study which assess the COVID-19 and post-traumatic stress disorder among nurses conducted by Llarimarcomini, Cristinaagus, Lauramilani, Robert rtosfogliarini and Annamaria at Crema hospital. Out of the total sample 39.88% received a provisional PTSD diagnosis deserving of further analysis. The result says that working in the emergency department during the COVID19 pandemic (OR=2.40;  $p=0.02$ ), irregular work shifts (OR=5.41;  $p=0.01$ ) and coming from a mental health ward (OR=3.80;  $p=0.02$ ) increased the risk of receiving a provisional PTSD diagnosis. Study findings showed significantly higher IES-R scores among women than among men ( $p = 0.01$ ).

The result of the present study were in the cross sectional study which assess the characteristics of long - COVID symptoms among older adults by VeredDaitch, Dana Yelin, MuhammadAwwad, Giovanni Guaraldi, JovanaMilić, Cristina Mussini, Marco Falcone and Giusy Tiseo in Israel, Switzerland, Spain and Italy. In this multicenter, prospective cohort study individuals were included at least 30 days after their COVID-19 diagnosis. They compared long-COVID symptoms between elderly (aged  $>65$  years) and younger individuals (aged 18-65 years) and conducted univariate and multivariable analyses for the predictors of long - COVID fatigue and dyspnea. The result says that total of 2333 individuals were evaluated at an average of 5 months (146 days [95% confidence interval 142-150]) after COVID-19 onset. The mean age was 51 years, and 20.5% were aged  $>65$  years. Older adults were more likely to be symptomatic, with the most common symptoms being fatigue (38%) and dyspnea (30%); they were more likely to complain of cough and arthralgia. Study concluded that female gender and individual with obesity was the strongest risk factor for Post COVID syndrome. <sup>28</sup>

The finding of the present study was in line with another population based cohort study on burden of Post COVID-19 syndrome and implications for health care service planning by Dominik Menges and TalaBallouz. Study enrolled 431 adults from the general population with polymerase chain reaction-confirmed SARS-CoV-2 infection. Evaluated the proportion of individuals reporting not to have fully recovered since SARS-CoV-2 infection, and the proportion reporting fatigue (Fatigue Assessment Scale), dyspnea (mMRCdyspnea scale) or depression (DASS-21) at six to eight months after diagnosis. Multivariable logistic regression models were used to assess factors associated with these main outcomes. The result says symptoms were present in 385 (89%) participants at diagnosis and 81 (19%) were initially hospitalized. At six to eight months, 111 (26%) reported not having fully recovered. 233 (55%) participants reported symptoms of fatigue, 96 (25%) had at least grade 1 dyspnea, and 111 (26%) had DASS21 scores indicating symptoms of depression. Study concluded that a relevant proportion of participants suffered from longer-term consequences after SARS-CoV2 infection.

## REFERENCES

1. Jim Rohn, quotes about problems. Available from: <https://quotefancy.com/jim-rohnquotes>
2. Chamola V, Hassija V, Gupta V, Guizani M. A comprehensive review of the COVID-19 pandemic and the role of IoT, drones, AI, blockchain, and 5G in managing its impact. Ieee access. 2020 May 4;8:90225-65.
3. He F, Deng Y, Li W. Coronavirus disease 2019: What we know?. Journal of medical virology. 2020 Jul;92(7):719-25.
4. Khan M, Adil SF, Alkathlan HZ, Tahir MN, Saif S, Khan M, Khan ST. COVID-19: a global challenge with old history, epidemiology and progress so far. Molecules. 2020 Dec 23;26(1):39.
5. Machado BA, Hodel KV, Barbosa-Junior VG, Soares MB, Badaro R. The main molecular and serological methods for diagnosing COVID-19: an overview based on the literature. Viruses. 2020 Dec 29;13(1):40.
6. Watanabe A, So M, Iwagami M, Fukunaga K, Takagi H, Kabata H, Kuno T. One- year followup CT findings in COVID-19 patients: A systematic review and meta-analysis. Respirology. 2022 Aug;27(8):605-16.

7. Salim, N.A., Stevanny, B., Putri, A.A., Khoirudin, M., Nadhif, A.M., Hamzah, H.A., Andriani, R.L., Permata, M., Hudari, H. and Ahmad, Z., 2022. Post-COVID-19 Syndrome in Healthcare Personnel in Dr. Mohammad Hoesin General Hospital Palembang Indonesia. *International Journal of Infectious Diseases*, 116, p.S33.
8. Ayoubkhani D, Khunti K, Nafilyan V, Maddox T, Humberstone B, Diamond I, Banerjee A. Post-covid syndrome in individuals admitted to hospital with covid-19: retrospective cohort study. *The BMJ*. 2021;372.
9. Ning Q, Wu D, Wang X, Xi D, Chen T, Chen G, Wang H, Lu H, Wang M, Zhu L, Hu J. The mechanism underlying extrapulmonary complications of the coronavirus disease 2019 and its therapeutic implication. *Signal Transduction and Targeted Therapy*. 2022 Feb 23;7(1):1-33.
10. Shaukat N, Ali DM, Razzak J. Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. *International journal of emergency medicine*. 2020 Dec;13(1):1-8.
11. Ewing LA, Vu HQ. Navigating 'home schooling'during COVID-19: Australian public response on twitter. *Media International Australia*. 2021 Feb;178(1):77-86.
12. Al-Qahtani AA. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2): emergence, history, basic and clinical aspects. *Saudi journal of biological sciences*. 2020 Oct 1;27(10):2531-8.
13. Gupta N, Dhamija S, Patil J, Chaudhari B. Impact of COVID-19 pandemic on healthcare workers. *Industrial Psychiatry Journal*. 2021 Oct;30(Suppl 1):S282.
14. The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4530978/>.
15. Wayne W. La Morte, MD, PhD, MPH. Components of health belief model. Available Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories2.html
16. Prajitha KC, Rahul A, Chintha S, Soumya G, Suresh MM, Nair AN, Valamparampil MJ, Reghukumar A, Venkitaraman S, Anish TS. Strategies and challenges in Kerala's response to the initial phase of COVID-19 pandemic: a qualitative descriptive study. *BMJ open*. 2021 Jul 1;11(7):e051410.
17. Poudel AN, Zhu S, Cooper N, Roderick P, Alwan N, Tarrant C, Ziauddeen N, Yao GL. Impact of Covid-19 on health-related quality of life of patients: A structured review. *PLoS One*. 2021 Oct 28;16(10):e0259164.
18. Shaukat N, Ali DM, Razzak J. Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. *International journal of emergency medicine*. 2020 Dec;13(1):1-8.
19. Suresh L, Malavika V. R2, Sarika S G3, UshaKumari V4,-"A case study on COVID-19 in two districts of Kerala state viz. Kannur and Thiruvananthapuram. 2020 Nov;18.
20. Augustin M, Schommers P, Stecher M, Dewald F, Gieselmann L, Gruell H, Horn C, Vanshylla K, Di Cristanziano V, Osebold L, Roventa M. Post-COVID syndrome in nonhospitalised patients with COVID-19: a longitudinal prospective cohort study. *The Lancet Regional Health-Europe*. 2021 Jul 1;6:100122.
21. Iqbal FM, Lam K, Sounderajah V, Clarke JM, Ashrafian H, Darzi A. Characteristics and predictors of acute and chronic post-COVID syndrome: A systematic review and metaanalysis. *EClinicalMedicine*. 2021 Jun 1;36:100899.
22. Alkodaymi MS, Omrani OA, Fawzy NA, AbouShaar B, Almamlouk R, Riaz M, Obeidat M, Obeidat Y, Gerberi D, Taha RM, Kashour Z. Prevalence of post-acute COVID-19 syndrome symptoms at different follow-up periods: A systematic review and meta-analysis. *Clinical Microbiology and Infection*. 2022 Feb 3.
23. Pavli A, Theodoridou M, Maltezou HC. Post-COVID syndrome: Incidence, clinical spectrum, and challenges for primary healthcare professionals. *Archives of medical research*. 2021 Aug 1;52(6):575-81.
24. Gaber TA, Ashish A, Unsworth A. Persistent post-covid symptoms in healthcare workers. *Occupational Medicine*. 2021 Apr;71(3):144-6.
25. Rao S, Amara V, Chaudhuri S, Rao BK, Todur P. "Post-COVID-19 syndrome:" The New Pandemic Affecting Healthcare Workers and How the Frontline Warriors Are Battling it. *Indian Journal of Palliative Care*. 2021 Apr;27(2):313.
26. Pavli A, Theodoridou M, Maltezou HC. Post-COVID syndrome: Incidence, clinical spectrum, and challenges for primary healthcare professionals. *Archives of medical research*. 2021 Aug 1;52(6):575-81.
27. Marcomini I, Agus C, Milani L, Sfogliarini R, Bona A, Castagna M. COVID-19 and posttraumatic stress disorder among nurses: a descriptive cross-sectional study in a COVID hospital. *La Medicina del lavoro*. 2021;112(3):241.
28. Daitch V, Yelin D, Awwad M, Guaraldi G, Milić J, Mussini C, Falcone M, Tiseo G, Carrozzi L, Pistelli F, Nehme M. Characteristics of long-COVID among older adults: a cross-sectional study. *International Journal of Infectious Diseases*. 2022 Dec 1;125:287-93.

29. Menges D, Ballouz T, Anagnostopoulos A, Aschmann HE, Domenghino A, Fehr JS, Puhan MA. Burden of post-COVID-19 syndrome and implications for healthcare service planning: A populationbased cohort study. PloS one. 2021 Jul 12;16(7):e0254523.
30. Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. International journal of antimicrobial agents. 2020 Mar 1;55(3):105924.

