



POST COVID-19 HEALTH ISSUES IN A VIEW TO DEVELOP RESOURCE MATERIAL ON POST COVID-19 CARE

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ABSTRACT

Objective: Objective of the study was to identify the post Covid-19 health issues faced by the clients who suffered from Covid-19, find out the association with selected demographic variable and to develop resource material. As we know people those who had mild versions of the disease continue to experience symptoms after their initial recovery. These people sometimes describe themselves as "long haulers" and the conditions have been called post-COVID-19 syndrome or "long COVID-19." These health issues are sometimes called post-COVID-19 conditions. **Method:** We conducted cross-sectional, Descriptive Survey, under the VVP College of Nursing, Ahmednagar for 1 year to study clients who suffered from Covid-19 and had symptoms beyond 4 weeks of diagnosis of Covid positive status. Non-probability purposive sampling technique was used to select the study samples. A pre validated tool was used consisting of checklist to evaluate post covid health issues from selected samples. **Results:** Out of 100 selected samples majority (60%) were above 40 years of age. Male predominance was seen (66%) among the cases studied. 65 % needed hospitalization during Covid 19 infection and among all 32% required readmission for further ailments. Majority samples received antivirals (31%) followed by antibiotics (21%). About 28% were having previous major illness before suffering from Covid 19 disease. **Conclusion:** Most of selected variables under study were found significant with health issues faced by Covid 19 survivors. Survivors of the COVID-19 disease, particularly those who went through a severe acute phase, may endure sequelae that are linked to certain morbidity. The resource material is prepared, which will help in educating the clients in the community.

Keywords: Covid19, post covid syndrome, long haulers

1. Introduction

The novel Coronavirus disease 2019 (COVID-19) is an illness caused due to severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2).¹ The outbreak of novel pathogenic Corona virus was first identified in Wuhan city of Hubei Province of South China on 31st December, 2019. It was recognized as a Pandemic by the World Health Organization on 11th March, 2020. World Health Organization (WHO) had declared the outbreak a Public Health Emergency of International Concern on 30th January, 2020.² In India as of 1st December 2022 there have been 4,46,72,913 confirmed cases of covid-19, including 5,30,624 (1.19%) deaths. Total cured /discharged cases of covid -19 were 4,41,37,617 (98.80%). In Maharashtra, as of 1st December 2022, there have been 8135850 confirmed cases of Covid -19 including 148407 (1.83%) deaths. Total cured/discharged cases of Covid-19 were 7987070 (98.17%).³ The median incubation period for COVID-19 is estimated to be 4–5.1 days (range 2–14 days) and 97.5% of those who develop symptoms will do so within 11.5 days of infection.⁴

Most people who have coronavirus disease (COVID-19) recover completely within a few weeks. But some people even those who had mild versions of the disease continue to experience symptoms after their initial recovery. These people sometimes describe themselves as "long haulers" and the conditions have been called post-COVID-19 syndrome or "long COVID-19." Health issues generally considered to be effects of COVID-19 that persist for more than four weeks after you've been diagnosed with the COVID-19 virus.⁵ Studies previously conducted showed that there was focus on either individual symptoms of long COVID or isolated organ dysfunction, classified according to cardiovascular, respiratory and functional capacity, neurological and psychological, fatigue, and olfactory dysfunction. Most of the interventions are related to the mechanisms causing the individual symptoms.⁶ However, superinfection, acute liver, kidney, and cardiac injuries, shock, and hypoxic encephalopathy are less common post Covid 19 symptoms. It's important to remember that our understanding of post COVID-19 condition, along with COVID-19, continues to evolve.⁵

Also studies reported that not only the acute infectious phase but also Long COVID is characterized by concurrent elevations in depression (depressed mood, feelings of guilt, suicidal ideation, loss of interest), anxiety (anxious mood, tension, fears, anxiety behavior at interview), chronic fatigue and somatic symptoms including autonomic and gastrointestinal (GIS) symptoms, malaise and muscle pain.⁷ Tremendous research, vaccine development within few months of pandemic and repeated up regulating management protocols has saved millions. With increasing cohort of covid19 survivors worldwide, there is proportionate rise in

post-covid syndromes. This is going to have a negative effect lingering in the form of chronic non-communicable or debilitate sequelae.⁸

Recovery from Covid-19 is just the half of battle won, there is more to follow. Aftermath says, roughly 23% recovered patients are back in hospital. The emerging post-COVID syndrome is of concern for public health which might develop into chronic disabling non-communicable disease.⁸ For these reasons, it is necessary to formulate rehabilitation programs for these patients, to help them restore physical and respiratory function and to reduce anxiety and depression, particularly patients with comorbidities and those who live alone or in rural settings, to restore a good quality of life.⁹

The post Covid-19 care educational program for cross-cultural communication and language access, including translated material on post-covid-19 conditions and interpreter services could help to address health literacy and improve communication effectiveness.¹⁰ During community health nursing posting, investigators found that a lot of people suffering from post-covid-19 health issues. Data was collected from Urban Health Centre and surrounding community area by doing home visits. The clients were interviewed and provided them checklist regarding the symptoms faced by clients during post-covid-19.

2. Material and Methodology

A cross-sectional, descriptive study was conducted in Ahemdnagar city of state of Maharashtra, India among clients who suffered from Covid-19 and had symptoms beyond 4 weeks of diagnosis of Covid-positive status. The objectives for the study were: To identify the post-Covid-19 health issues faced by the clients who suffered from Covid-19 of selected city. To find the association between post-Covid-19 health issues faced by the clients who suffered from Covid-19 with selected demographic variable. To develop resource material based on identified post-Covid-19 health issues faced by the clients who suffered from Covid-19.

The study was conducted after formal approval of Institutional Ethical Committee (VIMSCON/IEC/Meeting/2022/018/06/06/2022). Total 100 samples were selected by non-probability purposive sampling technique. And who met the designed set of criteria. Informed written consent was taken from patients and their families. Inclusion criteria: 1. Post-covid-19 client. 2. Willing to provide written informed consent. 3. Available during the study period. Exclusion criteria: 1. Known case of mental disorder. The pre-validated tool was used by the investigator in context to assess the level of health issues faced by the clients who suffered from Covid-19 by using checklist. To establish content validity, the checklist was given to experts in field of nursing. The reliability of the tool was obtained by test-retest (r) method. It was 0.8 which was found to be reliable. The data were analyzed by descriptive and inferential statistics.

3. Results

Total 100 cases in the study period were analyzed. In the present study it was observed that in the most 60% in the age group of >40 years. Most of study samples were male (66%). (Table No. 1). About 56% were married.

Table.1: Age distribution

S.N.	Age group (years)	Frequency	Percentage
1	<20	15	15.00
2	21-40	25	25.00
3	41-60	28	28.00
4	> 60	32	32.00
	TOTAL	100	100

42% were studied up to secondary level and 32% were graduates. Maximum numbers of cases 46% were private employee followed by business 24% and 20% daily wage workers.

Among the cases studied maximum 38% were having 1-4 numbers of family members at home followed by 36% having 5-8 members at home. Majority (88%) were suffered from covid-19 a year back. Among them 65% of cases required hospitalization during covid-19 infection. Among the studied cases 32% were required re-hospitalization during post-covid period.

Table.2: Educational status

S.N.	Education	Frequency	Percentage
1	Primary	06	06.00
2	Secondary	42	42.00
3	Graduation	32	32.00
4	Post-Graduation	20	20.00
	TOTAL	100	100

During hospitalization majority of participants i.e., 31% clients were treated with (Fig.1) anti-viral therapy, 21% clients were treated with antibiotics, 16% were treated with antipyretics, 6% were treated with anticoagulants, 6% were treated with ventilator supports, 10% were treated with oxygen therapy, 4% were treated with immunomodulatory therapy and

6 % treated with analgesics. Hence it can be interpreted that majority of the participants were treated with antiviral and antibiotic therapy.

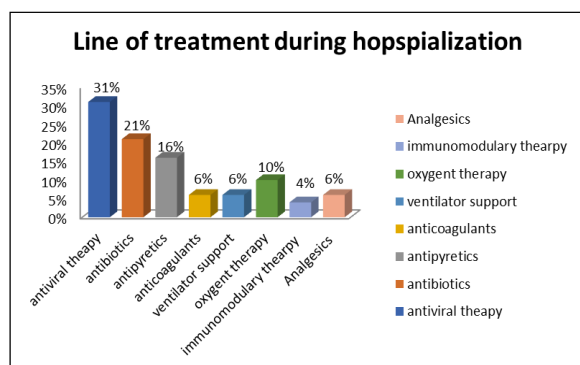


Fig.1: Line of treatment

Area wise distribution of mean, SD on assessment of post Covid 19 health issues faced by the client who suffered from covid 19, shows that the overall mean score was (16.15±2.12), it seems that the post covid 19 patient had moderate health issues. Table no.3 depicts that level of health issues faced by the clients suffered from Covid 19. The result shows that, 46% of the post covid clients had moderate health issues, 42% had mild health issues and 12% had severe health issues.

Table.3: Level of health issues

S.N.	Level of health issues	Range of Score	F	%
1	Mild health issues	0-9	42	42.00
2	Moderate Health issues	10-18	46	46.00
3	Severe Health issues	19-27	12	12.00

Chi square values were recalculated to find out the association between health issues faced by the clients suffered from Covid 19 with the selected demographic variable, the findings revealed that there was significant association for variable like Age, gender, education, occupation, hospitalization, line of treatment during hospitalization, major illness and previous surgical procedure. Whereas no significant association found for Marital status, Number of Family member, Readmission after discharge and Previous History of admission to Hospital.

Table.4: Association of variables with health issues

SN	Variables	χ^2	P value
1	Age	5.11	0.023*
2	Gender	4.77	0.028*
3	Marital status	2.68	0.101
4	Education	5.43	0.019*
5	Occupation	4.60	0.031*
6	No. of Family member	3.26	0.070
7	When you suffered from COVID 19	4.77	0.028*
8	No. of family member affected	4.16	0.041*
9	Hospitalization	4.03	0.044*
10	Readmission after discharge	2.22	0.136
11	Line of treatment	5.88	0.015*
12	Any major illness	5.77	0.016*
13	Previous H/o Hospitalization	2.27	0.131
14	H/o surgical procedure	6.23	0.012*

*Significant at 0.05 as $p < 0.05$

4. Discussion

Percentage wise distribution of Covid 19 client according to their age depicts that the highest percentage (32%) were 61 years and above. Increasing age is also a risk factor and it is found that patients with long COVID are around four years older than those without¹¹. Majority of the participants under study were male. Majority of 42% participants had secondary education, 32% participants were graduates, 20% were post graduate. Majority of the participants were private employee and 38% were having 0-4 members living in the family.

About 12% people affected with covid 19 six months ago, 33% people affected with covid 19 twelve months ago, 27% people affected with covid 19 eighteen months ago, 28% people affected with covid 19 twenty-four months ago. Most published studies to date on post-COVID symptoms have found that 50–70% of hospitalized patient's exhibit several post-COVID symptoms up to 3 months after hospital discharge¹². Also we found that maximum no. of cases (52%) about 1-3 family members were affected by Covid 19.

In study 65% required hospitalization due to covid 19 infection. During post covid period 32% were readmitted in the hospital due to health issues. Most of cases 31% were treated with anti-viral drug and 21% clients were treated with antibiotics. 28% were having major illness who suffered from covid 19 infection.

Further the findings revealed that there was significant association between health issues faced by the client suffered from Covid 19 with their selected demographic variable like age, gender, education, occupation, hospitalization, any major illness and previous surgical procedure. Presence of co morbidities also increases the risk of developing post COVID syndrome. Even those with mild symptoms at initial presentation were noted to develop long COVID.¹³

5. Implication

The findings of the study has implications for nursing education, nursing practice, nursing administration and nursing research.

Nursing education:

The proposed resource material on post covid-19 care has scholarly information, particularly the statement and outcomes, which will be an excellent addition to the nursing program. The methodology also outlines how to contact in order to gather data. As a result, the nurse educator and nursing students can use this checklist to do any form of research linked to a people's health living in community.

Nursing Practice:

Nurses play an important role in teaching clients and the general public about numerous health topics. Due to lack of information many people won't be able to seek health care facilities. Every nurse practitioner should have some designed resource material to teach people about post covid-19 care, whether in hospital or community. It helps to improve client's knowledge to seek health facilities. As a result of the current study, the investigator, who is nurse, believes that a nurse should act as a facilitator in educating people about post covid-19 care.

Nursing Administration:

Nurses as administrators are in a key position to organize in-service education programs, refresher courses, and workshops for nurses and encourage them to participate in these activities. As an administrator, she can use a multi-dimensional strategy to assess post covid-19 health issues faced by the clients who suffered from covid-19. The guidelines may be derived from the research documents to meet the needs of such administration.

Nursing Research:

This study will be a valuable reference and pathway to further research. The findings of the study would help to expand the scientific body of professional knowledge upon which further research can be conducted. The resource material developed more effective instructional materials. Extensive research can be conducted to create awareness among nurses and community people regarding post covid-19 care.

6. Conclusion

Survivors of the COVID-19 disease, particularly those who went through a severe acute phase, may endure sequelae that are linked to certain morbidity. Majority of the clients had moderate to mild health issues, and few had severe health issues. The study assumes that there was significant association between health issues faced by the clients suffered from Covid-19 with their demographic variables. Keeping in view the post covid health issues among the clients the resource material is prepared, which will help in educating the clients in the community.

Conflict of Interest: There is No conflict of Interest.

References

1. Balachandrar V, Mahalaxmi I, Devi SM, Kaavya J, Kumar NS, Laldinmawii G, Arul N, Reddy SJ, Sivaprakash P, Kanchana S, Vivekanandhan G. Follow-up studies in COVID-19 recovered patients- is it mandatory?. *Science of The Total Environment*. 2020 Apr 27; 139021.
2. Holshue ML, DeBolt C, Lindquist S, Lofy KH, Wiesman J, Bruce H, et al. First Case of 2019 Novel Coronavirus in the United States. *New England Journal of Medicine*. 2020 Jan 31; 382 (10): 929–36.
3. Covid-19 statewise status available from <https://www.mygov.in/corona-data/covid19-statewise-status/assessed-on-3-12-2022>.
4. Sayeh Ezzikouri, Jalal Nourlil, Soumaya Benjelloun, Michinori Kohara & Kyoko Tsukiyama-Kohara (2020) Coronavirus disease 2019—Historical context, virology, pathogenesis, immunotherapy, and vaccine development, *Human Vaccines & Immunotherapeutics*, 16:12, 2992-3000, DOI: 10.1080/21645515.2020.1787068.
5. Lopez-Leon, S., Wegman-Ostrosky, T., Perelman, C. et al. More than 50 long-term effects of COVID-19: a systematic review and meta-analysis. *Sci Rep* 11, 16144 (2021). <https://doi.org/10.1038/s41598-021-95565-8>.
6. Chee YJ, Fan BE, Young BE, Dalan R, Lye DC. Clinical trials on the pharmacological treatment of long COVID: A systematic review. *J Med Virol*. 2023 Jan; 95(1): e28289. doi: 10.1002/jmv.28289. Epub 2022 Nov 18. PMID: 36349400; PMCID: PMC9878018.
7. World Health Organization. “Coronavirus (COVID-19)”. <http://covid19.who.int/> Accessed on 14 Apr 2021.
8. Davies, N.G., Klepac, P., Liu, Y., Prem K., Jit M., Eggo RM et al. Age-dependent effects in the transmission and control of COVID-19 epidemics. *Nat Med* 2020; 26, 1205–1211.
9. Demeco A, Marotta N, Barletta M, et al. Rehabilitation of patients post-COVID-19 infection: a literature review. *Journal of International Medical Research*. 2020; 48(8). doi: 10.1177/0300060520948382.
10. Swoboda CM, Van Hulle JM, McAlearney AS, Huerta TR. Odds of talking to healthcare providers as the initial source of healthcare information: updated cross-sectional results from the Health Information National Trends Survey (HINTS). *BMC Family Practice*. 2018 Aug 29; 19(1).
11. Nabavi Nikki Long covid: how to define it and how to manage it *BMJ*, 370 (2020), 10.1136/bmj.m3489.
12. Nehme, M.; Braillard, O.; Alcoba, G.; Aebischer-Perone, S.; Courvoisier, D.; Chappuis, F.; Guessous, I. COVID-19 symptoms: Longitudinal evolution and persistence in outpatient settings. *Ann. Intern. Med.* **2020**, *M20-5926*, 1–4. [Google Scholar] [CrossRef]
13. C.H. Sudre, B. Murray, T. Varsavsky, et al. Attributes and predictors of Long-COVID: analysis of COVID cases and their symptoms collected by the Covid Symptoms Study App.