



# A STUDY TO ASSESS THE POST COVID SYMPTOMS AMONG COVID SURVIVORS ADMITTED AT ERA HOSPITAL, LUCKNOW IN VIEW OF DEVELOPING AN INFORMATION BOOKLET.

<sup>1</sup>MARIA JANET WILLS, <sup>2</sup>SWASTIKA DAS, <sup>3</sup>GODHULI GHOSH

<sup>1</sup>STUDENT, <sup>2</sup>ASSOCIATE PROFESSOR, <sup>3</sup>ASSOCIATE PROFESSOR

ERA UNIVERSITY  
ERA COLLEGE OF NURSING

**Abstract-**After being successfully recovered from covid 19 many patients still struggling with post covid symptoms and patients require special attention as it involves the requirement of rehabilitation in the aftermath of having the disease. The aim of this study is to assess the post covid symptoms among the covid survivors from the perspective of developing information booklet regarding home remedies of post covid symptoms admitted at Era hospital, Lucknow. The Non - experimental descriptive research design was used on 270 covid survivors admitted at Era Hospital , Lucknow fulfilling the inclusion criteria were included in the study. The purposive sampling technique was used. Socio- Demographic profile was used to collect personal information of subjects and structured questionnaire method was used to assess the post covid symptoms among covid survivors and the information booklet regarding home remedies of post covid symptoms was send to the samples via whatsapp. Fatigue 59(21.9%) , sore throat 17(6.3%) and having loss of appetite, 13(4.8%) were the most common symptoms present among covid survivors. The association between selected demographic variables and post covid symptoms statistically there was no significant association between the demographic variables of gender, occupation, diet , smoking, area of hospital stay, duration of stay, comorbidities. Except age, which shows that there is significant association between age, and post covid symptoms at  $p < 0.05$ . The following conclusions were made on the basis of the finding of the study: The level of scores regarding post covid symptoms among covid survivors. The 5(1.9%) covid survivors were having three symptoms, 51 (18.9%) were having two symptoms, 66(24.%) were having one symptom, and 148(54.8%) were having no symptom.

**Keywords-** Post Covid Symptoms(PCS), Covid Survivors,

## 1.INTRODUCTION

The first human case of COVID 19, the disease caused by novel corona virus causing COVID 19, subsequently named SARS-Cov-2 were first reported by officials in Wuhan City, China, in December 2019. Over recent months, severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection has been confirmed in millions of people around the world , resulting in hospitalisation in thousands of cases.<sup>1</sup>

### Cases overview

#### Uttar Pradesh

Total cases	Recovered	Deaths
595K	576K	8,529
+466	+879	+15

#### India

Total cases	Recovered	Deaths
10.5M	10.1M	152K
+16,946	+17,652	+198

#### Worldwide

Total cases	Recovered	Deaths
92.3M	51M	1.98M

Multiple symptoms like fever, cough, fatigue, dyspnoea, headache, diarrhoea, nausea and vomiting, have been reported during the hospital stay. About 60 days after onset of the first COVID-19 symptom, only 13% of the previously hospitalised COVID-19 patients were completely free of any COVID-19-related symptom, while 32% had one or two symptoms and 55% had three or more.

Next to the hospitalised patients with “severe” coronavirus disease 2019 (COVID-19), millions of people have most probably been infected with SARS-CoV-2 without formal COVID-19 testing and/or medical treatment in the hospital [5, 6]. Indeed, COVID-19 testing capacity was not available for patients who initially were considered to have mild signs and symptoms. These patients are classified as having “mild” COVID-19 as they only require home care and the infection is expected to resolve [7, 8]. Then again, patients with the so-called “mild” COVID-19 may still complain about persistent symptoms, even weeks after the onset of symptoms.<sup>2</sup>

The prevalence and patterning of persistent symptoms after Covid-19 is contested. Mainstream medical opinion considers them commoner in people with conditions such as asthma, diabetes and autoimmune disorders (though they are also known to occur in those with no pre-existing conditions), and in those who were admitted to hospital. However, there has been little or no systematic research on people who were not hospitalised and it is even conceivable that a protracted illness may be more common in those whose acute illness was less severe.

People with long Covid experience a confusing array of persistent and fluctuating symptoms including cough, breathlessness, fever, sore throat, chest pain, palpitations, cognitive deficits, myalgia, neurological symptoms, skin rashes, and diarrhoea ; some also have persistent or intermittent low oxygen saturations. The cause of persisting symptoms is unknown, but probably involves several different disease mechanisms including an inflammatory reaction with a vasculitic component . Documented post-acute sequelae include pericarditis, heart failure, arrhythmias, and thromboembolic complications including myocardial infarction, stroke and venous thrombosis.<sup>3</sup>

People with persisting symptoms seem to fall into three broad groups: people who were initially hospitalised with acute respiratory distress syndrome (ARDS) and now have long-term respiratory symptoms dominated by breathlessness; people who may not have been hospitalised initially but who now have a multisystem disease with evidence of cardiac, respiratory, or neurological end-organ damage manifesting in a variety of

ways; and people who have persisting symptoms, often but not always dominated by fatigue, with no evidence of organ damage.

## 2. LITERATURE REVIEW

This Section deals with a review of research studies and related material for the present study. The review helped the researcher to develop an insight into the problem area and helped to build the foundation of the study.

### Literature related to Post Covid Symptoms

Marwa kamal et.al., 2020 november 3, the study aims to investigate and characterise the manifestations which appear after eradication of the coronavirus infection and its relation to disease severity. **Method:** About 287 survivors from COVID-19 were included in the study. **Results:** Only 10.8% of all subjects have no manifestation after recovery from the disease while a large percentage of subjects suffered from several symptoms and diseases. The most common symptom reported was fatigue (72.8%), more critical manifestations like stroke, renal failure, myocarditis and pulmonary fibrosis were reported by a few percent of the subjects. **Conclusion:** The post-COVID-19 manifestation is largely similar to the post-SARS syndrome. All subjects recovered from COVID-19 should undergo long-term monitoring for evaluation and treatment of symptoms and conditions that might be precipitated with the new coronavirus infection.<sup>9</sup>

Emma ladds et.al., 2020, December 20, the aim of the study is to assess the persistent symptoms after covid 19 and draft quality principles for services. **Methods :**We held 55 individual interviews and 8 focus groups ( $n=59$ ) with people recruited from UK-based long Covid patient support groups, social media and snowballing.. Data were audiotaped, transcribed, anonymised and coded using NVIVO. **Results:** Analysis revealed a confusing illness with many, varied and often relapsing-remitting symptoms and uncertain prognosis.**Conclusion :** Suggested quality principles for a long Covid service include ensuring access to care, reducing burden of illness, taking clinical responsibility and providing continuity of care, multi-disciplinary rehabilitation, evidence-based investigation and management, and further development of the knowledge base and clinical services.<sup>10</sup>

Yvonne M.J. Goërtz,et. al., 2020, aim of the study is to assess persistent symptoms 3 months after a SARS-CoV-2 infection: the post-COVID-19 syndrome. **Methods :** 2113 members of two Facebook groups for coronavirus patients with persistent complaints in the Netherlands and Belgium. **Results :** 112 hospitalised patients and 2001 non-hospitalised patients (confirmed COVID-19,  $n=345$ ; symptom-based COVID-19,  $n=882$ ; and suspected COVID-19,  $n=774$ ) were analysed. Fatigue and dyspnoea were the most prevalent symptoms during the infection and at follow-up (fatigue: 95% *versus* 87%; dyspnoea: 90% *versus* 71%).**Conclusion:** In previously hospitalised and non-hospitalised patients with confirmed or suspected COVID-19, multiple symptoms are present about 3 months after symptoms onset. This suggests the presence of a “post-COVID-19 syndrome” and highlights the unmet healthcare needs in a subgroup of patients with “mild” or “severe” COVID-19.<sup>11</sup>

## 3. RESEARCH OBJECTIVES

1. To assess the post Covid symptoms among the Covid survivors admitted at Era hospital, Lucknow.
2. To associate the post Covid symptoms among the Covid survivors with the selected demographic variables.
3. To develop an information booklet regarding the home remedies of post covid symptoms.

#### 4. RESEARCH METHODOLOGY

The Non-experimental descriptive research design was used on 270 covid survivors admitted at Era Hospital, Lucknow fulfilling the inclusion criteria were included in the study. The purposive sampling technique was used. Socio- Demographic profile was used to collect personal information of subjects and structured questionnaire method was used to assess the post covid symptoms among covid survivors and the information booklet regarding home remedies of post covid symptoms was sent to the samples via whatsapp. The data was collected telephonically and was analysed using descriptive and inferential statistics.

#### 5. RESULT AND ANALYSIS

The collected information was organized and presented in 2 parts:

**Section I:** Sample characteristics of covid survivors.

**Section II:** Objectives wise analysis.

#### SECTION-I

#### DISTRIBUTION OF SAMPLES ACCORDING TO THE SOCIO -DEMOGRAPHIC VARIABLES.

**Table no. 1. Frequency and Percentage Distribution of samples according to the selected socio demographic variables.**

n=270

Variables	category	Frequency(f)	Percentage(%)
Age	≤20 years	14	5.2
	21-30 years	70	25.9
	31-40 years	69	25.6
	> 40 year	117	43.3
Gender	Male	181	67.0
	Female	89	33.0
Occupation	Unwaged	80	29.6
	Self employed	26	9.6
	Private employed	126	46.7
	Government employed	38	14.1
Diet	Vegetarian	60	22.2
	Non-vegetarian	206	76.3
	Eggitarian	4	1.5
Smoking	Yes	17	6.3
	No	253	93.7
Area of hospital stay	ICU	49	18.1
	HDU	137	50.7
	General isolation	54	20.0
	Private isolation	30	11.1
Duration of stay	10-15 days	37	13.7
	16-20 days	59	21.9

	21-25 days	162	60.0
	>26 days	12	4.4
Comorbidities	Yes	8	3.0
	No	262	97.0

### Table no. 1. Reveals:-

Among 270 samples of group, 117(43.3%) were from >40 years age group, 181(67.0%) were male, 126(46.7%) were private employed, 206(76.3%) were non-vegetarian, 253(93.7%) were non-smoker, 137(50.7%) were in HDU, 162 (60.0%) were for 21-25 days, 262 (97.0%) were not having comorbidities.

## SECTION-2

### OBJECTIVE-1

Assess the post Covid symptoms among the Covid survivors admitted at selected hospital Lucknow.

**Table no. 2.** Assessment of the post Covid symptoms among the Covid survivors admitted at selected hospital Lucknow.

Area>	AREAS	SYMPTOMS	YES (f)	YES (%)
PART - B -SYMPTOMS	Central nervous system	Fever	9	3.3
		Headache	12	4.4
		Fatigue	59	21.9
		Dizziness	9	3.3
		Anxiety	0	0.0
		Loss of sleep	4	1.5
		Loss of smell	3	1.1
		Difficulty thinking or concentration	0	0.0
		Mood changes	0	0.0
	Eye	Blurred vision	0	0.0
	Respiratory system	Difficulty in breathing	12	4.4
		Chest tightness	0	0.0
		Sore throat	17	6.3
		Cough	12	4.4
	Cardiovascular system	Palpitation	0	0.0
		Chest pain	0	0.0
	Gastrointestinal system	Loss of taste	7	2.6
		Difficulty in swallowing	0	0.0
		Diarrhoea	0	0.0
		Vomiting	0	0.0
		Loss of appetite	16	5.9
		Stomach pain	0	0.0
		Weight loss	4	1.5
Genitourinary	Problem in bowel control	1	0.4	
	Problem in bladder control	4	1.5	

	system			
	Musculoskeletal system	Muscle pain	1	0.4
		Joint pain	13	4.8
	Integumentary system	Skin rash	0	0.0

**Table no. 2. reveals** that among 270 covid survivors,59(21.9%) were having fatigue,17(6.3%) were having sore throat,16(5.9%) were having loss of appetite,13(4.8%) were having joint pain,12(4.4%)were having headache, difficulty in breathing,cough,9(33%) were having fever, dizziness,7(2.6%) were having loss of taste,4(1.5%) were having loss of sleep, problem in bladder control,3(1.1%) were having loss of smell,1(0.4%) were having problem bowel control , muscle pain.

**Table No.3.:Table Showing Level of Scores of post covid symptoms among covid survivors**

CRITERIA MEASURE OF SYMPTOMS SCORE		
LEVEL OF SCORES N= 270	Frequency	Percentage (%)
THREE SYMPTOMS	5	1.9
TWO SYMPTOMS	51	18.9
ONE SYMPTOM	66	24.4
NO SYMPTOM	148	54.8

**Table no.3 :** Depicts the frequency, percentage of level of scores regarding post covid symptoms among covid survivors. The 5(1.9%) covid survivors were having three symptoms, 51 (18.9%) were having two symptoms, 66(24.%)were having one symptom, and 148(54.8%)were having no symptom.

**Table No.4.: Mean and mean percentage% distribution according to system wise.**

UN-PAIRED T-TEST	Mean	S.D.	Median	Mean %	RANK
Central nervous system	0.36	0.578	0	3.95	1
Eye	0.00	0.000	0	0.00	6
Respiratory system	0.15	0.443	0	3.80	2
Cardiovascular system	0.00	0.000	0	0.00	6
Gastrointestinal system	0.10	0.351	0	1.30	5
Genitourinary system	0.01	0.121	0	1.48	4

Musculoskeletal system	0.05	0.222	0	2.59	3
Integumentary system	0.00	0.000	0	0.00	6
Overall	0.68	0.843	0	2.42	

## OBJECTIVE-2

Associate the post Covid symptoms among the Covid survivors with the selected demographic variables.

**Table no.5:** This section deals with the findings related to the association between post covid symptoms and selected demographic variables. The chi-square test was used to determine the association between the post covid symptoms and selected demographic variables.

DEMOGRAPHIC DATA		LEVELS OF SYMPTOMS (N=270)				ASSOCIATION WITH SYMPTOMS SCORE				
Variables	Opts	NO SYMPTOM	ONE SYMPTOM	TWO SYMPTOMS	THREE SYMPTOMS	Chi Test	P Value	df	Table Value	Result
21-30 years	1	9	17	43						
31-40 years	0	8	19	42						
> 40 year	3	32	23	59						
Gender	Male	2	36	47	96	2.782	0.427	3	7.815	Not Significant
	Female	3	15	19	52					
Occupation	Unwaged	3	12	18	47	5.231	0.814	9	16.919	Not Significant
	Self employed	0	7	6	13					
	Private employed	2	25	33	66					
	Government employed	0	7	9	22					
Diet	Vegetarian	1	12	16	31	1.464	0.962	6	12.592	Not Significant
	Non-vegetarian	4	39	49	114					
	Eggitarian	0	0	1	3					

Smoking	Yes	1	3	3	10	2.00	0.57	3	7.81	Not Significant
	No	4	48	63	138	2	2	3	5	
Area of hospital stay	ICU	3	10	10	26	8.60	0.47	9	16.9	Not Significant
	HDU	2	23	36	76					
	General isolation	0	10	13	31					
	Private isolation	0	8	7	15					
Duration of stay	10-15 days	2	8	6	21	6.71	0.66	9	16.9	Not Significant
	16-20 days	2	11	14	32					
	21-25 days	1	29	43	89					
	>26 days	0	3	3	6					
Comorbidities	Yes	0	1	2	5	0.42	0.93	3	7.81	Not Significant
	No	5	50	64	143	1	6	3	5	

**Table no.5** The Chi-square value shows that there is significance association between the post covid symptoms and demographic variables (age). The calculated chi-square values were less than the table value at the 0.05 level of significance. There is no significance association between the post covid symptoms and other demographic variables (gender, occupation, diet , smoking, area of hospital stay, duration of stay, comorbidities) The calculated chi-square values were more than the table value at the 0.05 level of significance.

## 6. DISCUSSION AND FINDING

This chapter dealt with findings of the present study, “A study to assess the post Covid symptoms among covid survivor admitted at selected hospital, Lucknow in view of developing an information booklet.”In this chapter, an attempt has been made to discuss the findings of other studies. The present study was conducted telephonically with covid survivors admitted at Era Hospital, Lucknow. The aim of the study was to assess the post Covid symptoms among covid survivor admitted at selected hospital, Lucknow in view of developing an information booklet A total number of 270 covid survivors had been selected for the study. The purposive sampling technique was used. Prior to the data collection procedure, Formal permission was obtained from the official authorities(Medical superintendent and Nursing superintendent) of the hospital. Socio- Demographic profile was used to collect personal information of subjects and structured questionnaire method was used to assess the post covid symptoms among covid survivors and the information booklet regarding home remedies of post covid symptoms was send to the samples via whatsapp. The data was collected telephonically and was analysed using descriptive and inferential statistics. Based on the collected data post covid symptoms among covid survivors was assessed.

### Objective -1

**To assess the post Covid symptoms among the Covid survivors admitted at selected hospital Lucknow.**

Among 270 covid survivors,59(21.9%) were having fatigue,17(6.3%) were having sore throat,16(5.9%) were having loss of appetite,13(4.8%) were having joint pain,12(4.4%)were having headache, difficulty in breathing,cough,9(33%) were having fever, dizziness,7(2.6%) were having loss of taste,4(1.5%) were having loss of sleep, problem in bladder control,3(1.1%) were having loss of smell,1(0.4%) were having problem bowel control , muscle pain.

Fatigue59(21.9%) and sore throat 17(6.3%) were the most common symptoms present among covid survivors.



The level of scores regarding post covid symptoms among covid survivors. The 5(1.9%) covid survivors were having three symptoms, 51 (18.9%) were having two symptoms, 66(24.%)were having one symptom, and 148(54.8%)were having no symptom.

The above finding is supported by **Reaz MahmudID1\***, **Md. Mujibur Rahman,et.al**, conducted a prospective cohort study :Post-COVID-19 syndrome among symptomatic COVID-19 patients at Dhaka Medical College Hospital between June 01, 2020 and August 10, 2020. All the enrolled patients were followed up for a month after clinical improvement, which was defined according the World Health Organization and Bangladesh guidelines as normal body temperature for successive 3 days, significant improvement in respiratory symptoms (respiratory rate 93% without assisted oxygen inhalation. **Findings** Among the 400 recruited patients, 355 patients were analyzed. In total, 46% patients developed post-COVID-19 symptoms, with post-viral fatigue being the most prevalent symptom in 70% cases. The post-COVID-19 syndrome was associated with female gender. **Conclusion** Female sex, respiratory distress, lethargy, and long disease duration are critical risk factors for the development of post-COVID-19 syndrome.<sup>39</sup>

## Objective- 2

**To associate the post Covid symptoms among the Covid survivors with the selected demographic variables.**

The association between selected demographic variables and post covid symptoms statistically there was no significant association between the demographic variables of gender, occupation, diet , smoking, area of hospital stay, duration of stay, comorbidities.Except age, which shows that there is significant association between age, and post covid symptoms at  $p < 0.05$ .

**Angelo Carfi, MD Roberto Bernabei, MD Francesco Landi, MD, PhD July 9,2020**,aimed to assess persistent symptoms in patients who were discharged from the hospital after recovery from COVID-19.**Methods** - All patients who met World Health Organization criteria for discontinuation of quarantine (no fever for 3 consecutive days, improvement in other symptoms, and 2 negative test results for severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2] 24 hours apart) were followed up. **Results** - From April 21 to May 29, 2020, 179 patients were potentially eligible for the follow-up post-acute care assessment; 14 individuals (8%) refused to participate and 22 had a positive test result. Thus, 143 patients were included. The mean age was 56.5 (SD, 14.6) years (range, 19-84 years), and 53 (37%) were women. During hospitalization, 72.7% of participants had evidence of interstitial pneumonia. The mean length of hospital stay was 13.5 (SD, 9.7) days; 21 patients (15%) received non-invasive ventilation and 7 patients (5%) received invasive ventilation. **Discussion-** This study found that in patients who had recovered from COVID-19, 87.4% reported persistence of at least 1 symptom, particularly fatigue and dyspnea.<sup>40</sup>

## 7.CONCLUSION:-

The present study was conducted to assess the post Covid symptoms among the Covid survivors admitted at selected hospital Lucknow. Non- experimental descriptive research design was used for this study. 270 covid survivors, who met the inclusion criteria were selected from Era Hospital, Lucknow. Prior to the data collection procedure, Formal permission was obtained from the official authorities(Medical superintendent and Nursing superintendent) of the hospital. Socio- Demographic profile was used to collect personal information of subjects and structured questionnaire method was used to assess the post covid symptoms among covid survivors and the information booklet regarding home remedies of post covid symptoms was send to the samples via whatsapp. The data was collected telephonically and was analysed using descriptive ad inferential statistics. Based on the collected data post covid symptoms among covid survivors was

assessed. Fatigue, sore throat and loss of appetite were the most prevalent symptoms present among covid survivors. The association between selected demographic variables and post covid symptoms statistically there was no significant association between the demographic variables of gender, occupation, diet, smoking, area of hospital stay, duration of stay, comorbidities. Except age, which shows that there is significant association between age, and post covid symptoms at  $p < 0.05$ .

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