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A study to evaluate the efficacy of Nurse-led intervention on knowledge regarding COVID-19 among health service users in Shrimant Madhavrao Sindhiya District Hospital Ujjain, M.P.

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Abstract

The novel coronavirus originated from the Hunan seafood market in Wuhan, South China where raccoon dogs, bats, snakes, palm civets, and other animals are sold, and rapidly spread up to 109 countries. Prevention is the only way to stop COVID-19 transmission among people. However, many of the symptoms can be treated and getting early care from a healthcare provider can make the disease less dangerous. Therefore aim of the study is to evaluate the efficacy of Nurse-led intervention on knowledge regarding COVID-19 among health service users.

Material and Method: Pre-experimental one group Pre-test Post-test research design. The total sample consisted of 40 Health service users through a simple random sampling technique. The findings of the study indicated that the mean Post-test score of Health service users was higher than the mean Pre-test score. The 'T' value computed ('T' = 12.17) showed significant differences suggesting that the Nurse-led intervention was effective in enhancing the knowledge of the health service users regarding COVID-19.

Keywords: COVID-19, Health Service Users. Efficacy, Nurse led intervention

Introduction

Background of the study

Globally, The first human cases of COVID-19 reported by officials in Wuhan City, China, in December 2019. SARS-CoV-2 was identified in early January and its genetic sequence was shared publicly on 11-12 January. In India, The first case of COVID-19 surfaced on January 30, 2020, and following the outbreak the lockdown in the entire country was announced on 24th March for a period of 21 days after the Janta curfew on 22th March 2020. Precautions are necessary to prevent the potential spread of COVID-19 in the community. There is a need for prioritizing the COVID-19 prevention and control in informal settlements, to assess the community risk perception, and thought process to enable community-based public health emergency preparedness and risk-informed policy-making in future. Popularly said that "Prevention is better than cure."

Need for the study

There is a need to extend the knowledge base among individuals to enhance their active participation in the prevention mechanisms with respect to the spread of the pandemic. There is a need to decrease mortality and morbidity rate to provide knowledge of the prevention and management of COVID-19. Therefore the researchers felt the need to prepare nurse-led intervention (planned teaching program) regarding COVID-19 for providing thorough & complete knowledge regarding causes and risk factors, signs & symptoms, and prevention and control of COVID-19.

Objectives of the study

1. To evaluate the pre-interventional level score of knowledge regarding COVID-19 among health service users in Shrimant Madhavrao Sindhiya District Hospital Ujjain M.P".

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- To evaluate the efficacy of nurses-led intervention on knowledge regarding COVID-19 among health service users in Shrimant Madhavrao Sindhiya District Hospital Ujjain M.P.
- To find out the association between pre-interventional knowledge level with their selected demographic variables among Health service users in Shrimant Madhavrao Sindhiya District Hospital Ujjain M.P.

Hypotheses

H₀₁: There will be no significant difference between pre and post-interventional scores of knowledge regarding COVID-19 among health service users.

H_{A1}: There will be a significant difference between pre and post-interventional scores of knowledge regarding COVID-19 among health service users.

H₀₂: There will be no efficacy of nurse-led intervention on knowledge regarding COVID-19 among health service users.

H_{A2}: There will be an efficacy of nurse-led intervention on knowledge regarding COVID-19 among health service users.

H₀₃: There will be no significant association between pre-interventional levels of knowledge with selected demographic variables among health service users.

H_{A3}: There will be a significant association between the pre-interventional levels of knowledge with selected

demographic variables among health service users.

Research Methodology

The research design used in the study was a pre-experimental one-group Pre-test Post-test research design.

The design can be represented as:

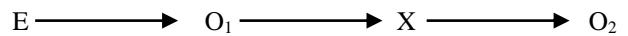


Fig 1: One group pre-test, post-test pre-experimental design

Keys

E - Experimental group (only one).

O₁ - Pre-test knowledge score.

X - Treatment variable (Planned teaching program).

O₂ - Post-test knowledge score.

The total sample consisted of 40 Health service users through a simple random sampling technique. The researcher constructed a structured knowledge questionnaire and Nurse led intervention (Planned teaching program) on knowledge regarding COVID-19, as a tool of research.

Analysis and Interpretation

The present chapter is comprised of tabulated and statistically analyzed observations.

Table 1: Grading of sample based on pre-test and post-test knowledge score (N=40)

Score	Grading	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
21-30 (68-100%)	Good	07	17.5	12	30.0
11-20 (34-67%)	Average	15	37.5	24	60.0
01-10 (0-33%)	Poor	18	45.0	04	10.00

Data in Table No.1 shows that maximum number of the Health service users had 60.0% scores ranging from between (37-67%) in the post-test compared to the pre-test where most of the patients 45% obtained scores between 0-

0.33%. It indicates a considerable gain in the knowledge score and the efficacy of Nurse-led intervention (Planned teaching programme). Hence Research Hypothesis H_{A1} is accepted.

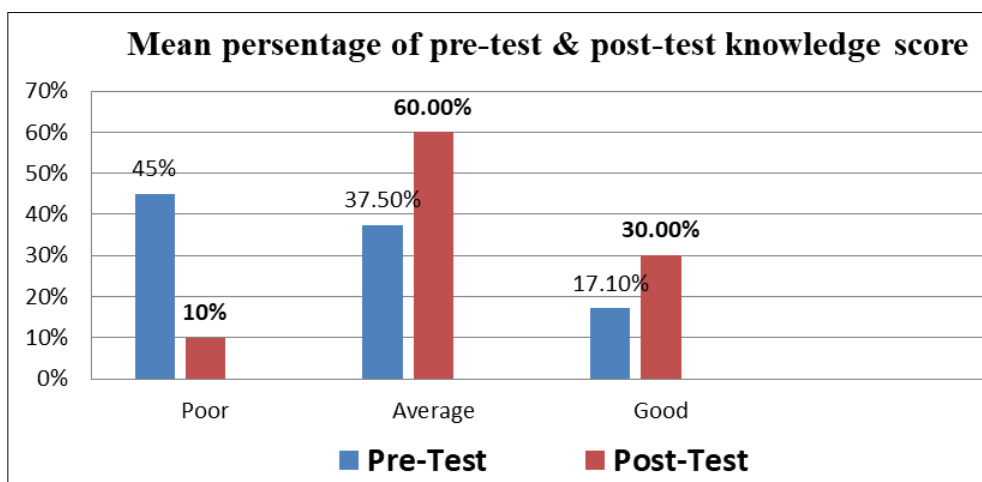


Fig 1: Bar diagram showing area-wise mean percentage of pre-test and post-test knowledge score

Table 2: Mean, standard deviation and 't' value of pre-test and post-test knowledge score (N=40)

	Mean	Standard Deviation	Mean Difference	'T' Value
Pre-test Score	14.77	8.46	2.51	12.71
Post-test Score	19.53	5.95		

The data presented in Table No.4 shows that the mean post-test knowledge score (19.53%) is apparently higher than the mean Pre-test knowledge score (14.34%). The dispersion of Pre-test scores (SD±8.46) is more than that of their post-test cores (SD±5.95) and the computed 'T' Value shows that there is a significant difference between pre-test and post-

test mean knowledge score ($T=12.17$, $p<0.05$ level). This indicates that Nurse-led intervention (Planned teaching programme) is effective in increasing knowledge scores among Health service users. The finding of the present study shows that the mean post-test knowledge score

(19.53) is higher than the mean pre-test knowledge score (14.77). Hence, the research hypothesis H_{A2} is accepted. This indicates that the plan teaching program is effective in increasing the knowledge score of Health service users regarding COVID-19.

Table 3: Area-wise paired 't' test showing the significance of the difference between pre-test and post-test knowledge scores (N=40)

S. No.	Area	No. of Questions	Mean Knowledge Score		Mean Difference	Post-Test S.D.	'T' Test
			Pre Test	Post Test			
1	Meaning of COVID-19	3	1.45	1.72	0.27	0.4	1.56
2	Mode of Transmission	4	1.9	3.14	1.24	0.89	5.13
3	Sign and Symptoms Of COVID-19	2	2.3	3.15	0.85	0.78	4.55
4	Prevention of COVID-19	15	6.8	11.24	4.4	2.39	7.06
5	Management of COVID-19	4	1.6	2.32	0.72	0.66	3.11
6.	Others	2	2.18	2.21	0.03	0.78	0.17

Paired 't' test was used to test the significance of the difference between the pre-test and post-test knowledge scores among Health service users in all areas. The data presented in Table number 3 shows that the 't' value in most

of the areas is highly significant at $p\leq 0.001$ level. This shows that the Nurse-led intervention (Planned teaching programme) is effective in increasing the knowledge of respondents in most areas.

Table 4: Chi-Square value showing an association between pre-test knowledge score and selected variables, (N=40)

S. No.	Selected Demographic variables	Pre-Test Knowledge Score			DF	X2 Value
		0-10 Poor	11-20 Average	21-30 Good		
1.	Age in Years				6	38
	• 20-30 years	5	4	1		
	• 31-40years	4	5	2		
	• 41-50years	8	7	4		
	• > 51yrs	0	0	0		
2.	Sex				2	38.3
	• Male	4	5	11		
	• Female	6	6	8		
3.	Educational Status				6	40.6
	• Primary Education	2	1	0		
	• Middle Education	5	4	1		
	• Higher Secondary	7	4	3		
	• Graduate and Above	5	5	3		
4.	Type of Occupation				6	47.8
	• Business	0	1	0		
	• Service	2	2	1		
	• Labour	6	3	0		
	• Unemployed	10	10	5		
5.	Area of Stay				4	35.63
	• Urban	9	11	5		
	• Rural	5	3	2		
	• Slums	4	1	0		

The data presented in Table number 4 shows that the computed chi-square value indicates that there is a 50% value shows the difference in all areas of selected demographic variables and pre-test knowledge score of Health service users at 0.05 levels.

Recommendations

1. A similar study may be replicated on a larger sample using random sampling so that the findings can be generalized.
2. A study can be conducted to assess the long-term effects of Nurse-led intervention (Planned teaching programme) on knowledge regarding COVID-19 at home.
3. A similar study could be replicated with a control group.
4. An exploratory study may be conducted to identify the attitude and self-care practice among Health service

users regarding COVID-19 at home.

5. A comparative study can be undertaken to evaluate different teaching strategies, planned teaching programmes, self-instructional modules, peer evaluation and education by the health care team.

Limitations

The few limitations of the study are listed below

1. The finding of the study cannot be generalized because of the small sample area (40) and random sampling technique.
2. Limited time was available for the data collection.
3. A structured knowledge questionnaire was used for data collection which restricted the amount of information that could be obtained from the Health service users.
4. No attempt was made to measure the retention of knowledge regarding self-care activities after the post-test.

Conflict of Interest

Not available

Financial Support

Not available

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