

A Pre-Experimental Research Study to Assess the Effectiveness of STP on Knowledge about Infection among the Prisoners at Muzaffarnagar, Uttar Pradesh, India

Shyam Deshwal

Muzaffarnagar Nursing Institute, Muzaffarnagar, Uttar Pradesh, India

Muzaffarnagar District Prison, Muzaffarnagar, Uttar Pradesh, India

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ABSTRACT

Introduction: In a world characterized by global connectivity, infectious diseases pose a constant threat to public health. This research explores the multifaceted realm of infectious diseases and delves into the crucial domain of infection control. From microscopic assailants responsible for these diseases to the innovative strategies employed in their prevention, the journey through this landscape is both intricate and essential for safeguarding communities.

Objective: To assess the baseline knowledge level of the infectious diseases and infection control among prisoners at Muzaffarnagar District Prison through pre-assessment test, implementing structured teaching program and post-test.

Methods: An pre-experimental study was conducted to assess the effectiveness of structured teaching program on knowledge about infectious diseases and infection control among the 40 prisoners of Muzaffarnagar District prison at Muzaffarnagar, Uttar Pradesh.

Result: Pre-Test reveals that 10% of prisoners have good knowledge, 60% having average knowledge, and 30% have poor knowledge about the infectious diseases and infection control with mean value of 12.55, percentage is of 62.75% and the standard deviation is 2.4181. The Post-Test data shows that 20% of prisoners have good knowledge, 65% having average knowledge and 15% having poor knowledge about infectious diseases and infection control with mean value of post-test is 13.4, percentage is 68% and the standard deviation of post-test is 2.2978. The mean difference of pre-test and post-test is 1.05. The difference of performance percentage of pre-test and post-test data is 5.25%.

Keywords: Infection Infectious diseases Infection control Prisoners Experimental study.

INTRODUCTION

In a world characterized by global connectivity, infectious diseases pose a constant threat to public health. This research explores the multifaceted realm of infectious diseases and delves into the crucial domain of infection control. From microscopic assailants responsible for these diseases to the innovative strategies employed in their prevention, the journey through this landscape is both intricate and essential for safeguarding communities.

At the core of infectious diseases are pathogenic microorganisms that infiltrate the body, causing a range of illnesses. Bacteria, Viruses, Fungi and Parasites are the silent invaders that challenges our immune systems. Unchecked, they can lead to widespread throughout history with pandemics like the Swine Flu and more recent events such as the COVID-19 pandemic.

To effectively combat infectious diseases, comprehending their mode of transmission is paramount. From airborne viruses to waterborne bacteria, the routes vary, influencing the spread and scope of an outbreak. Studying these dynamics empowers healthcare professionals and policymakers to implement targeted measures.

The cornerstone of managing infectious diseases lies in robust infection control strategies. Vaccination stands out as a powerful preventive tool, bolstering immunity and reducing the severity of illnesses. Beyond vaccinations, meticulous hand hygiene, isolation protocols, and proper waste disposal contribute significantly to breaking the chain of infection.

As technology advances, so does our ability to combat infectious diseases. From rapid diagnostic tools to the development of novel antiviral medications, ongoing research and innovation are transforming our approach to infection control. The integration of artificial intelligence in predicting outbreaks and monitoring infectious trends adds a new dimension to our preparedness.

Research Objectives

To assess the baseline knowledge level of the infectious diseases and infection control among prisoners at Muzaffarnagar District Prison through pre-assessment test, implementing structured teaching program and post-test by using pre-experimental research study (one group pre-test and post-test).

MATERIALS AND METHOD

Methodology

The methodology of research indicates the general pattern of organizing the procedure for gathering valid and valuable data for the purpose of investigation. The methodology of this study includes the research approach, research design, setting of the study, population sample, sampling techniques, development of tool, data collection procedure and plan for data analysis.

Research Design

Research design refers to the researcher's overall plan for obtaining answer to the research questions and it spells out the strategies that the researcher deploys to develop information that is adequate, accurate, objective and interpretable.

The research design used for this study was Quantitative Research Design.

- Pre-Experimental Research Design
- One Group Pre Test Post Test Research Design

Research Approach

Polit (2004), states that research approach is an applied form of research that involves finding out, how well a program, practice, procedures or policies are working. Goal is to assess or evaluate the success of a program.

Quantitative and evaluative approach will be used in this study. It is used to assess the effectiveness of STP on knowledge about infectious diseases and infection control among prisoners.

Setting of the Study

This study was conducted in Muzaffarnagar District Prison, Muzaffarnagar, Uttar Pradesh, India.

Population

Population refers to the aggregate or totality of those conforming to a set of specification. The population of this study was 40 male prisoners of Muzaffarnagar District Prison, Muzaffarnagar, Uttar Pradesh, India.

Sampling and Sampling Techniques

(a) Sample – Sampling refers to the process of selecting the portion of population to represent the entire population. The sample consists of 40 prisoners who met inclusion criteria, at Muzaffarnagar District Prison.

(b) Sample Size – Sample is subset of the population selected for a particular study and the number of samples are the subjects. The Sample Size was 40.

(c) Sampling Technique – Sampling technique refers to the process of selecting a portion of the population to represent the entire population. Convenient non-probability sampling technique is used in which subjects are selected due to their convenient accessibility and proximity to the researcher.

Sampling Criteria

(a) Inclusive Criteria

- Prisoners who were willing to participate in the study.
- Prisoners who were present at the time of data collection.
- Prisoners who do not have any severe mental illness.

(b) Exclusive Criteria

- Prisoners those who were not available at the time of data collection.
- Those who were not willing to participate in the study.
- Female prisoners because of not getting permission from authority.

Development of Tools

A tool to assess the demographic variables. A tool to assess the knowledge about infectious diseases & infection control. A structured teaching program used to educate the sample about infectious diseases & infection control.

The Steps Used for Preparing the Tools

(a) Review of Related Literature - The literature from nursing books, medical surgical books, journals, reports and articles is referred to prepare the tools.

(b) Preparation of Tools - Questionnaire was prepared to assess the demographic variables and the knowledge regarding the infectious diseases and infection control.

(c) Description of Tools - This tool consists of three sections

- First Section – Consists of demographic data of the sample, Age, Gender, Education, Religion, Address, Marital Status, Duration of imprisonment.
- Second Section – Consists of self-administered questionnaire of 20 questions to assess the knowledge of infectious diseases and infection control. Score of '1' will be given for every 'Right' answer and a score of '0' will be given for every 'Wrong' answer. The maximum score will be 20 for 20 items.
- Third Section – It consists of structured teaching program that will be used to provide knowledge to the prisoners about the infectious diseases and infection control.

Validity

For content validity of the tools, it was consulted with experts and guides. The tool was modified as per the expert's suggestions and their recommendation.

Reliability

Reliability of the tool is tested, by implementing the tool on 6 first year nursing students at the college. Test re-test method will be used to test the reliability of the tool.

Pilot study

In this study 6 samples are used by getting prior permission. A convenient sampling technique will be used to select the sample. The data analysis will be done by using descriptive and inferential statistics.

Data Collection

Pre-Test was conducted before giving structured teaching program. Pre-Test was conducted on sample within 15-20 minutes. Then Structured Teaching Program was given for about 20 minutes. Then in last step Post-Test assessment was conducted within 15-20 minutes.

Plan for Data Analysis

The tool is analysed by using descriptive and inferential statistics and in form of tables and figures.

Ethical Consideration

Prior to data collection permissions were taken from our Principal of Nursing College, Research Guide, SSP Muzaffarnagar, Prison Officer, Jailer and from prisoners who were the sample. Confidentiality was maintained.

Statistical Method

Descriptive statistical analysis and inferential statistical analysis methods had been used to find out the percentage, mean, standard deviation, paired 't' test and chi-square.

RESULT

This chapter deals with the analysis of data collected. Statistical procedures enable the investigator to reduce, summarize, organize, evaluate, interpret, and communicate the numeric information. Statistical analysis is a method of rendering quantitative information in a meaningful way.

Kerlinger (1973) defines analysis as categorizing, ordering, manipulating and summarizing the data in an intelligible and interpretable form so that research problem can be studied and listed along with the relationship between the variables. The collected data were grouped and analysed using descriptive and inferential statistics.

Pre-Test reveals that 10% of prisoners have good knowledge, 60% having average knowledge, and 30% have poor knowledge about the infectious diseases and infection control with mean value of 12.55, percentage is of 62.75% and the standard deviation is 2.4181. The Post-Test data shows that 20% of prisoners have good knowledge, 65% having average knowledge and 15% having poor knowledge about infectious diseases and infection control with mean value of post-test is 13.4, percentage is 68% and the standard deviation of post-test is 2.2978. The mean difference of pre-test and post-test is 1.05. The difference of performance percentage of pre-test and post-test data is 5.25%.

Data Analysis and Interpretation of Data Have Been Done Under the Following Headings

Section – A

Frequency and Percentage Distribution of the prisoners based on their demographic variables.

Section – B

Frequency and Percentage distribution of the knowledge of prisoners regarding infectious diseases and infection control.

Section – C

Comparison of mean, standard deviation, mean difference, performance percentage and performance percentage difference of pre and post test score of effectiveness of structured teaching program regarding knowledge of infectious diseases and infection control among prisoners.

Section – D

Comparison of mean, standard deviation and paired ‘t’ test of pre and post test score of effectiveness of structured teaching program regarding knowledge of infectious diseases and infection control among prisoners.

Section – E

Analysing the association between the demographic variables with the effectiveness of structured teaching program regarding knowledge of infectious diseases and infection control among prisoners in pre-test and post-test.

Section – A

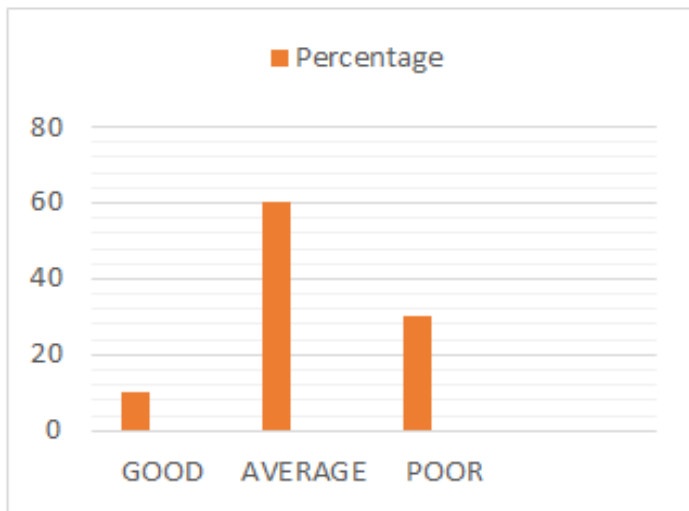
Frequency and Percentage Distribution of the prisoners based on their demographic variables.
N = 40

Sr. No.	Demographic Variables	Frequency	Percentage
1.	Age in Years (a) 10 to 20 (b) 20 to 30 (c) 30 to 40 (d) 40 to 50 (e) 50 to 60	5 16 9 6 4	12.5 40 22.5 15 10
2.	Gender (a) Male (b) Female	40 0	100 0
3.	Education (a) Illiterate (b) Primary Education (c) Secondary education (d) Graduate	10 10 17 3	25 25 42.5 7.5
4.	Religion (a) Hindu (b) Muslim (c) Sikh (d) Christian	30 8 2 0	75 20 5 0
5.	Place They Belongs to (a) Muzaffarnagar District (b) Outside of Muzaffarnagar District	27 13	67.5 32.5
6.	Marital Status (a) Married (b) Unmarried	19 21	47.5 52.5
7.	Duration of Imprisonment (a) Less than 6 months (b) Less than 1 year (c) Less Than 2 years (d) More than 2 years	22 8 6 4	55 20 15 10

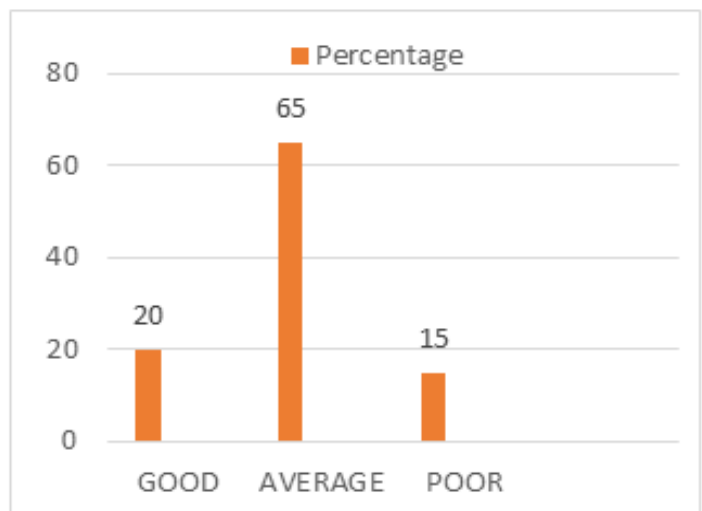
Section – B

Frequency and Percentage distribution of the knowledge of prisoners regarding infectious diseases and infection control. N = 40

LEVEL OF KNOWLEDGE	PRE-TEST FREQUENCY	PRE-TEST PERCENTAGE	POST-TEST FREQUENCY	POST-TEST PERCENTAGE
GOOD (correct answer > 15)	4	10%	8	20%
AVERAGE (correct answer 10-15)	24	60%	26	65%
POOR (correct answer < 10)	12	30%	6	15%



In pre-test

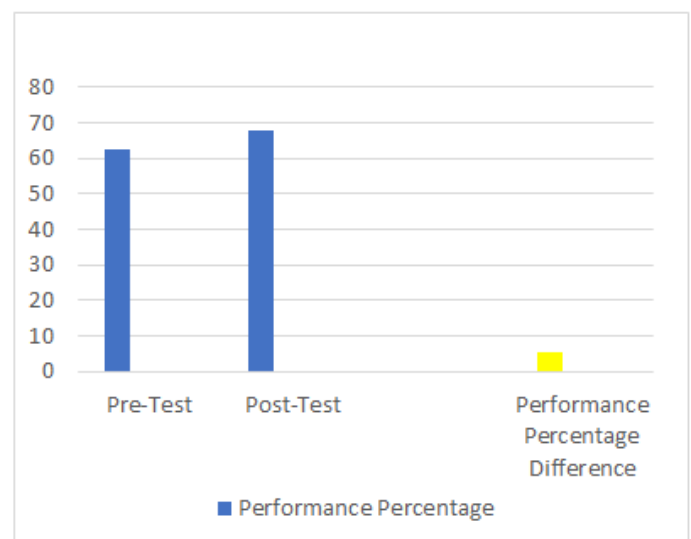
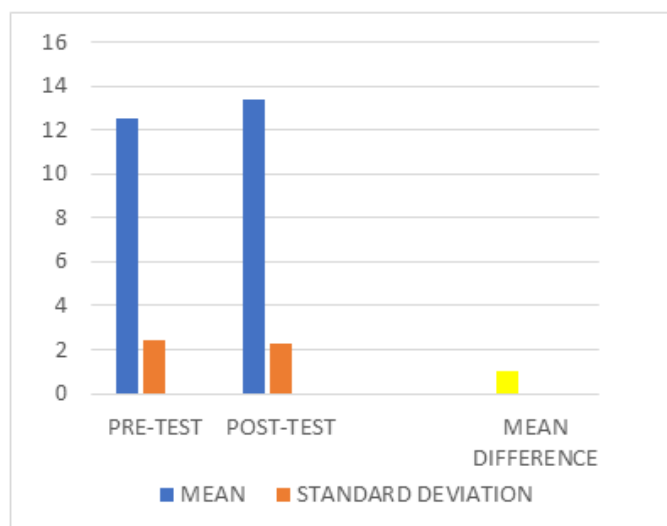


In post-test

Section – C

Comparison of mean, standard deviation, mean difference, performance percentage and performance percentage difference of pre and post test score of effectiveness of structured teaching program regarding knowledge of infectious diseases and infection control among prisoners.

ASSESSMENT	MEAN	STANDARD DEVIATION	PERFORMANCE PERCENTAGE	MEAN DIFFERENCE	PERFORMANCE PERCENTAGE DIFFERENCE
PRE-TEST	12.55	2.41	62.75	1.05	5.25
POST-TEST	13.4	2.29	68		



Section – D

Comparison of mean, standard deviation and paired ‘t’ test of pre and post test score of effectiveness of structured teaching program regarding knowledge of infectious diseases and infection control among prisoners.

ASSESSMENT	MEAN	STANDARD DEVIATION	‘t’ value
PRE-TEST	12.55	2.41	1.99
POST-TEST	13.4	2.29	p = 0.05*

Section – E

Analysing the association between the demographic variables with the effectiveness of structured teaching program regarding knowledge of infectious diseases and infection control among prisoners in pre-test and post-test.

DEMOGRAPHIC VARIABLES	PRE – TEST			
	GOOD	AVERAGE	POOR	CHI – SQUARE VALUE
1. Age in Years				
(a) 10 to 20	0	3	2	6.888
(b) 20 to 30	1	11	4	
(c) 30 to 40	2	4	3	
(d) 40 to 50	0	4	2	
(e) 50 to 60	1	2	1	
2. Gender				
(a) Male	4	24	12	0
(b) Female	0	0	0	
3. Education				
(a) Illiterate	0	4	5	6.474
(b) Primary Education	1	4	3	
(c) Secondary Education	1	7	3	
(d) Graduate	2	9	1	
4. Religion				
(a) Hindu	2	19	9	5.340
(b) Muslim	1	5	2	
(c) Sikh	1	0	1	
(d) Christian	0	0	0	
5. Place They belongs to				
(a) Muzaffarnagar District	2	17	8	0.6812
(b) Outside of Muzaffarnagar District	2	7	4	
6. Marital Status				
(a) Married	2	11	6	0.0657
(b) Unmarried	2	13	6	
7. Duration of Imprisonment				
(a) Less than 6 months	1	16	5	4.6049
(b) Less than 1 year	1	4	3	
(c) Less than 2 years	1	3	2	
(d) More than 2 years	1	1	2	

CONCLUSION

In conclusion, this study has demonstrated the significance of knowledge of infection diseases and infection control among prisoners after post covid scenario. Our finding indicates that by giving intervention there was an improvement in the knowledge of prisoners.

These results underscore the need for continued research in this area, as well as the development of interventions and strategies for infection control.

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