Original Research Paper　　　　　　　　　　　**Nursing**

EFFECTIVENESS OF SELF-CONTROL THERAPY ON ANXIETY AND NICOTINE DEPENDENCE AMONG CLIENTS WITH CHRONIC MENTAL ILLNESS.

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ABSTRACT　**Background/Objectives:** High prevalence of smoking is seen among mentally ill patients. There is a relatively high rate of smokers among patients suffering of anxiety. The present study investigated the effectiveness of Self-control therapy on anxiety and nicotine dependence among clients with chronic mental illness; **Methods:** The study was conducted among sixty clients with chronic mental illness, admitted in Medical College Hospital, Kottayam. The research design selected for this study was quasi experimental pre-test post-test control group design. Socio personal data sheet, State trait anxiety inventory (Spielberger) and Modified Fager-storm rating scale (Karl-Olov Fagerstorm) were the tools used for the study. The researcher selected thirty clients with chronic mental illness to experimental group and thirty to control group by purposive sampling technique. Self-control therapy was an intervention programme which consisted of video assisted structured teaching programme on complications and management of anxiety and nicotine dependence and an audio assisted behaviour training programme on progressive muscle relaxation. The socio personal data were analysed using frequency and percentage distribution. Effectiveness of Self-control therapy was analysed using Mann-Whitney U test. Correlation was analysed using Spearman's rank correlation co-efficient; **Results:** The present study revealed that Self-control therapy was effective in reducing anxiety and nicotine dependence among clients with chronic mental illness and the obtained U value was statistically significant at 0.01 level; **Conclusions:** Healthcare professionals should incorporate Self-control therapy in their clinical practice to manage anxiety and nicotine dependence among clients with chronic mental illness, thereby reducing the smoking rates and improving clinical outcome.

KEYWORDS : Anxiety; Nicotine Dependence; Self-control Therapy; Clients With Chronic Mental Illness.

INTRODUCTION

Patients with mental illness have been smoking for more years, and more cigarettes per day, than smokers in the general population. As a result they may need more intensive treatment to quit smoking.[3] Although smoking rates among people with mental health disorders are disproportionately high, existing anti-smoking campaigns are rarely directed to this population. Smoking cessation strategies could significantly improve their physical health an aspect of care that is often overlooked. Early identification of daily stressors is essential for the prevention of dependence on cigarettes for social, physical, and psychological comfort. Unfortunately, the culture of the mental health system has also helped to perpetuate tobacco use among people with mental disorders. Psychiatric hospitals have a history of rewarding patients with cigarettes or outdoor smoke breaks for good behaviour or medication compliance.[3] Behavioural self-control training consists of behavioural techniques of goal setting, self-monitoring, managing craving, rewarding goal attainment, functionally analysing smoking situations, and learning alternate coping skills.[4] This therapy has been successfully used in some clients with moderate levels of nicotine dependence. Since not much study have been done with regard to anxiety and nicotine dependence in Kerala, there is a need to test and find out a cost effective and efficient method of handling the problem of anxiety and nicotine dependence among clients with chronic mental illness.

Methodology

Present study was conducted among 60 clients with chronic mental illness admitted in Medical College Hospital, Kottayam, Kerala to find out the effectiveness of Self-control therapy on anxiety and nicotine dependence. Quasi experimental pretest-posttest control group design was used. Thirty clients with chronic mental illness were purposively selected to experimental group and thirty to control group. Pre-test was conducted in samples using socio personal data sheet for clients with chronic mental illness, Speilberger's state trait anxiety inventory[5] was used for assessing anxiety and modified Fager-storm rating scale[6] was used for measuring nicotine dependence. Two sessions of Self-control therapy (video assisted structured teaching programme on complications and management of anxiety and nicotine dependence and an audio assisted behaviour training programme on progressive muscle relaxation) were given to the experimental group for 45 minutes per day for two consecutive days after pre-test. Progressive muscle relaxation was repeated on a daily basis for two weeks. The post-test was done on 14th day after pre-test. No interventions were given to the control group.

The socio personal data was analysed using frequency distribution and percentage. Effectiveness of Self-control therapy on anxiety and nicotine dependence on experimental group in comparison with control group was analysed using Mann-Whitney U test. Correlation between anxiety and nicotine dependence among clients with chronic mental illness was analysed using Spearman's rank correlation coefficient. Association of anxiety and nicotine dependence among clients with chronic mental illness with selected variables was analysed using Chi-square test. The data were analysed using the licensed SPSS21.0 version software.

RESULTS

Socio personal data of clients with chronic mental illness in control and experimental group were presented in table 1.

Table 1 Frequency distribution and percentage of clients with chronic mental illness based on age, marital status, duration of smoking, type of tobacco product used and number of tobacco product used per day.

Variables	Control group (n=30)		Experimental group (n=30)		df	χ2
	f	%	f	%		
Age in years						
15-35	13	43.3	16	53.4	2	0.75
36-55	11	36.7	10	33.3		
56-75	6	20.0	4	13.3		

Marital status					
Unmarried	17	56.7	18	60.0	
Married	11	36.3	7	23.3	2	2.20
Divorced	2	06.0	5	16.7	
Duration of smoking					
1-5 years	3	10.0	5	16.7	
6-10 years	3	10.0	4	13.3	2	0.84
>10 years	24	80.0	21	70.0	
Type of tobacco product used					
Cigarette	7	23.3	14	46.7	
Beedi	23	76.7	15	50.3	2	5.01
Sniffing powder	0	00.0	1	03.0	
Number of tobacco product used per day					
1-10	11	36.7	11	36.7	
11-20	11	36.7	11	36.7	3	0.25
21-30	4	13.3	5	16.6	
>30	4	13.3	3	10.0	

Anxiety of clients with chronic mental illness. (Table 2)
Study revealed that 86.7% of clients with chronic mental illness in control group and 60% in experimental group had moderate level of anxiety (80-119).

Table 2
Frequency distribution and percentage of clients with chronic mental illness based on anxiety.   n=60

Anxiety	Control group (n=30)		Experimental group (n=30)			
	f	%	f	%	df	χ2
Mild (40-79)	2	06.7	6	20.0		
Moderate (80-	26	86.7	18	60.0	2	5.45
Severe (120-160)	2	06.6	6	20.0		

Nicotine dependence of clients with chronic mental illness. (Table 3)
In both control group (43.3%) and experimental group (60%) majority of clients with chronic mental illness had moderate nicotine dependence (10-14). The study also revealed that about 40% clients in control group and 33.3% in experimental group showed a low to moderate level of nicotine dependence (5-9).

Table 3
Frequency distribution and percentage of clients with chronic mental illness based on nicotine dependence.   n=60

Nicotine dependence	Control group (n=30)		Experimental group (n=30)			
	f	%	f	%	df	χ2
Low (1-4)	2	06.7	0	00.0		
Low to moderate (5-9)	12	40.0	10	33.3	3	38.26
Moderate (10-14)	13	43.3	18	60.0		
High (15-18)	3	10.0	2	06.7		

Effectiveness of Self-control therapy on anxiety of clients with chronic mental illness between control and experimental group. (Table 4 and 5)
The study showed that the median value of pre-test scores of anxiety in control group was 101.50 and in the experimental group was 94. The median value of post-test scores of anxiety in control group was 101 and that in the experimental group was 73.50. The interquartile range of control group was 21.50 and 20 and for the experimental group was 33.50 and 13 for pre and post-test respectively. The mean rank of anxiety in control and experimental group was 40.47 and 20.53 respectively and the sum of ranks in control and experimental group was 1214 and 616. The effectiveness of Self-control

therapy on anxiety of clients with chronic mental illness between control and experimental group was found out using Mann-Whitney U test and the obtained U value was statistically significant at 0.01 level.

Table 4
Median and inter quartile range (IQR) of anxiety among clients with chronic mental illness in control and experimental group.   n=60

Group	Anxiety			
	Pre-test		Post-test	
	Median	IQR	Median	IQR
Control (n=30)	101.50	21.50	101.00	20.00
Experimental (n=30)	94.00	33.50	73.50	13.00

Table 5
Mean rank, sum of ranks and U value of anxiety among clients with chronic mental illness in control and experimental group.   n=60

Group	Anxiety				U
	Mean rank		Sum of ranks		
Control (n=30)	40.47		1214		151**
Experimental (n=30)	20.53		616		

**significant at 0.01 level

Effectiveness of Self-control therapy on nicotine dependence of clients with chronic mental illness between control and experimental group. (Table 6 and 7)
The study revealed that the median value of pre and post test scores of nicotine dependence in control group was 10.50 each, and in the experimental group it was 11 and 7. The interquartile range of control group was 5.25 and 5, and for experimental group was 6 and 2.25.The mean rank of nicotine dependence in control and experimental group was 38.07 and 22.93 respectively. The sum of ranks in control group was 1142 and it was reduced to 688 in experimental group. The effect of Self-control therapy on nicotine dependence of clients with chronic mental illness between control and experimental group was found out using Mann-Whitney U test and the obtained U value was statistically significant at 0.01 level.

Table 6
Median and inter quartile range (IQR) of nicotine dependence among clients with chronic mental illness in control and experimental group.   n=60

Group	Nicotine dependence			
	Pre-test		Post-test	
	Median	IQR	Median	IQR
Control (n=30)	10.50	5.25	10.50	5.00
Experimental (n=30)	11.00	6.00	7.00	2.25

Table 7
Mean rank, sum of ranks and U value of nicotine dependence among clients with chronic mental illness in control and experimental group.   n=60

Group	Nicotine dependence		U
	Mean rank	Sum of ranks	
Control (n=30)	38.07	1142	223.00**
Experimental (n=30)	22.93	688	

**significant at 0.01 level

Table 8
Correlation between anxiety and nicotine dependence among clients with chronic mental illness.   n=60

Variables	ρ
Anxiety	0.241
Nicotine dependence	

Correlation between anxiety and nicotine dependence among clients with chronic mental illness. (Table 8)

The Spearman's rank correlation co-efficient was used to find out the correlation between anxiety and nicotine dependence among clients with chronic mental illness. The obtained rho value was not statistically significant at 0.05 level.

The association of anxiety and nicotine dependence among clients with chronic mental illness with selected variables. (Table 9 and 10)

A statistically significant association was found between anxiety among client with chronic mental illness and age. The study revealed that there was no statistically significant association of anxiety and nicotine dependence with other selected variables.

Table 9
Association between anxiety among clients with chronic mental illness and selected variables   n=60

Selected variables	df	χ^2
Age	4	12.32**
Marital status	4	5.97
Duration of smoking	4	5.10
Duration of mental illness	4	7.79

**significant at 0.01 level

Table 10
Association between nicotine dependence among clients with chronic mental illness and selected variables   n=60

Selected variables	df	χ^2
Age	6	6.90
Occupation	12	8.10
Duration of smoking	6	11.14
Duration of mental illness	6	6.27

DISCUSSION

In the present study, it was found that 43.3% of study population in the control group and 53.4% in experimental group belonged to the age group of 15-35 years. A study conducted among youth worldwide, revealed that nearly one fifth of the global population comprised of youth aged 14-24 years, with 85-90% of this group were had a serious mental illness and associated nicotine dependence.[7]

It was observed that most of the clients with chronic mental illness (56.7% in the control group and 60% in experimental group) were unmarried. Most studies indicate that unmarried and divorced persons had higher rates of mental illness than those who were married.[8]

Among the study samples, majority (86.7% in control group and 83.4% in experimental group) of clients with chronic mental illness started smoking at 10-20 years of age. Studies suggested that, high prevalence of smoking was seen among mentally ill clients. Most people with mental illness, who were addicted to nicotine started smoking when they were too young.[9]

The major objective of the study was to determine the effectiveness of Self-control therapy on anxiety and nicotine dependence among clients with chronic mental illness. Finding from the present study showed that anxiety and nicotine dependence of clients were reduced after Self-control therapy in the experimental group, since there was a significant difference in median scores of anxiety and nicotine dependence after Self-control therapy between control and experimental group. A cross sectional study was conducted with patients who sought the smoking programme in Cuba, to analyze the association of nicotine dependence with the level of anxiety and depression in patients who are in the process of smoking cessation. The study revealed that high level of nicotine dependence was associated significantly with the level of depression, emphasizing the association between smoking and psychiatric co-morbidities.[10]

The findings of the present study generate some implications to the health care delivery system. As nurses, constantly interacting with clients having nicotine and other substance dependence and anxiety, should be aware of the various behavioural and emotional problems of these clients.

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