

A study to evaluate the effectiveness of art therapy on primary mental function among schizophrenics in a selected psychiatric centre at Bangalore.

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Abstract

Introduction And Objectives: Schizophrenia is a complex chronic mental illness.¹ It affects approximately one percent of the population worldwide and is a leading cause for disability and premature mortality in developed countries.

In patients with schizophrenia primary mental function is moderately to severely impaired. Primary mental function refers to the individual’s ability in orientation, attention, calculation, memory, recall and language. This impairment is the prime drive of important treatment target.²

In treating schizophrenia patients Art therapy is also unique in the way that art materials are utilized to make a link with and engage severely disturbed people in psychodynamic therapy. Art therapy is one of the complementary therapies which can benefit a wide spectrum of disorders, disabilities and diseases. It helps the people to improve their mental, emotional and physical states³. The British Association of Art Therapists (BAAT) (2007) define “Art therapy is a form of psychotherapy that uses art media as its primary mode of communication”. This study was intended to

evaluate the effectiveness of art therapy on primary mental function among schizophrenics in a selected psychiatric center at Bangalore. Practicing art therapy enable the schizophrenics to improve their primary mental function.⁴

Methodology: A quasi experimental pre- test post -test design with control group was chosen for analyzing the effectiveness of art therapy on primary mental function among schizophrenics. In this present study 40 samples was selected for the study, in which 20 samples were included in experimental group and 20 samples were in control group, selected using non-probability purposive sampling technique. The samples were selected based on inclusion and exclusion criteria. The Standardized Mini Mental State Examination was used as instrument to measure the level of primary mental function among schizophrenics. Art therapy program was given as intervention for 30 consecutive days after the pretest. The duration of intervention was for 30 minutes per day. The investigator assessed the level of primary mental function on the 30th day after intervention program for both experimental and control group.

Results: The findings of this study revealed that the schizophrenics in Experimental and control groups during the pre test majority (90%) experienced moderate level of impairment. The results of this study revealed that there was significant difference in the level of primary mental function before and after art therapy among schizophrenics. The mean pre-test score of primary mental function was 17.75 with standard deviation 2.74 the mean post-test score of primary mental function was 19.2 with standard deviation of 2.61. The obtained 't' value 6.95 was significant at $p < 0.05$ level. Among the control group the mean pre-test score of primary mental function was 17.1 ± 2.42 and post test score was 17.2 ± 2.47. The obtained 't' value 1.625 was not significant at $p < 0.05$ level. Thus art therapy is one of the effective technique on improving primary mental functions among effectively, appropriate & feasible.

Conclusion: This study enables us to understand that most of the Schizophrenics had moderate and mild impairment of primary mental function in pretest and improved their level of Primary mental function in post-test. This shows that the selected art therapy for the present study was effective in improving primary mental function among schizophrenics. Art therapy can be taught to the schizophrenics for improving primary mental function.

Keywords: Art therapy, Effectiveness, Primary mental function and Schizophrenics.

Introduction

The word Schizophrenia was coined in 1908 by the Swiss psychiatrist Eugen Bleuler. It is derived from the Greek word *skhizo* (split) and *phren* (mind). The profile of deficits in schizophrenia includes many of the most important human cognition such as orientation, concentration, attention, calculation and memory (Keefe et al. 2012). The Diagnostic and statistical manual

of mental illness includes primary mental function as a domain that will need to be evaluated by the clinicians in the course of diagnostic assessment of schizophrenia.²

Primary mental function has been firmly established as a predictor of real world community functioning as well as the ability to perform everyday living skills (Green et al. 1996). Severely impaired performance on primary mental function in schizophrenia revealed that almost all patients with schizophrenia are functioning below the level that would be expected in the absence of illness (Keefe et al. 2011). Cognitive impairments and associated deficits in the ability to perform everyday living skills are highly related to live independently³. While primary mental function impairment is a key component of reduced quality of life in schizophrenia.⁴

Impairments in primary mental function can result in difficulty in following social conversation, simple activities become labored or impossible. This results in various aspects of outcomes including social deficits, communication functioning & skill acquisition.⁴

Medication is the mainstay of treatment for schizophrenia. However, 5-15% of people continue to experience symptoms in spite of medication and may also develop undesirable adverse effects (Johnstone 1998). Art therapy with schizophrenia.⁵

Art therapy is one of the complementary therapies which can benefit a wide spectrum of disorders, disabilities and diseases. It helps the people to improve their mental, emotional and physical states⁵.

Art therapy offers unique insights due to nature of its three way process between the client, the therapist and the image or artefact. It provides patients with the opportunity to address issues or express themselves in ways that transcend spoken or written language. This will provides both therapist and client to a 'traditional'

therapeutic environment of one-on-one or group discussions. By creating a work of art, an individual can ventilate his powerful emotions that have been internalized. The main aim of this study is to assess the effectiveness of art therapy on primary mental function among Schizophrenics. Practicing art therapy will enable the schizophrenics to improve their primary mental function.⁶

Severely impaired performance on cognitive test is the strongest evidence for the importance of primary mental function deficit in schizophrenia. A plethora of systematic research from the past 10 years highlights that primary mental function impairment is one of the most important barriers to recovery in patients with schizophrenia. It is estimated that 98% of patients with schizophrenia have primary mental function impairment.⁹

American Art Therapy Association (AATA-2008) states, that Art therapy is a mental health profession that uses the creative process of art making to improve and enhance the physical, mental and emotional well-being of individuals of all ages. It is based on the belief that the creative process involved in artistic self-expression helps people to resolve conflicts, problems, develop interpersonal skills, manage behavior, reduce stress, increase self-esteem, self-awareness and improve primary mental functions.¹⁰

Gordana mandiel et.al (2009) conducted a study on group art therapy as an adjunct therapy for the treatment to schizophrenics and study concluded that art therapy is a useful adjunctive therapy for schizophrenics.¹²

A study was conducted on cognitive functioning among patients with schizophrenia in a Nigerian Hospital. The objective of the study was to investigate correlation of cognition among schizophrenics. The 50 subjects were assessed by using positive and negative syndrome scale

and clinical global impression. Results shown that patient with schizophrenia has poor verbal response associated with negative syndrome. Study concluded that patient with negative schizophrenia may suffer more cognitive impairment.¹³

A meta analysis study to assess the memory impairment among schizophrenics. The objective of the study was to examine the exact magnitude and pattern of impairment. The findings revealed a significant and stable association between schizophrenia and memory impairment.

The composite effect size for recall performance was large. Recognition showed less, but still significant, impairment. The magnitude of memory impairment was not affected by age, medication, duration of illness, patient status, severity of psychopathology, or positive symptoms. Negative symptoms showed a small but significant relation with memory impairment. Researcher concluded that there is a significant impairment in schizophrenia. The impairment was stable, wide ranging, and not substantially affected by potential moderating factors such as severity of psychopathology and duration of illness.¹⁶

A study was conducted to evaluate the significant changes in primary mental function from acute phase to nine month follow up. The samples comprised 36 patients with schizophrenia admitted to psychiatric unit for an acute psychotic episode. Primary mental function assessed by positive and negative syndrome scale at the baseline and follow up. Results showed that cognitive impairment is there in schizophrenia patients and symptoms significantly changes from acute phase to 9 months later¹⁸.

A quasi experimental study on art therapy and reduction in death anxiety and burnout in end – of – life care workers, among 129 workers in China. The samples

were selected by using purposive sampling. The data was collected by using Hamilton Anxiety Rating Scale. The study revealed that art therapy reduces burnout among end – of – life care workers by enhancing emotional awareness and regulation, fostering meaning making and promoting reflection on death. The study concluded that art therapy should be practiced by the end – of – life care workers.¹⁹

An experimental study on effectiveness of intensive art therapy in youth with poorly controlled Type 1 Diabetes Mellitus, among 29 samples in Britain. The samples were selected by using convenient sampling. The data was collected by using Blood Sugar test. The study reported that improvement in glycemic control was seen in 56% of the case group and 23% of control group. The study concluded that intensive art therapy can recommend to those with poor glycemic control.²⁰

A study was conducted on art therapy as an adjunctive treatment for schizophrenia. The aim of the study was to conduct the first explanatory RCT of group interactive art therapy as an adjunctive treatment for schizophrenia. The outcomes of 43 patients randomized to 12 sessions of AT were compared with those of 47 who received standard psychiatric care. Patients were assessed on a range of measures of symptoms, social functioning and quality of life at pre- and post-treatment and six- month follow-up. Results showed that art therapy produced a statistically significant positive effect on negative symptoms (assessed by Scale for the Assessment of Negative Symptoms) though had little and non-significant impact on other measures. The study concluded that art therapy can be use as an adjunctive treatment for schizophrenia²¹.

A study was conducted on art therapy for schizophrenia. The objective of the study was to review the effects of art therapy as an adjunctive treatment for schizophrenia

compared with standard care and other psychosocial interventions. The selection criteria for the study was all randomized controlled trials that compared art therapy with standard care and other psychosocial interventions for schizophrenia. Result showed a small but significant difference favoring the art therapy group. The researcher concluded that randomized studies are possible in this field, but further evaluation of the use of art therapy for serious mental illness is needed as its benefits or harms remain unclear.²²

Material and method: To accomplish the objectives of the study, one group pre-test post -test design was adopted. In this present study the accessible population is schizophrenics with mild & moderate level of primary mental function in psychiatric Centre at Bangalore. Total number of 40 samples was selected for the study, in which 20 samples were included in experimental group and 20 samples were in control group. The Standardized Mini Mental State Examination was used as instrument to measure the level of primary mental function among schizophrenics. The instrument was developed in English after an extensive review of literature and experts opinion. It was translated into Kannada by language experts.

Description of the Tool

The instrument consists of two sections

Part I: Consists of demographic variables of Schizophrenics such as age, gender, marital status, type of family, educational status, previous occupation, and period of stay in the hospital.

Part II: Consists of Standardized Mini Mental State Examination tool used to assess the level of impairment of primary mental function among schizophrenics. The Standardized Mini Mental State Examination Scale was developed by Molloy et.al in (1991) consists of 5 items. The tool is assessed for answer either “correct” or

'error" response. Each correct answer was given a score '1' and wrong answer '0'. Hence, the maximum possible score was '30' and minimum possible score was '0'.

Score Interpretation

25 – 30 : No impairment

21 – 24 : Mild impairment

10 - 20 : Moderate impairment

<10 : Severe impairment

Validity of the tool was obtained from experts. Their valuable suggestions were taken into consideration and corrections were made accordingly. The tool was found to be valid.

The data collection procedure was done for 30 days in psychiatric rehabilitation centre, Bangalore . Initially the permission was obtained from the administrative authority (the director) of the centre. Screening of patients done by using Standardized Mini Mental Status Examination tool, among that 40 sample were selected with mild and moderate impairment of primary mental function. Twenty subjects were allotted to experimental group and remaining to control group. Art therapy program was given as intervention for 30 consecutive days after the pretest. The duration of intervention was for 30 minutes per day. The investigator assessed the level of primary mental function on the 30th day after intervention program for both experimental and control group.

The data were analysed by both descriptive and inferential statistics. The data related to demographic variables were analysed by using descriptive statistics (frequency, percentage). The level of primary mental function was assessed by using descriptive measures (mean, standard deviation). The effectiveness of art therapy on primary mental function among schizophrenics was analyzed by paired "t" test and unpaired 't'test. The association of post test score of

primary mental function with their demographic variables were assessed by using chi square test.

The consent was obtained from the study participants and assurance was given to them that the confidentiality would be maintained throughout the study. The art therapy technique was taught and administered to all the other schizophrenics of the centre after the post test to overcome the ethical issue.

Objective 1: To assess the level of primary mental function among schizophrenics in experimental and control group.

The findings of this study revealed that the schizophrenics in interventional and control groups during the pretest majority (90%) experienced moderate level of impairment. But during the post-test 30% of patients' experienced mild impairment in experimental group 5% had no impairment in primary mental function and 65% had moderate impairment. And in control group 90% experienced moderate impairment, 10% had mild level of primary mental function impairment during the pretest and there was no change in the level of primary mental function observed during the post test.

Objective 2: To assess the effectiveness of art therapy on primary mental function among schizophrenics. The results of this study revealed that among the interventional group the mean pre-test score of primary mental function was 17.75 with standard deviation 2.74. In contrast, the mean post-test score of primary mental function was 19.2 with standard deviation of 2.61. The obtained 't' value 6.95 was significant at $p < 0.05$ level. Among the control group the mean pre-test score of primary mental function was 17.1 + 2.42 and post test score was 17.2 ± 2.47. The obtained' value 1.625 was not significant at $p < 0.05$ level.

Objective 3: To associate the post test level of primary mental function among schizophrenics with their selected demographic variables.

Chi square was calculated to find out the association between the post test scores of control and interventional groups with their selected demographic variables. These findings revealed that there was no significant association found between the post-test scores of control and interventional groups with selected demographic variables. [

The findings were also supported by Bharati T Talreja et.al.,(2013) evaluated the primary mental function and its association with sociodemographic factors in schizophrenia patients. The study findings depict that persistent cognitive deficits are seen in patients with schizophrenia. Its correlation with sociodemographic factors showed that patients with >2 years of illness and belonging to urban habitat showed more cognitive dysfunction.

Hypothesis 1: There is a significant difference in the level of primary mental function among schizophrenics. In this study there is significant difference in the level of primary mental function among schizophrenics between control and interventional group. So this hypothesis was accepted.

Hypothesis 2: There is a significant difference in the level of primary mental function among schizophrenics in experimental group before and after art therapy. This study finding reveals that there is significant difference in the level of primary mental function before and after art therapy among schizophrenics. So this hypothesis was accepted.

Hypothesis 3: There is an association between post test level of primary mental function among Schizophrenics with their selected demographic variables. This study finding reveals that there is no association between the

post test level of primary mental function among control and interventional group of schizophrenics with their selected demographic variables. So this hypothesis was rejected.

Discussion

Total number of 40 samples was selected for the study, in which 20 samples were included in experimental group and 20 samples were in control group.

In this study Criteria for Sample Selection

Inclusion criteria Clients who are diagnosed as schizophrenics Schizophrenics with mild and moderate impairment of primary mental function. Clients who can understand Kannada or English. **Exclusion Criteria** Schizophrenics, With associated disorder like mental retardation, personality disorder etc With severe and No impairment of primary mental function Who are not willing to participate. It was found that the majority of the patients with schizophrenia were, 14 (35%) belonged to 31-40 years .Among 8 (40%) and 6 (30%) belonged to both experimental and control group.

Majority of the patients with schizophrenia, 22 (55%) were male, in that 12 (60%) and 10 (50%) belonged to experimental group and control group respectively. 18 (45%) were female in that 8 (40%) and 10 (53.4%) belonged to experimental group and control group respectively.

Majority of the patients with schizophrenia, 22 (55%) were single, among whom 12 (60%) and 10 (50%) belonged to experimental group and control group respectively.13 (32.5%) were married, among which 6 (30%) and 7 (35%) belonged to experimental group and control group respectively. 4 (10%) were divorced, among 1 (5%) and 3 (15%) in experimental and control group. 1 (5%) belonged to widower or widow category in experimental group

Regarding type of family, 23 (57.5%) belonged to nuclear family, among that 12 (60%) and 11(55%) in experimental and control group respectively. 17 (57.5%) belonged to joint family in that 8 (40%) and 7 (40%) belonged to experimental and control group respectively. Regarding educational status, majority of the patients with schizophrenia, 15 (37.5%) comes under secondary education, in that 7 (35%) and 8 (4%) belongs to experimental group and control group respectively. 6 (15%) comes under primary education, in that 4 (20%) and 2 (15%) belongs to experimental and control group respectively. 9 (22.5%) belonged to higher secondary education , among 3 (15%) and 6 (30%) belonged to experimental and control group respectively. 10(25%) belonged to graduate in that 6 (30%) and 4 (20%) belonged to experimental and control group respectively. Regarding previous occupation, majority of the people 14 (35%)were unemployed, among whom 8 (40%) and 6 (30%) belonged to experimental group and control group respectively. 11 (27.5%) were self-employed among 7 (35%) and 4 (20%) belongs to experimental and control group respectively. 2 (5%) were government employees, equally divided in both experimental and control group.13 (32.5%) belongs to private employees among 4 (20%) and 9 (45%) belongs to both experimental and control group respectively.

Regarding period of stay in centre, majority 16 (40%) belonged to 1-3 years, in that 7 (35%) and 9 (45%) in both experimental and control group. 11(27.5%) belonged to less than 1 year among which 8 (60%) and 3 (15%) belonged to experimental and control group respectively. 13 (32.5%) belonged to above 3 years, among 5 (25%) and 8 (40%) belonged to experimental ad control group respectively.

The level of primary mental function among schizophrenics in experimental group. Out of 20 sample,

18 (90%) had moderate impairment and 2 (10%) had mild impairment in pretest. In post-test 1 (5%) had no impairment, 6 (30%) had mild impairment and 13 (65%) had moderate impairment of primary mental function. Among experimental group, the mean pretest score was 17.75 with standard deviation 2.74 was less than the mean post test score 19 with standard deviation 2.61. The calculated mean difference was 1.25. The obtained “t” value is 6.95 was significant at $p < 0.05$ level.

Among control group, the mean pretest score was with standard deviation 2.42 was less than the mean post test score 17.2with standard deviation 2.48. The calculated mean difference was 0.1. The obtained “t” value is 0.3 was not significant at $p < 0.05$ level.

Among experimental group the mean post test score was 19 with standard deviation 2.61 and in control group the mean post test score was with standard deviation 2.48. The mean difference is 1.8. The obtained “t” value is 2.307 was significant at $p < 0.05$ level.

Hence the stated hypothesis was accepted. It is inferred that art therapy is effective on improving primary mental function among schizophrenics.

In experimental group, after art therapy intervention, with regard to age, among 31 to 40 years, majority 6 (30%) of schizophrenics experienced moderate impairment of primary mental function, 2 (10%) had mild impairment. Among 41 to 50 years 1 (5%) had no impairment, 1 (5%) had mild impairment and 3(15%) had moderate impairment. Among 51 to 60 years, 3 (15%) of schizophrenics experienced mild impairment, 4 (20%) had moderate impairment. The obtained χ^2 value is 3.79 and which is not statistically significant at $P < 0.05$ level. Hence it is inferred that age have no statistically significant association with primary mental function among schizophrenics. Hence the stated hypothesis H3 is not accepted

With regards to gender, among male, majority 6 (30%) of Schizophrenics experienced moderate level of impairment, 5 (25%) had mild impairment and 1 (5%) had no impairment. Among female majority, 7 (35%) of schizophrenics experienced moderate impairment, 1 (5%) had mild impairment. The obtained χ^2 value is 3.04 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that sex have no statistically significant association with primary mental function and the stated hypothesis H3 is not accepted.

With regards to marital status, among single 1 (5%) of schizophrenics experienced no impairment, 2 (10%) had mild impairment and 9 (45%) had moderate impairment. Among married 2 (10%) of schizophrenics experienced mild level of impairment. Among divorced 1 (5%) experienced mild level of primary mental function impairment. Among widow/widower 1 (5%) had moderate impairment. The obtained χ^2 value is 4.83 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that marital statuses have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted. With regards to type of family, among nuclear family majority 9 (45%) of schizophrenics experienced moderate level of impairment, 3 (15%) had mild impairment.

Among joint family, 1(5%) had no impairment, 3 (15%) had mild impairment and 4 (20%) had moderate impairment. The obtained χ^2 value is 2.2 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that type of family have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to educational status, among primary education, 4 (20%) of schizophrenics experienced

moderate level of primary mental function impairment. Among secondary education 2 (10%) had mild impairment and 5 (25%) had moderate impairment. Among higher secondary education 1 (5%) had no impairment and 2 (10%) had moderate impairment. Among graduate 4 (20%) had mild impairment and 2 (10%) had moderate impairment. The obtained χ^2 value is 12.15 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that educational status have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to previous occupation, among unemployed majority 6 (30%) of schizophrenics experienced moderate impairment of primary mental function and 2 (10%) had mild impairment. Among self employed, 2(10%) had mild impairment and 5 (25%) had moderate impairment. Among Govt.employee 1 (5%) had mild impairment and among private employee, 1 (5%) had no impairment and mild impairment and 2 (10%) had moderate impairment. The obtained χ^2 value is 6.66 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that previous occupation have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to period of stay in centre, among less than 1 year majority 5 (25%) of schizophrenics had moderate level of primary mental function impairment and 3 (15%) had mild impairment. Among 1 to 3 years, 1 (5%) had no impairment and mild impairment and 5 (25%) had moderate impairment. Among above 3 years 2 (10%) had mild impairment and 3 (15%) had moderate impairment. The obtained χ^2 value is 2.78 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that period of stay in centre have no statistically

significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

In control group, with regards to age, among 31 to 40 years, majority 5 (25%) of schizophrenics experienced moderate impairment of primary mental function, 1 (5%) had mild impairment. Among 41 to 50 years 8 (40%) had moderate impairment.

Among 51 to 60 years, 1 (5%) of schizophrenics experienced mild impairment, 5 (25%) had moderate impairment. The obtained χ^2 value is 1.44 and which is not statistically significant at $P < 0.05$ level. Hence it is inferred that age have no statistically significant association with primary mental function among schizophrenics. Hence the stated hypothesis H3 is not accepted.

With regards to gender, among male, majority 9 (45%) of Schizophrenics experienced moderate level of impairment, 1 (5%) had mild impairment. Among female majority, 9 (45%) of schizophrenics experienced moderate impairment, 1 (5%) had mild impairment. The obtained χ^2 value is 0 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that sex have no statistically significant association with primary mental function and the stated hypothesis H3 is not accepted.

With regards to marital status, among single 1 (5%) of schizophrenics experienced mild impairment, 9 (45%) had moderate impairment. Among married 1 (5%) of schizophrenics experienced mild level of impairment and 6 (30%) had moderate impairment. Among divorced 3 (15%) experienced moderate level of primary mental function impairment. The obtained χ^2 value is 0.46 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that marital statuses have no statistically significant association with primary mental

function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to type of family, among nuclear family majority 11 (55%) of schizophrenics experienced moderate level of impairment. Among joint family, 2 (10%) had mild impairment and 7 (35%) had moderate impairment. The obtained χ^2 value is 2.7 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that type of family have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to educational status, among primary education, 2 (10%) of schizophrenics experienced moderate level of primary mental function impairment. Among secondary education 1 (5%) had mild impairment and 7 (35%) had moderate impairment. Among higher secondary education 1 (5%) had mild impairment and 5 (25%) had moderate impairment. Among graduate 4 (20%) had moderate impairment. The obtained χ^2 value is 0.96 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that educational status have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to previous occupation, among unemployed majority 5 (25%) of schizophrenics experienced moderate impairment of primary mental function and 1 (5%) had mild impairment. Among self employed, 1 (5%) had mild impairment and 3 (15%) had moderate impairment. Among Govt. employee 1 (5%) had moderate impairment and among private employee, 9 (45%) had moderate impairment. The obtained χ^2 value is 2.29 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that previous occupation have no statistically significant association with primary mental

function among schizophrenics and the stated hypothesis H3 is not accepted.

With regards to period of stay in centre, among less than 1 year majority 3 (15%) of schizophrenics had moderate level of primary mental function impairment. Among 1 to 3 years, 1 (5%) had mild impairment and 8 (40%) had moderate impairment. Among above 3 years 1 (5%) had mild impairment and 7 (35%) had moderate impairment. The obtained χ^2 value is 0.44 and which is statistically not significant at $P < 0.05$ level. Hence it is inferred that period of stay in centre have no statistically significant association with primary mental function among schizophrenics and the stated hypothesis H3 is not accepted.

Conclusion

The main conclusion drawn from the present study was that most of the Schizophrenics had moderate and mild impairment of primary mental function in pretest and improved their level of Primary mental function in posttest. This shows that the selected art therapy for the present study was effective in improving primary mental function among schizophrenics. Art therapy can be taught to the schizophrenics for improving primary mental function.

Implications of the Study: The study findings have included the implications for the future in relation to nursing education, nursing practice and nursing research.

Nursing Practice

Clinical nurse can

- Learn accurate assessment of primary mental function by using Standardized Mini Mental State Examination tool.
- Learn the techniques of art therapy.
- Impart art therapy to the schizophrenics in hospital.
- Understand the importance of art therapy as an adjuvant to the pharmacological therapy. Encourage

the use of art therapy as a complementary therapy in improving primary mental function among schizophrenics.

- Recognize the findings of the current study which can be used as a baseline to provide instructions to schizophrenics with primary mental function impairment

Nursing Education

Nurse educators can

- Teach the assessment of level of primary mental function and effectiveness of art therapy on improving primary mental function among schizophrenics, as an independent nursing intervention.
- Provide adequate exposure to students to a setting where art therapy is practiced. Teach art therapy using audio visual aids, group conference etc.

Nursing Research

Nurse researcher can

- Encourage future research studies on the effectiveness of art therapy on Primary mental function among schizophrenics.
- Disseminate the finding through the conference, seminars, publications.
- National and international journal and World Wide Web.

Nursing Administration

Nurse administrator can

- Organize in-service education program for the nurses on this complementary technique.
- Make cost effectiveness on the nursing care by reducing the usage of medications among schizophrenics.
- Encourage nurses to conduct research on various complementary techniques. Provide opportunity for

nurses to attend training program on art therapy.

Limitation: The researcher could not be able to assemble the samples at regular time.

Recommendations

Similar kind of study can be conducted in a large group.

A comparative study can be done between the effectiveness of various non pharmacological measures and primary mental function among schizophrenics.

Similar kind of study can be conducted in different setting.

A longitudinal study can be undertaken to see the long effect of art therapy on primary mental function among schizophrenics.

A descriptive study can be conducted on knowledge and attitude regarding art therapy.

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