



Effect of Individualized Self-Monitoring and Motivational Program to Improve Cognitive Skills and Quality of Life Amongst Persons with Schizophrenia.

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INTRODUCTION

Schizophrenia is associated with impairments across several cognitive domains. The breadth of this impairment has led some to conclude that it is a disease with a global profile of neuropsychological impairment. Some evidence, however, suggests that there are discrete domains of cognitive impairment. Found mild to moderate deficits in attention, verbal fluency, working memory, and processing speed, with superimposed severe deficits in declarative verbal memory and executive functioning. Other work suggests that discrete cognitive domains have differential correlates with symptom and functional domains. The argument over generalized or specific impairments is clouded by the fact that there is not a clear neuropsychological signature of schizophrenia. That is, most schizophrenia patients demonstrate at least some cognitive impairment, but, like other aspects of the illness, the severity and breadth of these impairments vary across patients. A rather unique feature of cognitive deficits, as compared to other characteristics of schizophrenia, is that they remain relatively stable within the same patient over time.

METHODOLOGY

Inclusion criteria:

- Age between 20 to 55.
- Subjects of both male and female.
- Subjects diagnosed with schizophrenia.
- Subjects with cognitive skill impairment.

Exclusion criteria:

- Subjects less than 20 and more than 55 are excluded.
- Subjects involved in any rehabilitation program in past 3 months.
- Subjects having any other mental disorders and neurological disorders.

Data collection procedure:

The duration of intervention was given for 3 month (36 sessions/ 12 weeks), each session was for about 1 hour 15 minutes for each patient. A total 30 patients. Age between 20 to 55, who are diagnosed with schizophrenia. 15 patients for experimental group. 15 patients for control group. For 15 minutes motivational training and next 1-hour cognitive skills training program with interval for experimental group. For control group conventional OT was given. The participants in this study to enhance individualized self-monitoring and motivational program. The pretest assessment was assessed using MOCA and WHOQOL scales in the first two session. After the completion of the pretest assessment which includes the two sessions of the study, the participants were divided into two groups with 15 participants in each experimental and control group, which includes male and female. The experimental group underwent motivational training and cognitive training whereas the control group attended conventional OT sessions. After the completion of the intervention sessions (36 sessions), the MOCA and WHOQOL scales were used in both the experimental and the control group participants to find out the effectiveness of the individualized self-monitoring and motivational program and improving cognitive skills among schizophrenia.

*Treatment protocol for individualized self-monitoring and motivational program (experimental group):**Table (i): Treatment protocol for experimental group:*

The participants of the experimental group received occupational therapy for one hour and fifteen minutes per day. The sessions were conducted for thirty- six consecutive days. The participants activities are Motivational interviewing, Self-monitoring program & meta cognition training, Support strategies for functional independence, paper collage activity, word game, paper bag activity, jigsaw puzzle, social skill training, puzzle game, activity and planning module, recreation of leisure activities, psychoeducation.

Treatment protocol for control group:

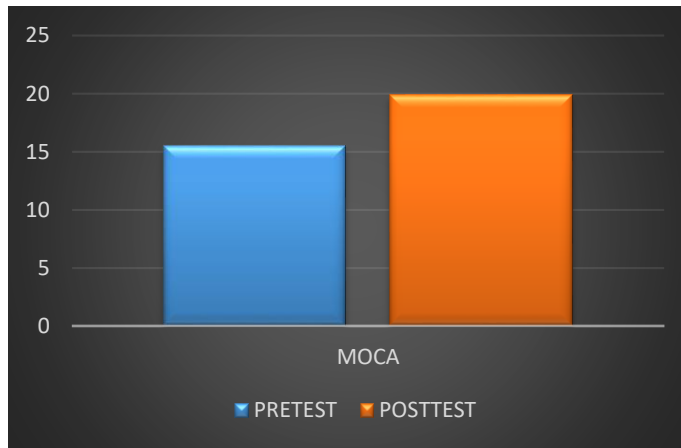
The participants of the control group received conventional therapy for one hour per day. The sessions were conducted for eight consecutive days. The participants performed activities like motivational based memory games.

Data Analysis**Statistical analysis of pre- test and post- test of MOCA in control group**

	Mean	SD	N	Z value	p value
C_MOCA_Pre	15.53	1.35	15	-3.04	0.00064
C_MOCA_Post	19.86	1.76	15		

*** p value of 0.0006 is less than 0.05**

In the control group, Hence, the results showed that there is statistically significant difference in control group between pre-test and post-test scores. It shows that there is a statistically significant improvement in cognitive skills by using the conventional occupational therapy in control group. This suggests that the intervention received by the control group had significant improvement.



Statistical analysis of pre- test and post- test of WHOQOL brief in control group.

	Mean	SD	N	Z value	p value
C_WHOQOL_Pre	25.26	1.57	15	-3	0.0006
C_WHOQOL_Post	33.46	1.99	15		

* p value of 0.0006 is less than 0.05

In the control group, since the p value is less than 0.05 in the WHOQOL brief scale, alternate hypothesis is accepted. Hence, there is statistically significant difference in Control Group between pre-test and post test scores of WHOQOL brief scales. This suggests that the intervention received by the control group had significant improvement.

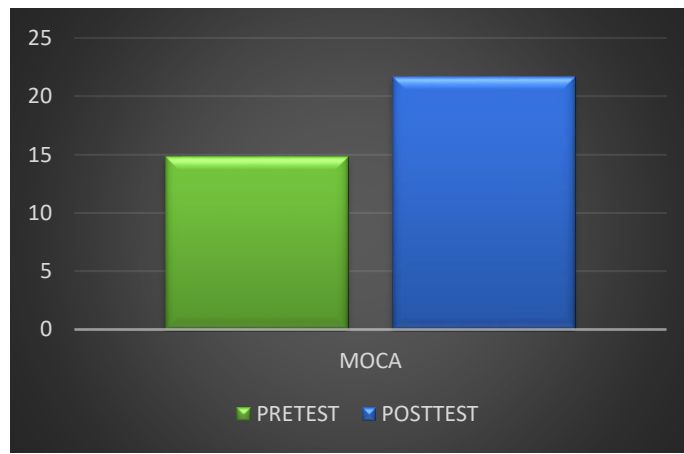


Statistical analysis of pre- test and post- test of MOCA in experimental group

	Mean	SD	N	Z value	p value
E_MOCA_Pre	14.8	2.03	15	-3.40	0.0006
E_MOCA_Post	21.7	2.12	15		

* p value of 0.0006 is less than 0.05

In the experimental group, since the p value is less than 0.05 in the MOCA scale, alternate hypothesis is accepted. Hence, there is statistically significant difference in Experimental Group between pre-test and post test scores of MOCA scales. This suggests that the intervention (individualized self-monitoring and motivational program) received by the experimental group had significant improvement.

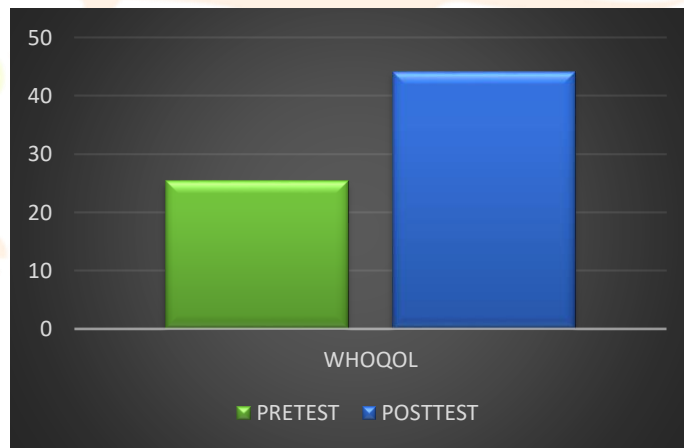


Statistical analysis of pre- test and post- test of WHOQOL brief in experimental group.

	Mean	SD	N	Z value	p value
E_WHOQOL_Pre	25.3	1.57	15	-3.40	0.00064
E_WHOQOL_Post	44.1	2.35	15		

* p value of 0.005 is less than 0.05

In the experimental group, since the p value is less than 0.05 in the WHOQOL scale, alternate hypothesis is accepted. Hence, there is statistically significant difference in experimental Group between pre-test and post test scores of WHOQOL scales. This suggests that the intervention (individualized self-monitoring and motivational program) received by the experimental group had significant improvement.

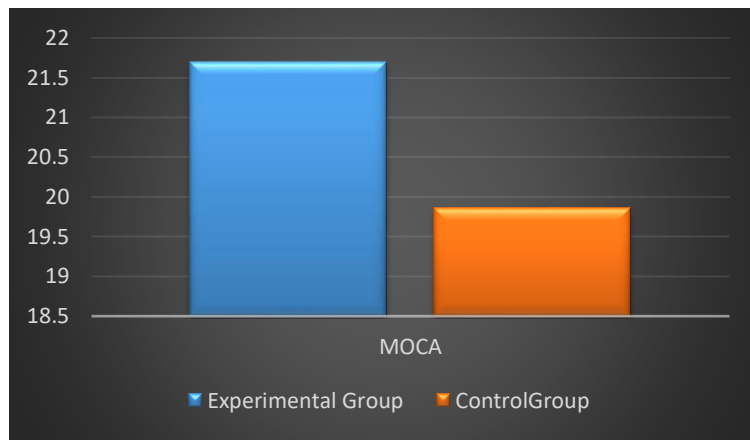


Statistical analysis between the post- test scores of MOCA in control and experimental group.

	Mean	SD	N	Z value	p value
C_MOCA_Post	21.7	2.12	15	2.26	0.024
E_MOCA_Post	19.86	1.76	15		

* p value of 0.005 is less than 0.05

Since the p value is lesser than 0.05 in MOCA scale, alternate hypothesis is accepted. Hence, there is statistically significant difference in post test scores between Experimental and Control Group of MOCA scale. This suggests that the intervention (individualized self-monitoring and motivational program) received by the experimental group had more improvement when compared to the control group.

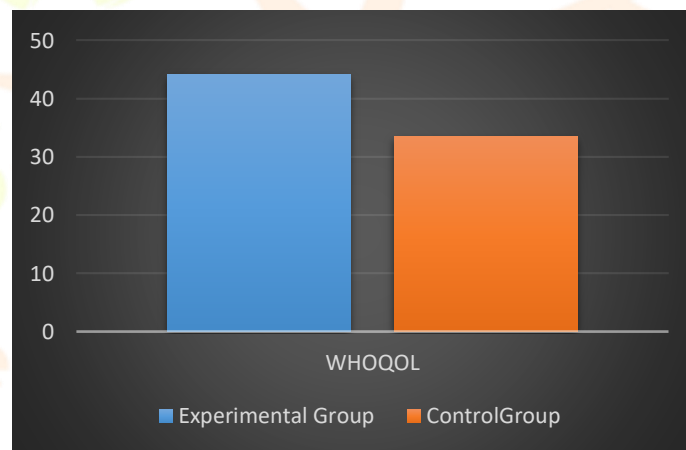


Statistical analysis between the post- test scores of WHOQOL brief in control and experimental group.

	Mean	SD	N	Z value	p value
C_WHOQOL_Post	44.1	2.35	15	4.64	0.00001
E_WHOQOL_Post	33.46	1.99	15		

* p value of 0.005 is less than 0.05

Since the p value is lesser than 0.05 in WHOQOL brief scale, alternate hypothesis is accepted. Hence, there is statistically significant difference in post test scores between Experimental and Control Group of WHOQOL brief scale. This suggests that the intervention received by the experimental group had more improvement when compared to the control group.

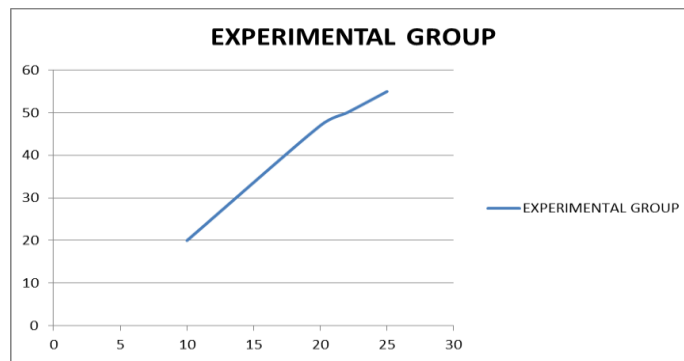


Correlation between the post test scores of MOCA and WHOQOL in experimental group.

	Mean	SD	N	Rs value	p value
MOCA	21.7	2.12	15	0.965	0.003
WHOQOL	44.1	2.35	15		

* $R_s = 0.967$, p (2-tailed) = 0.003

In correlation MOCA and WHOQOL scale, alternate hypothesis is accepted. Hence, there is statistically significant difference in experimental Group between post-test scores of MOCA and WHOQOL scales. This suggests that the intervention received by the experimental group (individualized self-monitoring and motivational program) had significant improvement.



Result

The study resulted that the Individualized Self-Monitoring and Motivational Program had an effect on cognition and Quality of life among Schizophrenia people. This study also showed that Individualized Self-Monitoring and Motivational Program had a significant effect on cognition and Quality of Life when compared to conventional therapy.

Conclusion

The study concluded that Individualized Self-Monitoring and Motivational Program was effective among Schizophrenia people on cognition and Quality of life. Hence the Individualized Self-Monitoring and Motivational Program can be used for persons with schizophrenia.

Clinical implication of the study

One of the most clinically relevant finding of the study was that the participants were motivated and interested to do activities – based cognitive skill games, furthermore there was significant improvement in the experimental group when comparing with the control group in both the aspects of cognitive skills and quality of life. This improvement in cognitive skill will further improve the other functions ADL, social skill, and leisure of the patients with schizophrenia. The patients are more interested in involving motivational program rather than performing activities. This motivational based cognitive skill activities can be provided to patients with other conditions like bipolar, obsessive-compulsive disorder, intellectual disability, major depressive disorder.

Limitations

- ✓ The sample size was small.
- ✓ Since convenient sample technique was used, the generalization of the result could not be done.
- ✓ The long-term effects of the intervention were not analyzed.
- ✓ patients below 20 and above 55 years were not included.
- ✓ The comparison between both the genders were not done.
- ✓ The patients with other mental health issues were not included.

Recommendations

- ❖ This study recommends continuing follow up of participants to identify the long-term effects of motivational based cognitive skill intervention on schizophrenia, which might further impact on their quality of life.
- ❖ Further this study can be implicated on larger probability sample and doing a randomized control study for generalization of the result.
- ❖ This study can be further carried out in children below 20 years and above 55 years and by doing a comparison between the genders.
- ❖ This motivational based cognitive skill intervention can also be used in patients with other conditions like, major depressive disorder, obsessive compulsive disorder, bipolar, etc., for those who have cognitive skills issues.
- ❖ This motivational based cognitive skill intervention can be used along with sensory integration activities to improve the cognitive skills in patients with moderate schizophrenia, which might impact their quality of life.

Reference

Shimada, T., Ohori, M., Inagaki, Y., Shimooka, Y., Sugimura, N., Ishihara, I., ... & Kobayashi, M. (2018). A multicenter, randomized controlled trial of individualized occupational therapy for patients with schizophrenia in Japan. *PLoS One*, *13*(4), e0193869.

Velligan, D. I., Bow-Thomas, C. C., Huntzinger, C., Ritch, J., Ledbetter, N., Prihoda, T. J., & Miller, A. L. (2000). Randomized controlled trial of the use of compensatory strategies to enhance adaptive functioning in outpatients with schizophrenia. *American Journal of Psychiatry*, *157*(8), 1317-1328.

Bejerholm, U. (2010). Occupational balance in people with schizophrenia. *Occupational Therapy in Mental Health*, *26*(1), 1-17.

Foruzandeh, N., & Parvin, N. (2013). Occupational therapy for in patients with chronic schizophrenia: a pilot randomized controlled trial. *Japan Journal of Nursing Science*, *10*(1), 136-141.

Lieberman, R. P., Wallace, C. J., Blackwell, G., Kopelowicz, A., Vaccaro, J. V., & Mintz, J. (1998). Skills training versus psychosocial occupational therapy for persons with persistent schizophrenia. *American Journal of Psychiatry*, *155*(8), 1087-1091.

Rus-Calafell, M., Gutiérrez-Maldonado, J., Ortega-Bravo, M., Ribas-Sabaté, J., & Caqueo-Urizar, A. (2013). A brief cognitive-behavioural social skills training for stabilised outpatients with schizophrenia: A preliminary study. *Schizophrenia research*, *143*(2-3), 327-336.

Perilli, V., Stasolla, F., Maselli, S., & Morelli, I. (2018). Occupational therapy and social skills training for enhancing constructive engagement of patients with schizophrenia: A review. *Clinical Research in Psychology*, *1*(1), 1-7.

Katz, N., & Keren, N. (2011). Effectiveness of occupational goal intervention for clients with schizophrenia. *The American Journal of Occupational Therapy*, *65*(3), 287-296.

Foruzandeh, N., & Parvin, N. (2013). Occupational therapy for inpatients with chronic schizophrenia: a pilot randomized

controlled trial. *Japan Journal of Nursing Science*, 10(1), 136-141.

Bejerholm, U. (2010). Occupational balance in people with schizophrenia. *Occupational Therapy in Mental Health*, 26(1), 1-17.

Hoshii, J., Yotsumoto, K., Tatsumi, E., Tanaka, C., Mori, T., & Hashimoto, T. (2013). Subject-chosen activities in occupational therapy for the improvement of psychiatric symptoms of inpatients with chronic schizophrenia: a controlled trial. *Clinical rehabilitation*, 27(7), 638-645.

Bejerholm, U. (2010). Occupational balance in people with schizophrenia. *Occupational Therapy in Mental Health*, 26(1), 1-17.

Hoshii, J., Yotsumoto, K., Tatsumi, E., Tanaka, C., Mori, T., & Hashimoto, T. (2013). Subject-chosen activities in occupational therapy for the improvement of psychiatric symptoms of inpatients with chronic schizophrenia: a controlled trial. *Clinical rehabilitation*, 27(7), 638-645.

Buchain, P. C., Vizzotto, A. D. B., Henna Neto, J., & Elkis, H. (2003). Randomized controlled trial of occupational therapy in patients with treatment-resistant schizophrenia. *Brazilian Journal of Psychiatry*, 25, 26-30.

Chen, Z. H., Wang, G. H., Wang, X. P., Huo, Y. X., Yang, M. H., Li, L., & Mei, H. B. (2009). Effect of Warm-Supplementing Kidney Yang (WSKY) added to risperidone on quality of life in patients with schizophrenia: a randomized controlled trial. *Clinical Rehabilitation*, 23(11), 963-972.

Mao, H. F., Tsai, A. Y. J., Chang, L. H., & Tsai, I. L. (2021). Multi-component cognitive intervention for older adults with mixed cognitive levels: implementation and preliminary effectiveness in real-world settings. *BMC geriatrics*, 21(1), 1-9.

Huri, M., Huri, E., Kayihan, H., & Altuntas, O. (2015). Effects of occupational therapy on quality of life of patients with metastatic prostate cancer: a randomized controlled study. *Saudi medical journal*, 36(8), 954.

Mariotti, M. C., & Rocha de Carvalho, J. G. (2011). Improving quality of life in hemodialysis: impact of an occupational therapy program. *Scandinavian journal of occupational therapy*, 18(3), 172-179.

Mao, H. F., Tsai, A. Y. J., Chang, L. H., & Tsai, I. L. (2021). Multi-component cognitive intervention for older adults with mixed cognitive levels: implementation and preliminary effectiveness in real-world settings. *BMC geriatrics*, 21(1), 1-9.

O'Flynn, P., O'Regan, R., O'Reilly, K., & G Kennedy, H. (2018). Predictors of quality of life among inpatients in forensic mental health: implications for occupational therapists. *BMC psychiatry*, 1811.

Huri, M., Huri, E., Kayihan, H., & Altuntas, O. (2015). Effects of occupational therapy on quality of life of patients with metastatic prostate cancer: a randomized controlled study. *Saudi medical journal*, 36(8), 954.

Yang, S. Y., Wang, J. D., & Chang, J. H. (2020). Occupational therapy to improve quality of life for colorectal cancer survivors: A randomized clinical trial. *Supportive Care in Cancer*, 28, 1503.