# A Transdisciplinary Model For Cognitive Behavioural Therapy For Psychosis (CBTp) Delivery And Positive Symptom Reduction In Psychosis: The Investigation of CBTp By Nurses in Singapore (ICoNS) Study

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## BACKGROUND

Cognitive Behavioural Therapy for Psychosis (CBT-p) is a well-established treatment for schizophrenia (National Institute of Health and Care Excellence, 2014). However, limited access to qualified therapists remains a challenge in Singapore. To further increase the accessibility for patients with psychosis, other countries had trained healthcare providers such as nurses to deliver CBTp, which had demonstrated some effectiveness in reducing psychotic symptoms (Turkington et al., 2006; England, 2007). To address this, a novel program was implemented at the Institute of Mental Health (IMH) for clinical psychologists to train Advanced Practice Nurses (APNs) in delivering CBT-p.

## OBJECTIVE

This study aimed to investigate the effectiveness of 12-16 weekly sessions of CBTp conducted by APNs in reducing psychotic symptoms in Singapore. We hypothesized that the participants with schizophrenia who underwent CBTp sessions conducted by APNs will have a reduction in psychotic symptoms at the end of CBTp treatment and at 3 months follow-up.

## METHOD

The APNs had undergone two years of clinical training with clinical psychologists to learn how to conduct CBTp. The APNs' competence in CBT-p delivery was assessed using the Cognitive Therapy Scale-Revised (CTS-R) by clinical psychologists, with a minimum score of three required on all items. Weekly supervision by clinical psychologists was given to ensure the fidelity to CBT-p. Ten outpatients with schizophrenia, recruited from the outpatient clinic at IMH since June 2023, received 12-16 weekly CBTp sessions by APNs.

Data was analysed using Statistical Product and Service Solutions (SPSS) Version 22. Due to the limited sample size, nonparametric tests were utilised for the analysis. A Friedman Test was conducted to assess differences between the Positive and Negative Syndrome Scale (PANSS) subscale scores across four time points. For any significant differences observed between two specific time points, the Wilcoxon signed rank test was employed for post-hoc analysis.
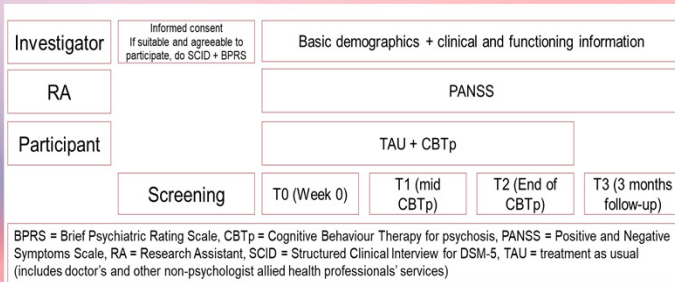


BPRS = Brief Psychiatric Rating Scale, CBTp = Cognitive Behaviour Therapy for psychosis, PANSS = Positive and Negative Symptoms Scale, RA = Research Assistant, SCID = Structured Clinical Interview for DSM-5, TAU = treatment as usual (includes doctor's and other non-psychologist allied health professionals' services)

Fig 1. Study procedures across time

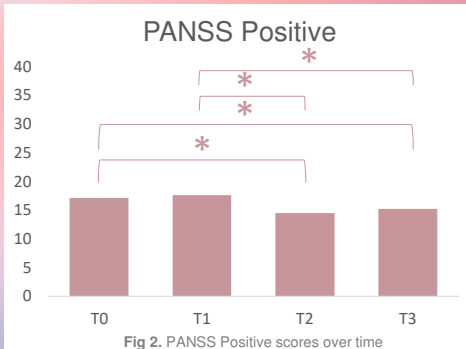| Variable | Category/ Mean (SD) | n (%) |
|---|---|---|
| Sex | Male | 6 (60%) |
| | Female | 4 (40%) |
| Average Age | 33.5 ($SD$ = 9.82) | |
| Ethnicity | Chinese | 5 (50%) |
| | Malay | 2 (20%) |
| | Indian | 2 (20%) |
| | Others | 1 (10%) |
| Years of Education | 12.3 ($SD$ = 2.99) | |
| Duration of Psychosis | 9.4 ($SD$ = 8.67) | |
| BPRS Severity Score | 36 ($SD$ = 7.53) | |

**Table 1.** Demographics of the sample



**Fig 2.** PANSS Positive scores over time

## RESULTS

The Friedman test revealed that CBTp significantly reduced PANSS positive symptoms in individuals with schizophrenia ($\chi^2(3)$ = 15.942, $p$ < .001). PANSS negative ($\chi^2(3)$ = 4.484, $p$ = 0.214) and generalised symptoms ($\chi^2(3)$ = 5.380, $p$ = 0.146) were not significant.

The Wilcoxon signed rank test for the PANSS positive subscale demonstrated significant differences for T0 to T2 (Z = -2.536, $p$ = 0.011), T0 and T3 (Z = -2.094, $p$ = 0.036), T1 to T2 (Z = -2.552, $p$ = 0.011), T1 to T3 (Z = -2.555, $p$ = 0.011). This indicated sustained improvement after 3 months.

## DISCUSSION AND CONCLUSION

Like past studies, this study suggests that utilising APNs to deliver CBT-p shows promise as a novel approach for managing positive symptoms in people with schizophrenia, particularly in settings with limited therapist resources. This also potentially opens avenues for transdisciplinary practice in mental healthcare, encouraging collaborations between disciplines. As the study was limited by a small sample single-arm design, future research with larger samples is needed to explore effects on negative symptoms and general psychopathology, and to include a control group for comparison.

## REFERENCES

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Turkington, D., Kingdon, D., Rathod, S., Hammond, K., Pelton, J., amp; Mehta, R. (2006). Outcomes of an effectiveness trial of cognitive–behavioural intervention by mental health nurses in schizophrenia. *British Journal of Psychiatry*, 189(1), 36-40. doi:10.1192/bjp.bp.105.010884