

# Culturally adapted computerised cognitive remediation for first episode psychosis among South Asian groups in the UK: a mixed-methods feasibility study

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## Background

- Cognitive deficits associated with psychotic illness are predictive of long-term functioning
- Computerized cognitive remediation (CR) aims to improve cognition and therefore functioning
- British South Asians have a higher incidence of psychotic illness compared to their White British peers
- Aim: how best to culturally adapt CR and consider the acceptability and efficacy of culturally adapted cognitive remediation (caCR) for British South Asians with first episode psychosis

## Methodology

- Formative qualitative interviews and case series
- Our sample consisted of 20 participants in total, 10 participants were included in the formative qualitative interviews and 10 participants included in the feasibility evaluation
- Computerized interactive remediation of cognition training for schizophrenia (CIRCuiTS) was culturally adapted using an established framework – See Figure 1
- Feasibility was explored by assessing acceptability, engagement, retention in the study, and the attainment of a range of measures were used to assess impact on cognition and mental state

Figure 1: Screenshots from CIRCuiTS software



Table 1: Descriptive statistics for qualitative study

Demographics		N
Gender	Male	6
	Female	4
Age	16-19	3
	20-23	2
	23-26	2
	26-30	3
Ethnicity	British Asian	2
	British Pakistani	3
	Asian	1
	Indian	2
Country of Birth	Pakistani	2
	UK	7
	Bahrain	1
Immigrant generation	1 <sup>st</sup>	4
	2 <sup>nd</sup>	4
	3 <sup>rd</sup>	2
Education level	High School	5
	Further Education	5
	Higher Education	0
Current employment	Unemployed	7
	Student	3
Number in household	3	1
	4	2
	5	4
	6	0
	7	1
	Supported accommodation	2
Medication	Atypical antipsychotic	9
	No antipsychotic	1

Table 2: Descriptive statistics for feasibility study

Categorical Variables		N (%)
Gender	Male	5 (50%)
	Female	5 (50%)
Ethnicity	British	1 (10%)
	British Asian	2 (20%)
	British Pakistani	1 (10%)
	Indian	1 (10%)
	Pakistani	5 (50%)
Immigrant generation	2 <sup>nd</sup>	9 (90%)
	3 <sup>rd</sup>	1 (10%)
Education level	High School completed	10 (100%)
	Further Education	10 (100%)
	Higher Education	0 (0%)
Current employment	Unemployed	7
	Student	3
Medication	Aripiprazole	3 (30%)
	Clozapine	1 (10%)
	Olanzapine	3 (30%)
	Quetiapine	1 (10%)
	Risperidone	1 (10%)
	No medication	1 (10%)
Continuous Variables		Mean (SD)
Age		24.7 (4)
Number in household		5.4 (0.84)

## Results

### Qualitative

- Participant demographics are displayed in Table 1
- Thematic analysis revealed themes relating to the importance and need for interventions to address cognitive impairment and how best to culturally adapt cognitive remediation – how to adapt content of tasks, how best to deliver and how to make engaging.

### Feasibility

- Participant demographics are displayed in Table 2
- Self-perceived changes in concentration, memory and alertness are seen in Table 4

Table 3: Feasibility outcomes

Aspect of feasibility	Outcome
Retention	• 2 participants did not complete caCR (20% of the sample)
Acceptability	<ul style="list-style-type: none"> <li>• 7 of the 8 participants felt they had improved as the therapy proceeded and all reported they felt better, and that they had greater confidence</li> <li>• High levels of engagement and satisfaction overall</li> <li>• Enthusiasm and engagement was determined by family engagement, how challenging tasks were and therapeutic alliance</li> </ul>

Table 4: Self perceived changes in cognition

Aspect of Cognition	Perception N(%)		
	Still a problem	Helped at the time	Helped permanently
Concentration	1 (12.5%)	5 (62.5%)	2 (25%)
Memory	1 (12.5%)	4 (50%)	3 (37.5%)
Alertness	1 (12.5%)	4 (50%)	3 (37.5%)

## Discussion

- Computerized CR was well received by all respondents, who recommended modifications to the content and mode of delivery
- Results from the satisfaction questionnaire showed that CaCR was highly acceptable as an intervention to this sample of British South Asian first episode psychosis sufferers
- Levels of engagement and satisfaction were high
- Enthusiasm and engagement were determined by family engagement, the challenge of the tasks, and therapist contact
- We identified that the family was central to optimising delivery and engagement
- This study has not estimated effect size of the intervention
- Further feasibility data, including deriving eligible numbers to power an RCT and assessment of willingness to be randomised is needed to fully satisfy that this intervention can be employed in a trial

## Conclusions

- Using formative qualitative interviews, we successfully culturally adapted CIRCuiTS for first episode psychosis sufferers of British South Asian background in the UK
- We have demonstrated that such an intervention is feasible, showing high acceptability, with good retention, engagement, and satisfaction
- Further feasibility work is needed to estimate specific parameters for a RCT