

## Insight, psychopathology and global functioning in schizophrenia in urban Malawi

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**Summary** Insight, psychopathology and functioning are related in schizophrenia, but it is unclear whether insight relates independently to functioning after controlling for psychopathology. Equally, any such relationship may vary culturally. We investigated the relationship between insight, psychopathology and functioning in 60 patients with schizophrenia in Mzuzu, a town in Malawi. After controlling for psychopathology, functioning was associated with the 'symptom relabelling' dimension of insight ( $P=0.01$ ). This preliminary finding suggests that symptom-focused psychoeducation might be appropriate for African patients with schizophrenia.

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Insight is a core concept in psychosis, and its relationship to psychopathology and functioning in schizophrenia continues to be examined (Amador & David, 2004). Insight correlates closely with symptom severity (Mintz *et al*, 2003), but it is unclear whether insight has an association with functional outcome independent of its association with psychotic symptoms.

Most insight research has been carried out in the West, but concepts of mental illness vary across cultures (Saravanan *et al*, 2004) and the findings of Western insight studies do not automatically apply elsewhere. Although a literature is emerging in Asia (Kim *et al*, 1997; Tharyan & Saravanan, 2000), the sole African study that examined insight related it only to adherence (Adewuya *et al*, 2006). To address this deficit, we investigated the relationship

of the dimensions of insight to psychopathology and particularly functioning among 60 Malawians with schizophrenia.

### METHOD

The study centre was the St John of God Community Mental Health Service in Mzuzu. Mzuzu is the largest town in northern Malawi, with a population of over 100 000. Tumbuka is spoken by all Mzuzu residents, and English by most. Christianity, the main religion, coexists with traditional spiritual beliefs. These beliefs influence perceptions of mental illness and of individual symptoms. The traditional explanation for mental illness is *ulowi*, bewitchment, whereas auditory hallucinations are typically interpreted as the voices of deceased ancestors. Traditional healers, *sing'anga*, are frequently consulted. The sample comprised the first 60 people with schizophrenia, schizophreniform disorder or schizoaffective disorder recruited to a randomised controlled trial of carer education. We received ethical approval from the National Health Sciences Research Committee, Lilongwe, and obtained written informed consent from participants.

We diagnosed participants using the Structured Clinical Interview for DSM-IV-TR (SCID; First *et al*, 2002). During this interview we assessed illness duration and the type of treatment sought at onset, and rated functioning with the Global Assessment of Functioning scale (GAF; SCID Axis V). Insight was rated using the Schedule for Assessment of Insight (SAI; David, 1990). The SAI rates three dimensions of insight: treatment adherence (SAI-TA), recognition of illness (SAI-RI) and symptom relabelling (SAI-SR). Symptom relabelling involves the recognition of a psychotic symptom and the understanding that it is a pathological event. The sub-scale totals are summed for a total

insight score. To measure psychopathology, we used the Scale for the Assessment of Positive Symptoms (SAPS; Andreasen, 1984) and the Scale for the Assessment of Negative Symptoms (SANS; Andreasen, 1983).

Two researchers collaborated with four staff members from St John of God centre on translating instruments into Tumbuka. After independent translations, a consensus meeting was held at which definitive translations were agreed. Adequate interrater reliability ( $\kappa > 0.8$ ) was achieved on all measures, post-translation.

We used bivariate correlations to identify relationships between insight, psychopathology and functioning. We entered unadjusted correlates of SAPS, SANS and GAF as independent variables into hierarchical stepwise regression models with SAPS, SANS and GAF as dependent variables. We added total insight to each model before replacing it with each insight dimension in turn. For each dependent variable, the best regression model was that with the largest  $R^2$  value.

### RESULTS

Clinical and demographic characteristics of the sample are shown in Table 1. Of those with a diagnosis other than schizophrenia ( $n=6$ ), 4 had schizophreniform disorder and 2 had schizoaffective disorder.

Scores on SAI-SR were correlated with SAI-TA ( $\rho=0.32$ ,  $P=0.01$ ). SAI-RI and SAI-SR scores were highly correlated ( $\rho=0.62$ ,  $P<0.001$ ). SAI-RI and SAI-TA scores were related at a trend level ( $\rho=0.24$ ,  $P=0.06$ ).

In bivariate correlations, SAPS total score was inversely associated with SAI total score ( $\rho=-0.39$ ,  $P=0.002$ ), SAI-SR ( $\rho=-0.46$ ,  $P<0.001$ ) and SAI-TA ( $\rho=-0.31$ ,  $P=0.02$ ). After stepwise regression, correlates of SAPS total score were SAI-SR ( $R^2$  change=0.15,  $P=0.002$ ) and duration of illness ( $R^2$  change=0.06,  $P=0.04$ ). Longer illness correlated with more severe symptoms. The SANS total score was correlated with SAI-TA ( $\rho=-0.31$ ,  $P=0.02$ ), and SAI-TA was the only independent variable in the regression model predicting SANS total ( $R^2$  change=0.11,  $P=0.01$ ).

In bivariate correlations, GAF correlated positively with total insight ( $\rho=0.47$ ,  $P<0.001$ ), SAI-SR ( $\rho=0.48$ ,  $P<0.001$ ), SAI-TA ( $\rho=0.46$ ,  $P<0.001$ ) and SAI-RI ( $\rho=0.31$ ,  $P=0.02$ ). The best regression model explained 64% of GAF variance.

It comprised SAPS total ( $R^2$  change= 0.33,  $P < 0.001$ ), SANS total ( $R^2$  change= 0.23,  $P < 0.001$ ), SAI-SR ( $R^2$  change= 0.05,  $P = 0.01$ ) and lifetime cannabis misuse ( $R^2$  change=0.04,  $P = 0.01$ ).

## DISCUSSION

This was a study of the relationship between insight, psychopathology and functioning in an urban Malawian population among whom traditional beliefs were widely held, as indicated by the proportion of patients initially seeking traditional treatments. Low scores on recognition of illness and symptom relabelling may reflect participants' attribution of illness and individual symptoms to *ulowi* or ancestors. Our principal finding was that insight correlated positively with global functioning, independent of confounders. This finding is in keeping with most Western studies (Pini *et al*, 2001; Lysaker *et al*, 2007). In finding a positive correlation between symptom relabelling and functioning, we differ with Mutsatsa *et al* (2006), but we also differed in methodology. Theirs was a first-episode sample, whereas ours was a prevalence sample, and they measured social functioning, whereas we measured global functioning.

Two explanations offer themselves for the relationship between relabelling and functioning. First, the ability to relabel

**Table 1** Characteristics of the sample ( $n=60$ )

Variable	Score	Range
Age, years: mean (s.d.)	33.7 (9.8)	20–65
Male gender, $n$ (%)	33 (55)	
Years of education completed: mean (s.d.)	9.1 (3.0)	3–16
Illness duration, years: mean (s.d.)	8.6 (5.9)	0.2–26.0
Traditional healer consulted at onset, $n$ (%)	23 (38)	
Diagnosis of schizophrenia, $n$ (%)	54 (90)	
Lifetime cannabis misuse, $n$ (%)	12 (20.0)	
Lifetime alcohol misuse, $n$ (%)	10 (17)	
SAPS total: mean (s.d.)	3.1 (4.1)	0–14
SANS total: mean (s.d.)	4.2 (4.7)	0–18
SAI total: mean (s.d.)	6.8 (4.1)	0–14
SAI-TA: mean (s.d.)	3.2 (1.1)	0–4
SAI-RI: mean (s.d.)	2.3 (2.3)	0–6
SAI-SR: mean (s.d.)	1.4 (1.5)	0–4
GAF: mean (s.d.)	58.9 (14.5)	24–80

GAF, Global Assessment of Functioning; SAI, Schedule for Assessment of Insight (RI, recognition of illness; SR, symptom relabelling; TA, treatment adherence); SANS, Scale for the Assessment of Negative Symptoms; SAPS, Scale for the Assessment of Positive Symptoms.

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symptoms may be related to improved cognitive performance, which is itself associated with improved functioning (Morgan & David, 2004). Alternatively, the functional impairment caused by psychotic symptoms may relate to the meaning given to the symptoms as well as to the symptoms themselves. Although our study design cannot show causation, one interpretation could be that psychotic symptoms are functionally harmful regardless of their perceived origin, but it is more harmful to believe that an ancestor is communicating with you than to know that you are experiencing a hallucination. Understanding the origin of psychotic symptoms may ameliorate functional harm, even when the symptoms themselves persist. This preliminary finding suggests that symptom-focused psychoeducation might be appropriate for this population.

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