

Positive and Negative Syndrome Scale. A comparison of interview reports and informant rated PANSS. Are we accurately assessing and identifying unmet treatment need?



Trinity
College
Dublin

The University of Dublin

Hania Amin ^{1,2}, Eimear Ni Mhuirheartaigh ^{1,2}, Harry G Kennedy ^{1,2}, Mary Davoren ^{1,2}
¹ National Forensic Mental Health Service, Central Mental Hospital, Dundrum, Dublin, Ireland
² The Dundrum Centre for Forensic Excellence, Trinity College Dublin, Ireland.



Introduction

The Positive and Negative Syndrome Scale (PANSS) is a measure for rating the severity of symptoms in schizophrenia. It is widely considered a valid and reliable instrument for rating change in symptoms of psychosis both in clinical and research settings. It provides a standardised evaluation of psychopathology that helps to characterise a patient's clinical profile and monitor treatment response. Although PANSS interview is estimated to last 30-40 minutes but for an unwell patient, it may take significantly longer time e.g. up to an hour depending on the patient's mental state.

Interviewing patients to obtain their own views of their symptoms is important for engagement. However, the 30-item PANSS is an exacting interview for patients. For interview rated measure of symptoms such as PANSS, accuracy is dependent on the patient's ability to recognise their own symptoms, concentrate and answer accurately. There are high rates of treatment resistant psychoses among patients in secure forensic hospitals. Those who are acutely unwell with florid psychotic symptoms may be unable or unwilling to engage in these interviews. Research and evaluation studies that include interview-only measures may exclude many of this group. Excluding the most unwell patients significantly biases results and may render the study unethical. Accurately completed and accurate service evaluation and research in forensic psychiatric hospital settings should include all patients and it is particularly important to include the most unwell group, as research is most needed in this area in order to ensure they progress in terms of their health and their recovery.

Aim:

We set out to validate an informant-rated PANSS while using SCI-PANSS in the Central Mental Hospital, Dundrum Dublin. We hypothesized that this would give a more accurate picture of the total psychopathology of forensic in-patient cohort at the Dundrum Hospital, Ireland.

Methods.

Study design

This is a naturalistic, cross-sectional, observational study of a national cohort of forensic in-patients. The 30-item PANSS was offered to all patients in a National Forensic Mental Health Service (n=94) to be completed by face-to-face interviews with the researcher. The 30-item PANSS was independently rated by informant interview for the same national in-patient cohort with the psychiatry registrars who are part of respective treating teams. We also took measures of MIRECC GAF, rated by treating consultants, and measures of programme completion and recovery (DUNDRUM-3 and DUNDRUM-4) rated by Consultant led Multi-disciplinary teams. Correlations were calculated using Cronbach's alpha.

All the psychiatry registrars have completed a thorough and in-depth PANSS training and used the standard rating criteria along with SCI-PANSS while doing the informant rated PANSS.

Setting

The study was conducted at Central Mental Hospital Dundrum, Dublin, Ireland. The hospital represents a complete national cohort for a population of 5 million, as it is the only site for forensic in-patient treatment in the country. We invited all the in-patients at Dundrum Hospital to take part in PANSS interview with the researcher.

Variables

PANSS (Positive and Negative Syndrome Scale) is a widely used validated measure of symptom severity. The 30-item PANSS is considered an operationalized, treatment-sensitive instrument that provides adequate representation of positive and negative symptoms and global psychopathology.

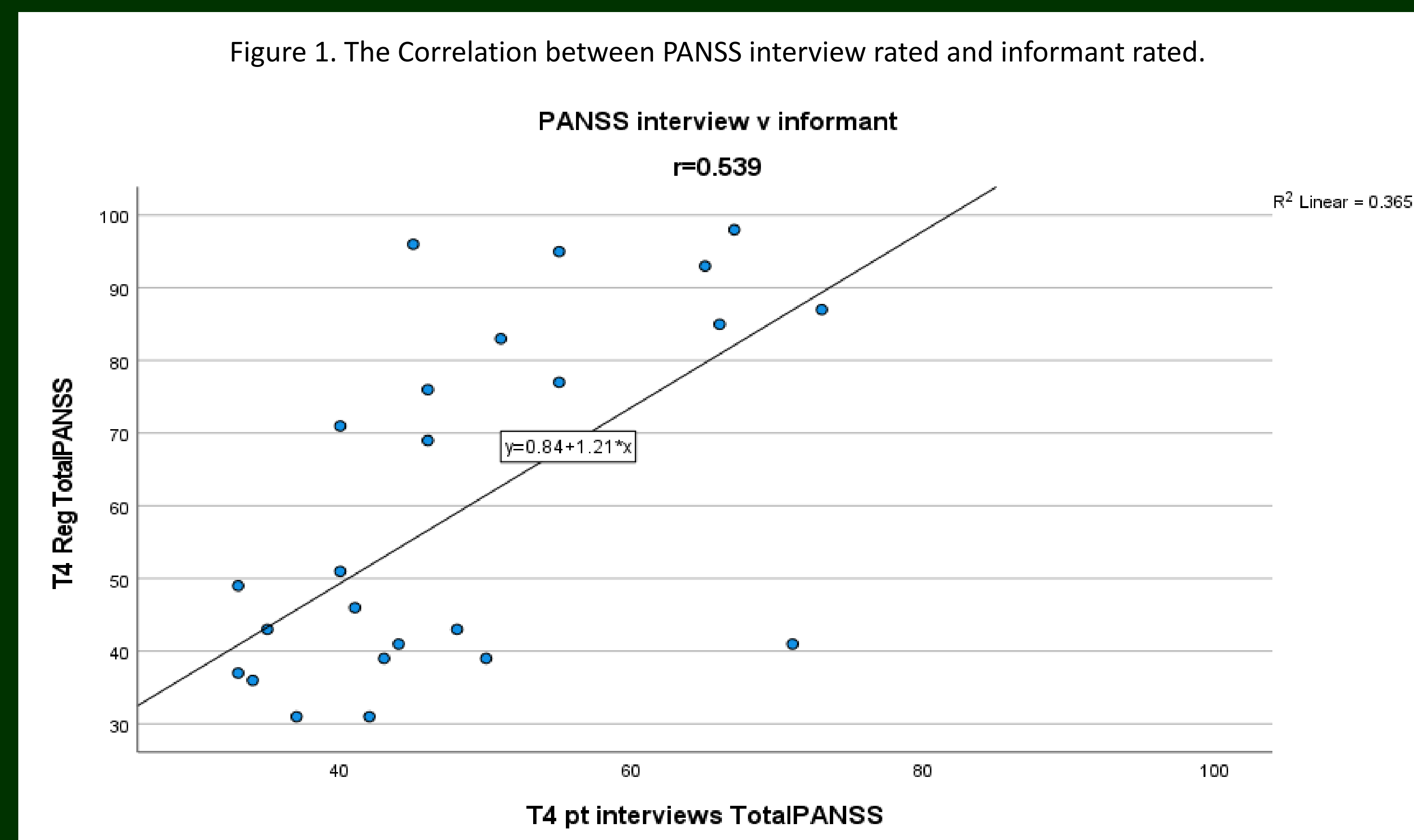
Ethical approval:

Ethical approval was granted by the Central Mental Hospital Audit, Research and Ethics Committee, decision number: AUD/140220/MD.

Results.

All the in-patients were offered to participate in PANSS interview in December 2021 (n=97) regardless of their level of therapeutic security. We found that 56 in-patients (57.73%) were able to consent and completed the interview. Of the 56 in-patients 50 were males and 6 were females. The mean age was 45.6 years (S.D=11).

The most common diagnosis was schizophrenia (n=35, 62.5%), followed by schizoaffective disorder (n=12, 21.4%) and Bipolar Affective disorder (n=3, 5.4%). 5.4% (n=3) had Intellectual disability and Autistic Spectrum disorder.



Interview and informant rated PANSS positive scales correlated ($r=0.693$, $p<0.001$); as did interview and informant rated PANSS negative scales ($r=0.462$, $p<0.001$), PANSS general ($r=0.561$, $p<0.001$), PANSS total ($r=0.539$, $p<0.001$) and S1-S3 ($r=0.682$, $p<0.001$). We found that informant rated PANSS positive, PANSS negative, PANSS general, PANSS total and S1-3 scales correlated more strongly with GAF, DUNDRUM-3 and DUNDRUM-4 than did the interview rated PANSS (Fig.1).

Discussion:

Overall, patients on the acute and high dependency wards of the National Forensic Mental Health Service were far less likely to engage with the PANSS interview, than those on recovery wards. It was therefore clear that if we limited our use of PANSS in evaluation and research to interview only PANSS, we would significantly underestimate the level of psychopathology and unmet need in the patient cohort of the NFMHS.

By utilising the informant PANSS in addition to offering patients the interview rated PANSS, we were able to get the best of both worlds. We achieved patient engagement with the research, offered the patients to have their voices heard in the project, but ensured that all patients were included and that those who were most unwell with psychotic symptoms were not excluded and their needs not accurately identified and collated.

Overall, the blended PANSS method with the informant rated and interview rated PANSS scales ensured that more patients in the cohort could be included in this study, making the sample more representative of the national cohort of forensic in-patients.

The recovery process in forensic setting aims at symptom improvement as well as reducing the risk of recidivism with an overall improved quality of life. The measure of symptom severity is very important in assessing recovery and progress. An ideal instrument shall have the capability to be generalised to all forensic in-patient population. In researchers' view, PANSS is a long and exacting interview for the unwell patients. Research in forensic and other hospital settings is ethically bound to include the most unwell patient group as well as the patients who are well enough to engage in interview measures. To exclude the acutely unwell patient group will cause bias and may give a false impression that patients are improving on the recovery pathway. This underestimates the level of psychopathology in the patient cohort if evaluation studies only rely exclusively on interview measures.

PANSS informant has not been used as a tool in general for assessing symptom severity and this is the first study, that we know of, to validate informant rated PANSS in a psychiatric in-patient setting.

Conclusions

Interviews engage patients, but Informant rated PANSS demonstrated strengths over and above the interview rated measure, including correlations with other measures demonstrating accuracy as well as ensuring the measures of symptoms for even the most unwell patients in the secure hospital were included. We advocate a blended method of rating symptoms for secure services, for clinical and research uses, to balance engagement and accuracy.

References:

- Kay SR, Fiszbein A, Opler LA. The positive and negative syndrome scale (PANSS) for schizophrenia. Schizophrenia bulletin. 1987 Jan 1;13(2):261-76.
- Harry G Kennedy, Conor O'Neill, Grainne Flynn, Pauline Gill, Mary Davoren, The DUNDRUM Toolkit V1.0.30, 1.0.30, Dublin, TARA, 2016, 1 – 14. <http://www.tara.tcd.ie/handle/2262/76545>
- Løvgren PJ, Laake P, Reitan SK, Narud K. Assessing psychotic symptoms in forensic evaluations of criminal responsibility—a pilot study using Positive And Negative Syndrome Scale. The Journal of Forensic Psychiatry & Psychology. 2020 Jul 3;31(4):490-502.