

## AN AUDIT TO ASSESS THE CONSEQUENCES OF THE USE OF A PLURIPOTENTIAL RISK SYNDROME: THE CASE TO MOVE ON FROM “PSYCHOSIS RISK SYNDROME (PRS)”

Mark Agius<sup>1,3,4</sup>, Rashid Zaman<sup>3,4</sup> & Dean Hanafy<sup>2</sup>

<sup>1</sup>Clare College, Cambridge, UK

<sup>2</sup>Newcastle University Medical School, Newcastle-Upon-Tyne, UK

<sup>3</sup>South Essex Partnership University Foundation NHS Trust, UK

<sup>4</sup>Department of Psychiatry University of Cambridge, Cambridge, UK

### SUMMARY

An Audit has been carried out of the patients who have been assessed using the CAARMS tool in order to assess patients who have been judged to have a prodromal psychotic syndrome. Instead of advocating PRS, Johannessen & McGorry (Johannessen 2010), have offered an alternative: a ‘Pluripotent risk syndrome’. This less specific prodrome reflects the unpredictable nature of “Ultra-High Risk” states which have been shown to be more likely to develop into a non-psychotic mood disorder than schizophrenia (Hoon 2012). The corollary this is thus; could patients who exhibit significant depressive features (regardless of diagnosis) be initially identified as having a ‘Pluripotent risk syndrome’? Ten adult patients (6 males & 4 females, aged 19-26 years old) with four broad psychiatric diagnoses (Depression, Schizoaffective disorder, Borderline personality disorder and psychotic illness) were chosen from an anonymised database of the patients and their symptomatology as assessed by CAARMS was retrospectively assessed to see if the presence of depressive symptoms supported the case for a “Pluripotent risk syndrome”. Though patients diagnosed with depression frequently exhibited depressive symptoms, psychotic symptoms were also apparent, albeit in comparatively decreased severity. Patients diagnosed with schizoaffective disorder had depressive symptoms more frequently than psychotic symptoms, but these were comparatively less severe. Borderline personality disorder patients exhibited depressive symptoms more frequently than psychotic symptoms. Psychotic illnesses frequently had depressive symptoms, but more typically (and unsurprisingly) had comparatively more severe psychotic than depressive symptoms. Hence we propose that the concept of a “Pluripotent risk syndrome” is in our view born out

**Key words:** Pluripotent risk syndrome - Ultra High Risk Mental State

\* \* \* \* \*

### INTRODUCTION

In May 2012, it was announced that “Psychosis risk syndrome” (PRS) would not be included in the DSM V (Nature 2012). The diagnostic criteria for PRS were as follows:

- *Symptoms:* At least one of delusions, hallucinations or disorganised speech that is of sufficient severity and/or frequency, but attenuated enough so as to preserve intact reality testing.
- *Frequency:* At the very least, the symptoms above must have been experienced weekly during the month preceding psychiatric consultation.
- *Progression:* The symptoms above must have commenced, or have worsened, in the past year.
- *Distress, disability and treatment-seeking:* treatment is sought as the symptoms above are sufficiently distressing and/or disabling to the patient and/or others.
- There is no better DSM-V diagnosis for the clinical presentation, and psychosis must never have occurred.

PRS had been intended mainly for young adults who had experienced subtle psychotic symptoms. However, only about 30% of patients diagnosed with PRS go on to

be diagnosed with schizophrenia or other psychotic conditions.

Despite this, PRS can also precede non-psychotic illnesses such as depression and substance misuse, with patients meeting criteria for depression comorbidly at baseline (Woods 2010). Instead of advocating PRS, Johannessen & McGorry (Johannessen 2010), offered an alternative: a ‘Pluripotent risk syndrome’. This less specific prodrome reflects the unpredictable nature of “Ultra-High Risk” states which have been shown to be more likely to develop into a non-psychotic mood disorder than schizophrenia (Hoon 2012). The corollary this is thus; could patients who exhibit significant depressive features (regardless of diagnosis) be initially identified as having a ‘Pluripotent risk syndrome’? And if so, could this prove to be an effective secondary prevention strategy in psychiatry and further support an early intervention approach? This paper will examine the evidence for this and discuss the potential future implications.

### METHODOLOGY

All patients who are assessed by an NHS Mental Health Trust must, by UK Government regulations, be assigned a coding taken from the ICD 10 classification

published by WHO. This classification does not at present include patients who are considered to be at Ultra High Risk of developing a Psychotic illness, so these patients are presently assigned a diagnostic category for coding which may be one of a number of different categories. These patients are all 'help seeking', hence, under present circumstances they are usually admitted to CMHTs under that category to which they are assigned. However, those patients who were suspected by one assessor to actually belong to the Ultra High Risk of developing a Psychotic illness category as described by McGorry and Yung were invited, during the assessment process to contribute data to a CAARMS form, as devised by Yung, as a routine part of the assessment process.

We have audited the outcomes of these CAARMS assessments in order to assess their value and also to see whether the concept of Pluripotent risk syndrome was borne out in fact.

Ten adult patients (6 males & 4 females, aged 19-26 years old) with four broad psychiatric diagnoses (Depression, Schizoaffective disorder, Borderline personality disorder and psychotic illness) were chosen from an anonymised database of the patients and their symptomatology as assessed by CAARMS was retrospectively assessed to see if the presence of depressive symptoms supported the case for a "Pluripotent risk syndrome". The patient data analysed was taken from an anonymised database of patients seen for assessment in the "Assessment and Single point of Access team" (ASPA) in Bedford, which conduct assessment and intensive treatment over a three month period for patients who are referred to the local community mental health teams. They were all the patients in whom an assessor with experience of work in Early Intervention in Psychosis services had assessed as being potentially at Ultra High Risk of developing Psychosis and on whom a CAARMS had been carried out.

Over the past 2 years, patients considered to be at Ultra High Risk of developing a psychotic illness were assessed using "Comprehensive Assessment Of At Risk Mental States" (CAARMS), a prodromal assessment tool first developed by the University of Melbourne (Yung 2006). For coding purposes, the 10 patients analysed were allocated a diagnosis according to ICD10 criteria.

The frequency and severity of depressive and psychotic symptoms were quantified using CAARMS to see if the data supported the hypothesis. Depressive and psychotic symptoms were rated on a scale of 0(mild)-6(worst) to assess their severity and frequency.

Four key symptoms and one sign were used as the basis of depressive symptoms:

- Anhedonia;
- Apathy;
- Low mood;

- Suicidality;
- Observed blunter affect.

Three key symptoms were used as the basis of psychotic symptoms:

- Perceptual abnormalities i.e. auditory hallucinations etc;
- Unusual thought content;
- Non bizarre ideas.

The presence or absence of these symptoms were examined across four broad diagnoses: Depression (F32 and F41.2), Borderline Personality Disorder (F60.31), Schizoaffective Disorder (F25) and Psychotic Illness (F20 and F31)

We postulated that if Ultra High Risk Patients were 'Pluripotent' then they should demonstrate affective symptoms as well as psychotic symptoms, irrespective of the diagnosis .

## SUPPORTING EVIDENCE AND CONCLUSION

Though patients diagnosed with depression frequently exhibited depressive symptoms, psychotic symptoms were also apparent, albeit in comparatively decreased severity.

Patients diagnosed with schizoaffective disorder had depressive symptoms more frequently than psychotic symptoms, but these were comparatively less severe.

Borderline personality disorder patients exhibited depressive symptoms more frequently than psychotic symptoms

Psychotic illnesses frequently had depressive symptoms, but more typically (and unsurprisingly) had comparatively more severe psychotic than depressive symptoms. Table 1 shows a summary of the average severity and frequency of depressive and psychotic symptoms for the four diagnoses across the ten patients analysed.

**Table 1.** Average severity and frequency of depressive and psychotic symptoms for the four diagnoses across the ten patients analysed

Psychiatric disorder	Average severity (out of 6) of depressive symptoms	Average frequency (out of 6) of depressive symptoms
Borderline personality type	4.1	4.1
Depressive episode	2.8	4.5
Psychotic illness	3.2	3.3
Schizoaffective disorder	3.3	3.2

Irrespective of the diagnosis, all patients scored on depressive symptoms, particularly patients with a borderline personality type. As depressive symptoms were manifest in whichever illness patients developed, patients have the "potential" to develop an array of psychiatric disorders, regardless of other symptoms. This supports the hypothesis that patients with significant depressive features may have a 'Pluripotent risk syndrome'.

## DISCUSSION AND FURTHER RESEARCH

The CAARMS questionnaire, while rather voluminous (36 pages) was shown to be useful in mapping out symptoms which may otherwise have been missed. We recommend its use in mapping out symptoms of difficult patients. However it had to be used in a separate long appointment, usually outside clinic time, and the choice of the patients with which it was used depended on the experience of one examiner who had experience from an Early Intervention Service and special training as to identifying patients who might be at Ultra High Risk of Developing Psychotic Illness. As a result of this audit we recommend the use of CAARMS in such patients as part of the assessment process so long as the relevant skills are available.

Whilst the patient data is supportive of the hypothesis that patients with significant depressive features may have a 'Pluripotential risk syndrome', there are some important further questions that need to be addressed. As only 10 patients were studied, a larger cohort of patients must first be studied before a pluripotential risk syndrome can be robustly defined. Moreover, the patients studied were adolescents and young adults and although many psychiatric conditions first present around this age, it would be prudent to test the hypothesis across a full age range to see if a Pluripotential risk syndrome can be a reliable predictor of secondary psychiatric disorders.

The concept of a "Pluripotent risk syndrome" was studied only in the context of four broad psychiatric diagnoses. Therefore, to strongly support this hypothesis, it would be instructive to broaden the analysis to include a greater range of diagnoses e.g. substance misuse, anxiety disorders etc. This would give greater clarity to which diagnoses are the most "pluripotent" i.e. those which are most likely to develop based on a prodrome of depressive symptoms.

Pluripotential risk syndrome naturally raises the issue of "Early intervention psychiatry". By identifying and addressing depressive symptoms early, "escalation" to the more "pluripotent" secondary psychiatric disorders may be preventable. There is indeed some data which suggests that treating depressive symptoms with antidepressants may be useful in preventing the further development of a potentially psychotic illness

(Cornblatt 2007, Bowie 2012). Consequently, this would allow patients to be pre-emptively treated in the community. In Australia, the government have launched a programme known as the "Headspace National Youth Mental Health Foundation" as a means of addressing mental health issues in adolescents and younger adults earlier to prevent the development of psychiatric disorders. This potentially could have a significant biopsychosocial impact on a patient's life and reduce the pressure placed on secondary and tertiary psychiatric services.

'However, a degree of caution should be taken with this approach in order to ensure that unnecessary treatment is not initiated. Additionally, whilst the concept of a "pluripotent risk state" may be more effective than that of "psychosis risk syndrome", it is not illness-specific (Silverstein 2012) hence it is important to ensure that inappropriate intervention is not utilised. If however, psychosocial and behavioural interventions are sought earlier rather than pharmacological interventions, then the issues become more one of resources than an ethical one of nonmaleficence.

Finally, we believe we have demonstrated that from a phenomenological viewpoint the concept of pluripotent risk state is more accurate than that of "psychosis risk syndrome". However it is important that it should not lead to further complexity in describing patients with early psychiatric illness. Despite this concern, on the basis of phenomenology we would advocate that a Pluripotent Risk Syndrome should become the paradigm which supersedes Psychosis Risk Syndrome.

**Acknowledgements:** None.

**Conflict of interest:** None to declare.

## References

1. Bowie CR, McLaughlin D, Carrión RE, Auther AM, Cornblatt BA: Cognitive changes following antidepressant or antipsychotic treatment in adolescents at clinical risk for psychosis. *Schizophr Res* 2012; 137:110-7.
2. Cornblatt BA, Lencz T, Smith CW, Olsen R, Auther AM, Nakayama E, Lesser ML, Tai JY, Shah MR, Foley CA, Kane JM, Correll CU: Can antidepressants be used to treat the schizophrenia prodrome? Results of a prospective, naturalistic treatment study of adolescents. *J Clin Psychiatry* 2007; 68:546-57.
3. Johannessen JO & McGorry P: "DSM-5 and the 'Psychosis Risk Syndrome': the need for a broader perspective." *Psychosis* 2010; 2:93-110.
4. "Psychosis risk syndrome excluded from DSM-5", *Nature*, May 2012.
5. Silverstein SM: "Can serious mental illness be prevented? Update on risk factors and the nature and effectiveness of prevention efforts", *UMDNJ*, 2012.

6. Woods, Carlson, McGlashan T: *DSM-5 and the 'Psychosis Risk Syndrome': The DSM-5 proposal is better than DSM-IV.* *Psychosis* 2010; 2:187–190.
7. Yoon, Agius M, Zaman R: *Psychosis Risk Syndrome: Is it worth the risk?* *Psychiatr Danub* 2012; 24(Suppl. 1):36–40.
8. Yung A, Phillips, Simmons, Ward, Thompson, French A, McGorryP: *CAARMS (Comprehensive Assessment Of At Risk Mental States)*, Yung, Phillips, Simmons, Ward, Thompson, French, McGorry, Department of Psychiatry, The University of Melbourne 2006.

*Correspondence:*

Mark Agius, MD  
SEPT at Weller Wing, Bedford Hospital  
Bedford, Bedfordshire, MK42 9DJ, UK  
E-mail: ma393@cam.ac.uk