

REFLECTION

Challenges and opportunities in psychiatry today

Ketan Dipak Jethwa

Ketan Dipak Jethwa is currently a CT1 in medicine at Nottingham University Hospitals NHS Trust. He was previously Academic Clinical Fellow in General Psychiatry at the University of Warwick.

Correspondence Dr K. D. Jethwa, Nottingham University Hospitals NHS Trust, 4 Manor Court Avenue, Jepson House, Nuneaton CV11 5HX, UK. Email: ketan.jethwa@nuh.nhs.uk

SUMMARY

Psychiatry faces a number of external and internal challenges. At the heart of its difficulties is an identity crisis and attempts to resolve this have so far split the specialty. British psychiatry has in recent years taken an increasingly ‘neurophobic’ stance. This article argues that, despite the current situation, opportunities remain for a medicine of the mind to thrive. Neuroscientific advances in our understanding of psychiatric disorders need to be made more explicit in training and in the structure of mental health services.

DECLARATION OF INTEREST

None

There is ongoing debate about the role, purpose and future of British psychiatry. This has been played out in numerous journal articles over the past few years (Agrawal 2008; Conn 2013; Fitzgerald 2013). Psychiatry faces a number of challenges, including the demedicalisation of mental disorder, the marginalisation of psychiatrists (Craddock 2005a) and conflicting theoretical orientations for conceptualising mental distress. The discussions that have taken place are symptomatic of an identity crisis that has haunted psychiatry since its earliest days (Clare 1976). These difficulties can be epitomised in a single question, the answer to which continues to elude researchers and clinicians alike: What is the nature of mental illness? This is a question of fundamental importance not only for how mental illness is understood. Until psychiatry puts forward an evidence-based and unified response to this question it will always be open to criticism over whether it is medicalising the human condition and why the treatments it uses should work at all.

A unique but troubled profession

Psychiatrists are unique among doctors. In addition to knowledge of anatomy, physiology and pharmacology, they also have an understanding of the psychological processes that lead to mental illness and appreciate the impact of the social milieu on the presentation of illness. This broad understanding means that psychiatrists can have

a leading role in coordinating the multidisciplinary team. This diversity is probably what inspired many to pursue a career in the specialty.

Recruitment and retention

However, psychiatry is facing significant problems with recruitment and retention. In a move to address recruitment, the Royal College of Psychiatrists has set up student associateships, pathfinder fellowships and supported foundation year posts in psychiatry.

As for retention, inadequate supervision, low morale and clinical work that is far removed from advances in our understanding of the neurological and psychological bases of illness (Clarke-Smith 2002) continue to contribute to the high drop-out rate. Unfortunately, the academic content of the College’s membership examination, the MRCPsych, has not radically changed since 1971, when the examination was first set-up (Oyebode 2011). It would appear that British psychiatry is retreating to a ‘neurophobic position’ (Bullmore 2009). The disconnect between psychiatry and its medical foundations is further exacerbated by psychiatrists’ lack of medical experience in specialties relevant to psychiatry, such as neurology, endocrinology and geriatric medicine. This is likely to be related to the constraints placed on training by service provision. Over the past 40 years, significant progress has been made with an increasing understanding of the genetic and biochemical basis of mental illness. This has led to the development of a specific approach within psychiatry called ‘biological psychiatry’ (David 2012). In recent years, the subspecialties of behavioural neurology and neuropsychiatry have also emerged (Arzy 2014). Both seek to bridge the ideological gap between neurology and psychiatry and are concerned with understanding disorders of behaviour, affect or cognition in terms of cerebral dysfunction.

Collaboration, not turf wars

Elucidating the nature of mental illness and developing effective treatments requires enthusiastic and talented academics and clinicians. Instead of ideological turf wars over causation and status,

collaboration that appreciates the nuanced interactions between genetics, biochemistry and the environment is required. To this end I advocate the recommendations made by Oyeboode & Humphreys (2011) and Bullmore *et al* (2009) to solidify the identity and ensure the survival of the profession.

The value of agnosticism

Modern psychiatry needs to reappraise the ways in which it conceptualises and classifies mental disorder. A growing body of genetic and molecular evidence demonstrates that current models of classification, based on Kraepelin's dichotomy, do not accurately reflect the biological basis of common mental disorders (Craddock 2005). Genetic epidemiology is becoming increasingly influential in changing and validating psychiatric nosology: the clinical dichotomy between affective psychosis and schizophrenia is increasingly undermined by genetic evidence showing that both conditions have shared susceptibility genes (Berrettini 2003). Previously, genetic studies were conducted with *a priori* candidate genes selected on the basis of a theorised mechanism of disease. Now the 'genome wide association study' (GWAS) approach (Craddock 2013), which does not rely on such assumptions, can be used to identify a number of novel and unexpected candidate genes for major mental illnesses.

In the USA, the Research Domain Criteria (RDoC) (Insel 2010) is a research framework set up by the National Institute of Mental Health to draw together insights from genetics, molecular, cellular and systems neuroscience. The RDoC is 'agnostic' about current diagnostic criteria and aims to link basic neuropathology with clinical phenotypes.

Risk assessment from gene–environment interactions

The overlap of risk genes across different behavioural phenotypes demonstrates the importance of gene–environment interactions in determining the clinical expression of disease. Elucidating how genetic vulnerability and social adversity interact to increase the risk of psychosis will be a key area of research in the future. Following on from this line of research, interventions may even be developed to prevent the onset of psychosis.

Initial research indicates that both pharmacological and psychotherapeutic intervention help reduce symptom severity or prevent the onset of psychosis (McGorry 2009). Further larger-scale trials are required to confirm these findings, and

the operational criteria for identifying at-risk individuals need clarification. The predictive accuracy of at-risk criteria will be improved in the future by incorporating neuroimaging data. Preliminary work indicates that alterations in white matter, similar to those found in schizophrenia, are present before the onset of psychosis in those at ultra-high risk (Carletti 2012).

Cognitive neuropsychology and neuroimaging

The distinction between affective and psychotic experiences is also becoming increasingly blurred. The formation of delusions is associated with a 'jumping to conclusions' cognitive bias (Broome 2007). This can result in an intolerance of uncertainty and anomalous interpretations of internal mental states. There is new focus on the ways that affective processes contribute to formation of delusions (Garety 2013). These insights from cognitive neuropsychology are substantiated by neuroimaging studies. The salience network, an intrinsic large-scale cerebral network, shows strong connectivity between the anterior cingulate gyrus and insular cortex (Palaniyappan 2012a). This network enables switching between different dynamic brain states. Dysfunction in this network has been implicated in the formation of the key symptoms of psychosis (Palaniyappan 2012b). For example, inappropriate salience attached to external or internal stimuli can predispose to and perpetuate unusual beliefs or delusions. There is hope that research such as this will begin to influence clinical practice. The application of statistical methods, such as machine learning, to neuroimaging data has helped to predict an individual's risk of developing psychosis (Mourao-Miranda 2012). Although there are still problems to be overcome, these initial studies show proof of concept that neuroimaging can be used clinically (Cooper 2013).

Psychiatry as clinical neuroscience

Psychiatrists need to be far more proactive in promoting the specialty as clinical neuroscience at both undergraduate and postgraduate level. The Academy of Medical Sciences has recently encouraged the Royal College of Psychiatrists, other relevant medical Royal Colleges and postgraduate deaneries to strive for closer integration of training that allows trainees to gain clinical and academic experience in related fields (Academy of Medical Sciences 2013). It is imperative that the scientific underpinnings of psychiatry are explicit within mental health services and in interactions with patients and the public in general.

References

- Academy of Medical Sciences (2013) *Strengthening Academic Psychiatry in the UK*. AMS.
- Agrawal N, Fleminger S, Ring H, et al (2008) Neuropsychiatry in the UK: planning the service provision for the 21st century. *The Psychiatrist*, **32**: 303–6.
- Arzy S, Danziger S (2014) The science of neuropsychiatry: past, present & future. *Journal of Neuropsychiatry and Clinical Neurosciences*, **26**: 392–5.
- Berrettini W (2003) Evidence for shared susceptibility in bipolar disorder and schizophrenia. *American Journal of Medical Genetics Part C: Seminars in Medical Genetics*, **123C**: 59–64.
- Broome MR, Johns LC, Valli I, et al (2007) Delusion formation and reasoning biases in those at clinical high risk for psychosis. *British Journal of Psychiatry*, **191** (suppl 51): s38–42.
- Bullmore E, Fletcher P, Jones PB (2009) Why psychiatry can't afford to be neurophobic. *British Journal of Psychiatry*, **194**: 293–5.
- Carletti F, Woolley JB, Bhattacharyya S, et al (2012) Alterations in white matter evident before the onset of psychosis. *Schizophrenia Bulletin*, **38**: 1170–9.
- Clare A (1976) *Psychiatry in Dissent: Controversial Issues in Thought and Practice* (2nd edn). Routledge.
- Clarke-Smith L, Tranter R (2002) Recruitment and retention in psychiatry. *British Journal of Psychiatry*, **181**: 163.
- Conn R, Cavanna AE (2013) A meeting point for neurology and psychiatry? *The Psychiatrist*, **37**: 147–8.
- Cooper D, Limet N, McClung I, et al (2013) Towards clinically useful neuroimaging in psychiatric practice. *British Journal of Psychiatry*, **203**: 242–4.
- Craddock N, Owen MJ (2005) The beginning of the end for the Kraepelinian dichotomy. *British Journal of Psychiatry*, **186**: 364–6.
- Craddock N (2013) Genome wide association studies: what a psychiatrist needs to know. *Advances in Psychiatric Treatment*, **9**: 82–8.
- David A, Fleminger S, Kopelman M, et al (2012) *Lishman's Organic Psychiatry: A Textbook of Neuropsychiatry* (4th edn). Wiley-Blackwell.
- Fitzgerald M (2013) All future psychiatrists should be neuropsychiatrists. *The Psychiatrist*, **37**: 309.
- Garety PA, Freeman D (2013) The past and future of delusions research: from the inexplicable to the treatable. *British Journal of Psychiatry*, **203**: 327–33.
- Insel T, Cuthbert B, Garvey M, et al (2010) Research Domain Criteria (RDoC): toward a new classification framework for research on mental disorders. *American Journal of Psychiatry*, **167**: 748–51.
- McGorry PD, Nelson B, Amminger GP, et al (2009) Intervention in individuals at ultra-high risk for psychosis: a review and future directions. *Journal of Clinical Psychiatry*, **70**: 1206–12.
- Mourao-Miranda J, Reinders AA, Rocha-Rego V, et al (2012) Individualized prediction of illness course at the first psychotic episode: a support vector machine MRI study. *Psychological Medicine*, **42**: 1037–47.
- Oyebo F, Humphreys M (2011) The future of psychiatry. *British Journal of Psychiatry*, **199**: 439–40.
- Palaniyappan L, Liddle PF (2012a) Does the salience network play a cardinal role in psychosis? An emerging hypothesis of insular dysfunction. *Journal of Psychiatry & Neuroscience*, **37**: 17–27.
- Palaniyappan L, White TP, Liddle PF (2012b) The concept of salience network dysfunction in schizophrenia: from neuroimaging observations to therapeutic opportunities. *Current Topics in Medicinal Chemistry*, **12**: 2324–38.