Multinational Comparative Cross-Sectional Survey of Views of medical students about Acceptable Terminology and Subgroups in Schizophrenia

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Multinational comparative cross-sectional survey of views of medical students about acceptable terminology and subgroups in schizophrenia

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ABSTRACT

Aim The aim of this study was to inform thinking around the terminology for 'schizophrenia' in different countries.

Objectives The objective of this study was to investigate: (1) whether medical students view alternative terminology (psychosis subgroups), derived from vulnerability-stress models of schizophrenia, as acceptable and less stigmatising than the term schizophrenia; (2) if there are differences in attitudes to the different terminology across countries with different cultures and (3) whether clinical training has an impact in reducing stigma.

Design This is a cross-sectional survey that examined the attitudes of medical students towards schizophrenia and the alternative subgroups.

Setting The study was conducted across eight sites: (1) University of Southampton, UK; (2) All India Institute of Medical Science, India; (3) Rowan University, USA; (4) Peshawar Medical College, Pakistan; (5) Capital Medical University, China; (6) College of Medicine and Medical sciences, Bahrain; (7) Queens University, Kingston, Canada and (8) University of Cape Town, South Africa.

Method This study extended an initial pilot conducted by the Royal College of Psychiatrists on the term schizophrenia and psychosis subgroups to assess whether the subgroup terminology might have an effect on the attitudes of a convenience sample of medical students from eight different countries and potentially play a role in reducing stigmatisation.

Results 1873 medical students completed a questionnaire recording their attitudes to schizophrenia and the psychosis subgroups. A reduction in negative perceptions were found for the psychosis subgroups, especially for the stress sensitivity psychosis and anxiety psychosis subgroups. Negative perceptions were found for drug-related psychosis. Participants who had undergone clinical training had overall positive attitudes. Differences across different countries were found.

Conclusion The attitudes towards psychosis subgroups used in this study have shown mixed results and variation across countries. Further research is warranted to investigate acceptability of terminology. Methods of reducing stigma are discussed in line with the findings.

Strengths and limitations of this study

► A strength of the study is the large sample size. One thousand eight hundred and seventy-three medical students completed the questionnaire recording their attitudes to schizophrenia and the psychosis subgroups.

► The diverse sample that spans across eight different countries allows comparison of attitudes in different countries with different cultures.

► As the sample is large, it allows a good distribution of preclinical and clinical medical students in order to analyse the impact of clinical training on attitudes to schizophrenia.

► A limitation of the study is that it does not address other populations who are affected by the terminology used with schizophrenia.

► A bias of the study is the use of a convenience sample.

Ethics The study received ethical approval from ERGO (Ethics and Research Governance Online; ID: 15972) and subsequently from the ethics committee at each site.

INTRODUCTION

Although the term schizophrenia has been around for over 100 years, its use continues to generate controversy. Some argue that the term schizophrenia is semantically inexact, leading to the name being 'essentially meaningless'.[1] Brabban et al[2] state that the term schizophrenia does more harm than good. They maintain that the lack of clear boundaries with other disorders in terms of symptoms, course, response to treatment or aetiology means that it has poor predictive power and utility. Experts have suggested that a lack of construct validity of the term schizophrenia is demonstrated by its heterogeneity,

where two people diagnosed with the same disorder can have completely different symptoms.[1 3–6] Such variation in symptoms, without an agreed common cause, is therefore not helpful when predicting who will respond best to what treatments and the likely course of people's experiences. This heterogeneity can also explain why a proportion of people are diagnosed with comorbid disorders as the symptom cluster can fit one disorder or another.[1 2]

Since Bleuler[7] first described the 'group of schizophrenias', there have been attempts to define the groups by consensus classification, for example, by WHO,[8] the American Psychiatric Association[9] and by research into symptom characteristics.[10 11] The ICD-10[8] and DSM-IV-TR[12] both describe paranoid, hebephrenic, undifferentiated, catatonic and residual groups with simple schizophrenia only in ICD-10. However, these groupings have not been used much in research or clinical practice due to concerns about their validity, lack of predictive validity and stability over time.[3 13–15] They have since been removed from the newest edition of the DSM-V.[16] There remains a general agreement that patients who meet criteria for schizophrenia according to current versions of DSM or ICD are a very diverse group.[17] Symptom groupings have been successful at defining symptom clusters but not groups of patients, and it is argued that specific symptom-based approaches are more reliable and valid than a diagnostic approach.[6]

Psychological approaches to the difficulties associated with the term and concept of schizophrenia have tended to focus on using a symptom-based approach.[6] This approach does not overcome the diversity of presenting patients, for example, with paranoia or abusive hallucinations. Alternative explanatory models of schizophrenia have been described cross-culturally, but these have not leant themselves directly to the development of diagnostic groupings. For example, culturally held attributes and beliefs relating supernatural powers or biology as the cause of symptoms does not readily transfer to a classification system.[18 19]

In addition to clinical utility, another important aspect to consider would be how a diagnosis of schizophrenia has affected the people diagnosed and how useful the term is to those who receive it. Globally, the diagnosis of schizophrenia is associated with a high level of stigma.[20 21] For example, Howe et al[22] found that people primarily experienced this diagnosis as a negative entity, without much utility beyond being able to access help. From a societal point of view, the diagnosis of schizophrenia can be highly stigmatising.[23] It is associated with fear of violence, gradual deterioration and a lack of hope for recovery.[13 21 24 25] A genetic explanation of schizophrenia has been found to be more frequently associated with stigmatising attitudes as it relates to dangerousness, unpredictability and people's desire for social distance.[26] Stigma can discourage people from seeking help early thereby delaying access to treatment[27 28] and it also acts as a mechanism for social exclusion, hampering recovery[29–31] and reducing employment and education opportunities.[27 28]

Patients can therefore prefer alternative terms like 'nervous breakdown' which are imprecise but less stigmatising. Interestingly, the stigma of mental illness thrives in the medical profession as well. This can be attributed to the culture of medicine and medical training, perceptions of physicians and their colleagues, as well as the expectations and responses of healthcare systems and organisations.[31] Lack of adequate knowledge on aetiology, curative treatments and clear outcomes from services also contribute.[26]

An approach to reducing the stigma related to the term schizophrenia has been achieved in Asian countries, for example, Japan, China and South Korea, by changing the name to a more meaningful term. As an example, Japan has changed the term schizophrenia to 'integration dysregulation syndrome' (togo-shitcho-sho) and its use is officially recognised.[32] This new term refers to the vulnerability-stress model and emphasises that the disorder is treatable, with recovery possible if a combination of advanced pharmacotherapy and psychosocial intervention is provided.[33] It is experienced as more acceptable to patients and professionals.[34] In South Korea, although the term was changed to johyeonbyung ('attunement disorder')[35] mass media continue to use the old term schizophrenia.[36]

Developing terms which might be acceptable and meaningful to both clinicians and patients would be a step forward in communication and treatment, impacting on engagement and outcomes. Kingdon et al have therefore described four subgroups of schizophrenia using terminology developed with patients and informally tested with them and psychiatric staff.[24] These psychosis subgroups are anxiety psychosis, drug-related psychosis, traumatic psychosis and stress sensitivity psychosis. These subgroups are based on a biopsychosocial, vulnerability-stress model of people's experiences.[1] They are formulation informed and derived from a cognitive–behavioural based understanding of schizophrenia. Kingdon and Turkington[37] hypothesise that common experiences leading up to the first episode of psychosis may be grouped into common pathways of people's experiences. These subgroups have since been further explored and validated by Kingdon et al.[1 3 14 24]

The current study is an extension of the initial pilot[24] to assess whether the subgroup terminology might have an effect on the attitudes of a convenience sample of medical students from different countries, thereby potentially reducing stigma in schizophrenia in the profession. The aim is to inform thinking around terminology and whether stigma can be reduced through this route.

AIM
The aim of this study was to:
1. Investigate whether medical students view alternative terminology, derived from vulnerability-stress models of schizophrenia, as acceptable and less stigmatising than the term schizophrenia itself.

2. Investigate if there are differences in attitudes to the different terminology across countries which may have varying cultures.

3. Investigate whether clinical training has an impact in reducing negative attitudes.

The primary hypothesis of this study was that the psychosis subgroups would be more acceptable and less stigmatising compared with the term schizophrenia among medical students in different countries with different cultures. Additionally, it was hypothesised that clinical training would reduce negative or stigmatising attitudes in medical students.

METHOD

This study is an extension of the original pilot by Kingdon *et al* that used alternative terminology based on the psychosis subgroups. Kingdon *et al*[24] examined the attitudes of medical students towards schizophrenia and the alternative subgroups in a university in the UK. The current study, therefore replicates and expands on this work across seven additional countries.

Study sites

The study was conducted across eight sites:
► University of Southampton, Southampton, UK.
► All India Institute of Medical Science, Delhi, India.
► Rowan University, New Jersey, USA.
► Peshawar Medical College, Peshawar, Pakistan.
► Capital Medical University, Beijing, China.
► College of Medicine and Medical sciences, Arabian Gulf University, Bahrain.
► Queens University, Kingston, Canada.
► University of Cape Town, Cape Town, South Africa.

Study sample
Inclusion criteria
► All medical students throughout all years of undergraduate medical training.

Exclusion criteria
► Those unwilling to participate.

Participants were medical students in years 1–5 (1–6 in Bahrain) of medical schools from eight different countries. The views of medical students in years 1 and 2 were compared with those in years 3–5, as participants in years 1 and 2 would not have been exposed to clinical training in psychiatry or other clinical specialties (preclinical group). Participants in years 3–5 would have been exposed to clinical training in different specialties including psychiatry (clinical group). In Bahrain, years 1, 2 and 3 are preclinical years and therefore we have used these 3 years for Bahrain as the preclinical group. The questionnaire was offered to all medical students.

The survey was conducted over the academic year 2015–2016. Students were approached via lectures in their universities. Data collection forms were given a unique study number, protecting privacy and maintaining confidentiality. The database was prepared and analysed over the next 6 months. The results of this study are presented in aggregate form.

Questionnaire

The section of the Royal College of Psychiatrists' 'Every Family in the Land' campaign questionnaire relating to schizophrenia[20] was used for the study to replicate Kingdon *et al*[24] study. The questionnaire asked the respondents to 'think of a person with schizophrenia' and then rate eight characteristics on a 5-point Likert scale ranging from negative connotations to positive connotations of each characteristic. These characteristics covered: being dangerous to others; unpredictable; hard to talk to; have only themselves to blame; would not improve if given treatment; feel different from the way we all feel at times; will never recover fully and could pull themselves together if they wanted to. While formal psychometric properties of the scale have not been published, its validity could be said to have been established through the consensus process used in its development by the campaign. The students were also given brief descriptions of the psychosis subgroups and asked to rate them against the same characteristics (online supplementary appendix).

Responses were scored from 1 to 5, with 1 representing most in agreement with the negative connotation of each statement; 3 being neutral and 5 being most in agreement with the less negative connotation of the statement.

Patient and public involvement

As this study was an extension of the original pilot, patients were not involved in designing the questionnaire. However, they were involved in designing the questionnaire and design of the original pilot.

Statistical analysis

Categorical data are presented as counts and percentages. Response data are measured on a continuous scale and presented as bar charts showing the mean response value. For each of the eight characteristics, responses were modelled using a linear mixed-effects model with participant as a random effect. Age, gender, stage of study (clinical vs non-clinical), psychosis term and country as fixed effects. Missing values were excluded from the analysis. Statistical significance was assessed if $p < 0.05$ and all statistical analyses were completed using R V.3.4.2.

Unlike previous analyses conducted in the Kingdon *et al*[24] study, we opted to use a mixed-effects model as dichotomising the data into positive and negative responses causes a substantial loss of statistical power. Furthermore, adding all variables into one model allows adjustment for confounding factors while reducing the number of statistical tests required.

In this study, we looked at a greater number of explanatory variables than the previous studies, including the effect of respondents' country and clinical experience on their opinion, as well as age and gender. Therefore, it made sense to model the data using a regression model

adjusted for all factors together, rather than attempt presenting the data graphically or tabulated for each subgroup which would be lengthy and difficult to read.

RESULTS

A total of 1873 medical students participated in the survey. Response rates were similar across all countries except the USA (n=126) and Canada (82). In order to achieve consistency in participant numbers, we have therefore grouped these two countries as North America for the analysis.

Demographics

Table 1 shows the demographics of the students from each country.

The demographics showed some differences across the countries sampled. The number of male respondents was much higher in India. Among the respondents, about 76% of preclinical students in South Africa knew someone with schizophrenia whereas only 2% knew someone with schizophrenia in India. Understanding of schizophrenia in China was higher than that in the other countries. Overall, in all countries, the clinical group responded that they had a higher understanding of schizophrenia compared with preclinical group. In Bahrain, Pakistan, UK and South Africa, interest in psychiatry as a career was lower in the clinical years.

Acceptability of terminology

Table 2 shows results of the mixed-effects models.

Figure 1 illustrates the mean response scores, by country.

Overall, the results were found to be more positive towards sensitivity psychosis and anxiety psychosis. In relation to achievement of full recovery, participants had a particularly positive attitude towards anxiety psychosis. Participants responded with more negative views towards drug-related psychosis across several beliefs including dangerousness to others, hard to talk to, would not improve with treatment, feel different, could pull themselves together and have themselves to blame. Drug-related psychosis was also the only term viewed more negatively than schizophrenia for being 'dangerous to others'. The psychosis subgroups were viewed more favourably than schizophrenia for 'unpredictable' and 'will never recover fully'; anxiety psychosis the most favourably. However, all the psychosis subgroups were viewed more negatively than schizophrenia by the respondents for the characteristics 'only have themselves to blame' and 'could pull themselves together'.

The analysis showed that the age of the respondents did not have much of an impact on their opinion; it was found to be only significant for 'could pull themselves together if they wanted to' with a small effect size of +0.03 per year (older respondents less likely to agree). Male respondents were found more likely to agree with 'dangerous to others', 'have only themselves to blame',

Table 1 Summary of demographic information

Centre	UK		Bahrain		China		India		Pakistan		North America		South Africa		Total	
Year of study:	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical
No of students	105	97	60	191	153	150	128	100	132	101	126	82	317	126	1021	847
Gender (male) (n (%))	39 (37.1)	48 (49.5)	28 (46.7)	92 (48.2)	86 (56.2)	49 (32.7)	99 (77.3)	83 (83.0)	60 (45.5)	38 (37.6)	53 (42.1)	34 (41.5)	104 (32.8)	48 (38.1)	469 (45.9)	392 (46.3)
Known patient with schizophrenia (yes) (n (%))	16 (15.2)	16 (16.5)	7 (11.5)	23 (12.2)	21 (13.7)	49 (32.7)	3 (2.3)	9 (9.0)	20 (15.5)	20 (20.6)	19 (15.1)	31 (37.8)	239 (76.1)	61 (48.0)	325 (32.0)	209 (24.8)
Understanding of schizophrenia? (yes) (n (%))	29 (27.6)	71 (74.0)	33 (54.1)	134 (70.2)	116 (75.8)	146 (97.3)	43 (33.6)	96 (96.0)	54 (41.5)	66 (68.8)	40 (32.0)	54 (65.9)	91 (29.3)	58 (45.7)	406 (40.1)	625 (74.2)
Planning psychiatry as a career (yes) (n (%))	23 (23.2)	10 (10.8)	20 (32.8)	35 (18.4)	54 (35.3)	57 (38.0)	21 (16.7)	19 (19.0)	39 (30.2)	20 (20.8)	10 (7.9)	17 (20.7)	39 (12.7)	12 (9.5)	206 (20.6)	170 (20.3)

The total number of responders is n=1873, however, some participants did not provide information on gender (n=5). Information about known patient with schizophrenia was not provided by 10 participants. Understanding of schizophrenia or not was not reported by 12 participants. Planning or not psychiatry as a career was not reported by 31 participants.

Table 2 Results of linear mixed-effects models coefficients

	Dangerous to others		Unpredictable		Hard to talk to		Have only themselves to blame		Would not improve if given treatment		Feel different from the way we all feel at times		Will never recover fully		Could pull themselves together if they wanted to	
	Coefficient*	P values	Coefficient*	P values	Coefficient*	P values	Coefficient*	P values	Coefficient*	P values	Coefficient*	P values	Coefficient*	P values	Coefficient*	P values
Intercept	3.32	<0.0001	2.24	<0.0001	3.16	<0.0001	4.93	<0.0001	3.54	<0.0001	2.9	<0.0001	2.49	<0.0001	3.44	<0.0001
Age (per year)	−0.01	0.097	0	0.68	−0.01	0.13	−0.01	0.17	0.01	0.93	0.01	0.063	0	0.99	0.03	<0.0001
Gender																
Female	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Male	−0.08	0.0033	0.03	0.27	−0.03	0.24	−0.07	0.005	−0.04	0.087	−0.09	0.0019	0.02	0.34	−0.03	0.28
Stage of study:																
Non-clinical	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Clinical	0.12	0.0002	0.15	<0.0001	0.11	0.0005	0.06	0.062	0.06	0.054	0.04	0.21	−0.02	0.49	−0.09	0.005
Term																
Schizophrenia	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Sensitivity psychosis	0.65	<0.0001	0.65	<0.0001	0.24	<0.0001	−0.4	<0.0001	0.02	0.62	0.07	0.044	0.53	<0.0001	−0.28	<0.0001
Drug-related psychosis	−0.37	<0.0001	0.17	<0.0001	−0.05	0.16	−1.58	<0.0001	−0.12	0.0002	−0.14	0.0001	0.52	<0.0001	−0.51	<0.0001
Traumatic psychosis	0.41	<0.0001	0.57	<0.0001	0.19	<0.0001	−0.2	<0.0001	−0.15	<0.0001	−0.05	0.2	0.5	<0.0001	−0.23	<0.0001
Anxiety psychosis	0.57	<0.0001	0.74	<0.0001	0.25	<0.0001	−0.32	<0.0001	−0.04	0.25	0.08	0.026	0.63	<0.0001	−0.35	<0.0001
Country																
UK	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Bahrain	−0.51	<0.0001	−0.1	0.023	−0.29	<0.0001	−0.8	<0.0001	−0.15	0.0003	0.1	0.053	0.37	<0.0001	−0.77	<0.0001
China	−0.59	<0.0001	0.01	0.8	−0.23	<0.0001	−0.61	<0.0001	0.22	<0.0001	0.43	<0.0001	0.49	<0.0001	−1.6	<0.0001
India	−0.33	<0.0001	−0.17	0.0004	−0.26	<0.0001	−0.69	<0.0001	0.24	<0.0001	0.13	0.013	0.55	<0.0001	−1.03	<0.0001
Pakistan	−0.75	<0.0001	−0.12	0.043	−0.42	<0.0001	−1.27	<0.0001	−0.07	0.22	−0.1	0.12	0.4	<0.0001	−0.97	<0.0001
USA and Canada	−0.86	<0.0001	−0.86	<0.0001	−0.86	<0.0001	−0.63	<0.0001	0.73	<0.0001	0.56	<0.0001	0.73	<0.0001	−0.82	<0.0001
South Africa	−0.27	<0.0001	−0.19	<0.0001	−0.1	0.023	−0.18	<0.0001	0.18	<0.0001	0.07	0.13	0.16	0.0003	−0.23	<0.0001

*Coefficients from linear mixed-effects models give an estimate of the mean score for that category compared with the reference category; a value of 0 implies no difference from the reference category; and a negative or positive value implies more in agreement with the negative or positive connotation of that statement, respectively. Reference categories are female, non-clinical, schizophrenia and UK. P values test whether the coefficient is significantly different from 0.
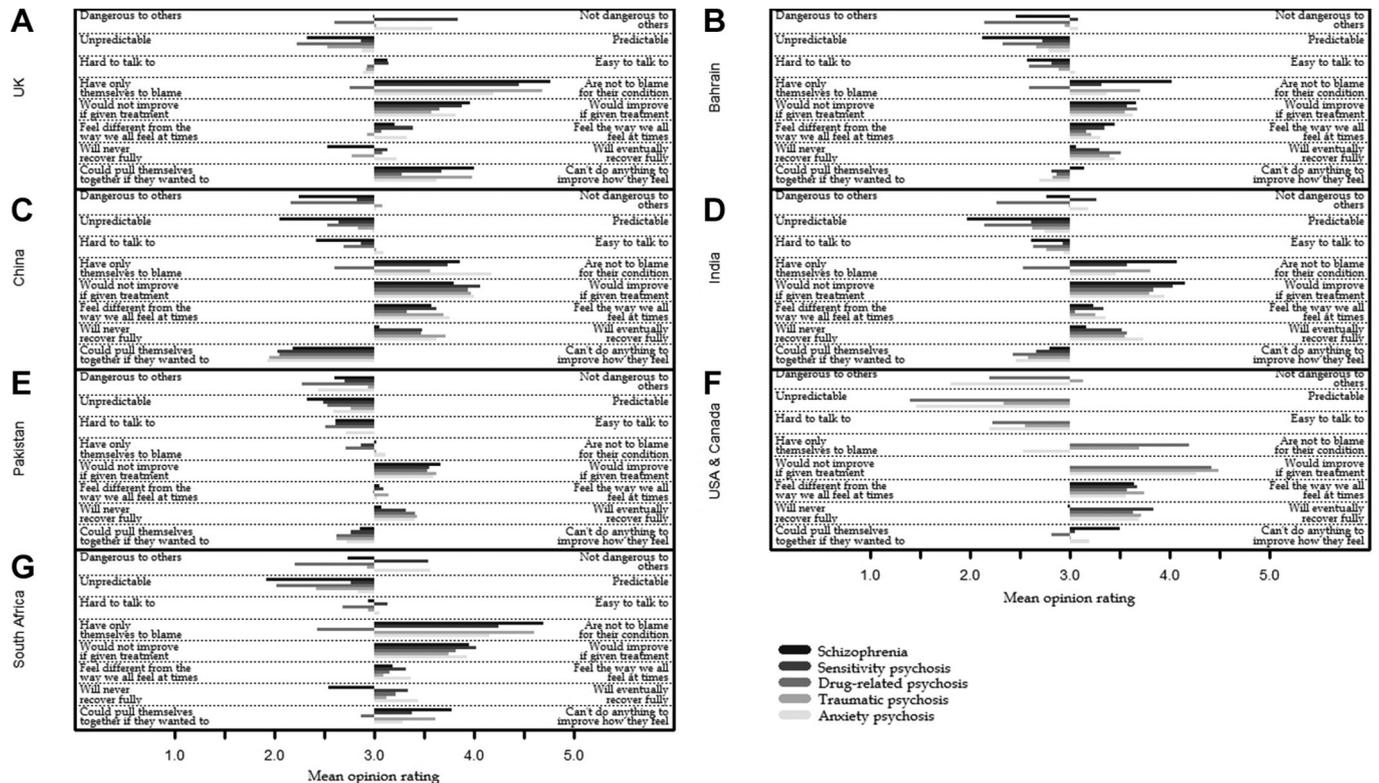
Figure 1 Mean opinion score of five psychosis terms on a Likert scale of 1–5 among medical students from seven different localities. From darkest to lightest; schizophrenia, sensitivity psychosis, drug-related psychosis, traumatic psychosis, anxiety psychosis.

'feel different from the way we all feel at times' (small effect size; −0.07 to −0.09 points). Gender did not show an effect on opinion on other statements.

Differences across countries

In general, students outside of UK reported a greater negative attitude towards all subgroups, except for 'will never recover fully' where the UK held a greater negative attitude. China, India, North America and South Africa reported a more positive attitude towards schizophrenia in the context of: 'would improve with treatment' and 'feel different to the way we all do at times'. USA and Canada had the most negative attitudes of schizophrenia in relation to: 'dangerous to others', 'unpredictability' and 'hard to talk to'. Pakistan had the most negative attitude for 'only themselves to blame' and 'feel different from the way we all do'. China had the most negative attitude on 'could pull themselves together'.

Impact of clinical training

When comparing the preclinical years to respondents in clinical years, those in clinical years were less likely to have a negative view for all characteristics except 'could pull themselves together'.

DISCUSSION

The findings of the current study replicate those of Kingdon et al.[24] They highlight more positive attitudes towards the psychosis subgroups, especially sensitivity psychosis and anxiety psychosis compared with schizophrenia. This addresses the primary aim of the current study as it shows that such alternative terminology, derived from the vulnerability-stress models appears to be less stigmatising in the participant population. Drug-related psychosis is an exception, which similar to the previous study, remains associated with more negative attitudes. As a result of this study, the findings can now be generalised beyond the UK medical student population.

It is worth discussing why the drug-related psychosis subgroup was rated more negatively. It could be hypothesised that the aetiology of this disorder may have an effect on participant's views of it. That is, one may interpret that the person's own behaviour (substance use) has resulted in the symptoms and a diagnosis of psychosis, so they are to blame. The perception that this disorder could be preventable compared with the other subgroups such as traumatic psychosis could lead to a more negative view of it. Further research would be useful in identifying if this is the cause of negative attitudes towards this subgroup so that these views can be influenced to reduce the stigma and improve clinical care. This is particularly important as evidence suggests that substance-induced psychosis, especially from cannabis, is significantly linked with later development of both bipolar affective disorder and schizophrenia.[38]

A strength of this study was its diverse sample that spans across eight different countries, thereby highlighting similarities and differences. While the psychosis

subgroups were viewed less negatively than schizophrenia in this study for many characteristics, many responses were broadly similar. For example, participants from all countries commonly responded that people across all groups 'would be dangerous to others'; it was the degree of positivity or negativity that varied, with a few exceptions. Some differences in responses between participants of different countries could be attributed to cultural differences in explanatory models of illness. For instance, the UK students had more positive views of all terms except 'would improve with treatment' and 'feel different to the way we all do at times' in comparison to the most negative attitudes in Pakistan for 'only themselves to blame' and 'feel different from the way we all do'. Culture influences beliefs around health and attributions to illness. Rathod et al in a previous study[19] found key attributions around previous wrong doing, supernatural beliefs, social and biological factors in their sample of participants from South Asian Muslim and Balck African and African-Caribbean population with psychosis. McCabe and Priebe discussed that biological explanations were much more frequently cited by Caucasians than African-Caribbean and West Africans when describing symptoms of mental illness.[39] Attributions to illness influence help seeking pathways into care and clinicians attitudes towards care as well. This understanding can help to improve care.

In this study, those in clinical years were less likely to have a negative view for all characteristics except 'could pull themselves together'. It is possible that clinical training has an impact on attitudes and this can be capitalised on further. The responses can be used to develop tailored teaching programmes in individual countries to address the issues and dispel some of the myths and misguided perceptions held about the condition.

Given that less than 50% of the students in each country expressed a wish to pursue a career in psychiatry, it is worth exploring further whether their negative attitudes towards schizophrenia (possibly other mental health disorders and the specialty) has an influence on this decision. If this is indeed found to be the case, addressing the stigma attached to schizophrenia (and possibly other mental health conditions) either through better information and training, or renaming it using these subgroups may influence more students to consider a career in psychiatry. The current study has started the process of exploring what options may be preferable or less stigmatising to improve our general understanding.

When looking at ways to reduce stigma in medical students, it may be important to note that low numbers of participants have reported knowing someone with schizophrenia in the current study. Maulik et al[40] concluded that the best antistigma interventions are those that involve face-to-face contact with someone with the mental health diagnosis. Any future education programmes may benefit from involving people with lived experience in any teaching or training programmes.

Some may argue that the benefits of renaming schizophrenia outweigh the disadvantages.[41] Lasalvia et al[41]

draw their conclusion mainly from the outcomes of renaming schizophrenia in Asian countries. They argue that changing the name can help to promote the provision of interventions and improve the public image of both the disorder and of those diagnosed with it. Such a name change as a move to the psychosis subgroups may also be welcomed by researchers as it may encourage the study of interventions specifically for the subgroups as opposed to schizophrenia as a whole. This may lead to better outcomes and a quicker access to the right treatment for the specific symptoms of the different psychosis subgroups.

One must be cautious, however, as a recent review of the literature has shown that only one longitudinal study has so far been conducted to investigate the impact of renaming schizophrenia.[42] Therefore, a longitudinal study may be necessary to identify the effects over time, particularly in countries where this has not already happened. Bentall[43] states that merely changing the name of schizophrenia is unlikely to have a marked effect because any reduction in negative stigma is likely to be short lived.

Our group acknowledges this argument and understands that currently there is insufficient evidence that these subgroupings are likely to be adopted clinically. However, we argue that there are benefits in pursuing further research in this area due to the potential advantages and possibility of future classification modifications based on aetiology. Additionally, the results of this and other similar surveys has implications in understanding what aspects of the condition influence the participants attitudes towards the profession and providing care. The acceptability of the subgroups also provides an opportunity to use these explanatory models of illness in discussions with patients to engage them in a meaningful way, incorporating their cultural dispositions and thereby improving outcomes. Explanatory models, despite placing some emphasis on general beliefs, are constructed and connected in order to respond to specific aspects of illness.

Although the current study has improved the external reliability of a previous study in a larger and more generalisable population, it fails to address the views of other populations who are affected by the terminology used with schizophrenia. Kingdon et al[1 24] showed that patients with schizophrenia and their family members preferred the subgroups compared with the term schizophrenia. However, this was only conducted in a small UK sample. The current study would have benefitted from including participants from different groups including patients and family members in order to be able to generalise the findings from the previous study to these participant groups as well.

Another limitation of the study is the convenience sample. While the questionnaires were offered to all the medical students in the stated year, only those who chose to respond did so. Therefore, it was a self selected and convenience sample. This also dictated the sample size.

In conclusion, this study explores whether alternative terminology using subgroups based on the biopsychosocial model is more acceptable than the term schizophrenia. While currently this terminology is less likely to be adopted, it is possible that in the future alternative terminology is considered and the process of evaluation as we have started would provide the evidence. The psychosis subgroups used in this current study have shown mixed results and variation across countries. Further research is warranted to investigate acceptability of terminology and association of attitudes towards those who are diagnosed with schizophrenia and their carers.

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