Irish Journal of Psychological Medicine, (2023), **40**, 336–342.
doi:10.1017/ipm.2020.132

ORIGINAL RESEARCH

Socio-demographic and clinical characteristics of migrants to Ireland presenting with a first episode of psychosis

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Objectives: When presenting with a first episode of psychosis (FEP), migrants can have different demographic and clinical characteristics to the native-born population and this was examined in an Irish Early Intervention for Psychosis service.

Methods: All cases of treated FEP from three local mental health services within a defined catchment area were included. Psychotic disorder diagnoses were determined using the SCID and symptom and functioning domains were measured using validated and reliable measures.

Results: From a cohort of 612 people, 21.1% were first-generation migrants and there was no difference in the demographic characteristics, diagnoses, symptoms or functioning between migrants and those born in the Republic of Ireland, except that migrants from Africa presented with less insight. Of those admitted, 48.6% of admissions for migrants were involuntary compared to 37.7% for the native-born population ($p = 0.09$).

Conclusions: First-generation migrants now make up a significant proportion of people presenting with a FEP to an Irish EI for psychosis service. Broadly the demographic and clinical characteristics of migrants and those born in the Republic of Ireland are similar, except for less insight in migrants from Africa and a trend for a higher proportion of involuntary admissions in the total migrant group.

Received 18 March 2020; Revised 13 October 2020; Accepted 13 December 2020; First published online 26 February 2021

Key words: Delusions, hallucinations, migrant, psychosis, schizophrenia.

Background

The aetiology of psychotic disorders is complex, with risk factors at multiple levels including genetic (Schizophrenia Working Group of the Psychiatric Genomics Consortium, 2014), environmental (Clarke *et al.* 2012), biological (Modai & Shomron, 2016), familial (Chen *et al.* 2018) and the wider social environment (March *et al.* 2008). Furthermore, how psychotic disorders manifest and present can also be influenced by the above factors. An increased risk for developing psychotic disorders in migrants is one of the most replicated and robust finding in psychosis epidemiological research, with first- and second-generation migrants having at least twice the risk compared to native-born populations (Selten *et al.* 2020). An individual's cultural background can influence the characteristics of the psychotic symptoms that they may experience. For example, individuals from West Africa with a diagnosis of schizophrenia experience more visual and somatic hallucinations (Bauer *et al.* 2011), while individuals from India were less likely to experience auditory or visual hallucinations (Thomas *et al.* 2007). Similarly, within countries, there can be differences in the presentation of a first episode of psychosis, as in the large European Union network of national schizophrenia networks studying Gene-Environment interactions multi-site study, positive psychotic symptoms were found to be more common in ethnic minority groups (Quattrone *et al.* 2019).

Therefore, it is plausible that migrants could exhibit different psychopathology compared to the native-born population when presenting with a first episode of psychosis (FEP). This is relevant to the pathways to care for migrants with psychotic disorders, which may already be protracted for a variety of reasons, such as

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unfamiliarity with the mental health service (Nerhus *et al.* 2013). Healthcare staff who are likely to be a first point of contact, such as emergency department staff or general practitioners, may be more familiar with the more typical presentation of a FEP but may not detect psychotic symptoms whose presence or manifestation are specific to certain migrant groups. Furthermore, it has been found that migrants are more likely to be subjected to involuntary treatment at the time of presentation with a first episode of psychosis (Terhune *et al.* 2020).

In the last two decades, there has been a significant rise in migration to Ireland (Central Statistics Office, 2011). As a result, mental health services, specifically those that specialise in psychotic disorders, are likely to see an increase in the proportion of migrants amongst the patient population. As migration to Ireland is a relatively new phenomenon, little is known about the socio-demographic and clinical characteristics of migrants presenting with a FEP.

Therefore, in this brief report, it is aimed to: (i) describe the demographic characteristics of migrants presenting with a FEP and compare them to the native-born population in the Republic of Ireland with a FEP; (ii) determine whether migrants present differently, specifically in regards to positive and negative psychotic symptoms, depressive symptoms and insight and (iii) describe the rates of admissions at the time of presentation and whether there is a difference in the rate of involuntary treatment between migrants and the native-born populations.

Methods

Setting & participants

This study was based in an Early Intervention (EI) for psychosis service that encompasses three mental health services in South Dublin and Co Wicklow and covers a total population of approximately 377 000. All individuals with an FEP aged 18 to 65 who presented to this service over the 8-year period between August 2006 and August 2014 were included. The EI service is embedded with the three local adult mental health services that have defined catchment areas. There is one private hospital located within the catchment areas and individuals residing within the catchment area who were receiving care via the private mental health service were still referred to the EI service. There is another private hospital in Dublin that is located outside of the catchment area; however, there was no arrangement for eligible individuals to be referred to the EI service if they were inpatients in this hospital.

Inclusion and exclusion criteria

All individuals fulfilling criteria for a psychotic disorder according to DSM-IV criteria, except those with a diagnosis of psychosis due to a general medical condition, were included. A FEP was defined as an incident case of psychosis without the individual having ever previously experienced a psychotic episode and prior to referral, having taken no previous antipsychotic medication for more than 30 days. Individuals with a concurrent substance use disorder were included in the study.

Instruments

The Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders IV (SCID) was used to determine the psychotic disorder diagnosis and the presence of any concurrent substance use disorder (13). The SCID also included the Global Assessment of Functioning (GAF) which has a range of 0–100, with higher scores indicating higher functioning (First *et al.* 2002). Positive psychotic symptoms were measured using the Scale for the Assessment of Positive Symptoms (SAPS), which examines four main domains (delusions, hallucinations, bizarre behaviour and formal thought disorder). Each domain is scored from 0 (absent) to 5 (severe) and the total score for the SAPS ranges from 0 to 20 (Andreasen, 1984). Negative symptoms were measured using the Scale of the Assessment of Negative Symptoms (SANS), which measures five domains (affective flattening, alogia, avolition-apathy, anhedonia-asociality and attention) and each domain is scored from 0 (absent) to 5 (severe) for a total score of 0 to 25 (Andreasen, 1984).

Depression was measured using the Calgary Depression Scale for Schizophrenia (CDSS), which contains nine items, each scored from 0 (absent) to 3 (severe) for a total score of 0–27 (32). Hopelessness was measured using the Beck Hopelessness Scale (BHS), which is a 20 item self-report scale with a range of 0–20, with higher scores representing more severe hopelessness (33). The duration of untreated psychosis (DUP) was established using the Beiser Scale in interviews with both the affected individual and a family member if feasible (Beiser *et al.* 1993). Insight was measured using the Birchwood Insight Scale, which is a self-reported scale that is scored from 0 to 12 with higher scores indicating greater insight (Birchwood *et al.* 1994).

Statistical analysis

Chi-square tests (χ^2) were used to determine if there was a statistical difference in the observed differences in

https://doi.org/10.1017/ipm.2020.132 Published online by Cambridge University Press

Table 1. *Demographic characteristics according to migrant status*

	Total cohort		Migrants		Native-born			
	%	*n*	%	*n*	%	*n*	Statistical test	*p*
Sex							X^2, df	
Male	56.4	345	56.6	73	56.3	272	0.001, 1	0.96
Female	43.6	267	43.4	56	43.7	211		
	Median	I.Q.R	Median	I.Q.R	Median	I.Q.R	*Z*, df	
Age at presentation	31.0	24.0–42.0	31.0	24.0–39.5	32.0	24.0–43.0	−0.49, 1	0.63
Age at onset	29.0	21.1–39.0	28.5	22.0–35.8	29.5	21.0–39.4	−0.48, 1	0.63
Marital status	%	*n*	%	*n*	%	*n*	X^2, df	
Single	68.7	420	64.1	82	70.0	338	3.75, 4	0.44
Married/de facto	22.7	139	24.2	31	22.4	108		
Divorced	3.6	22	5.5	7	3.1	15		
Separated	4.6	28	6.3	8	4.1	20		
Widowed	0.3	2	0	0	0.4	2		
Employment status	%	*n*	%	*n*	%	*n*	X^2, df	
Employed	36.1	221	38.8	50	35.4	171	0.50, 1	0.48
Unemployed	63.9	391	61.2	79	64.6	312		
Place of birth	%	*N*						
Ireland	78.9	483						
Rest of Europe	12.7	78						
Asia	3.4	21						
Africa	2.6	16						
Americas	2.3	14						
	Mean	S.D.	Mean	S.D.	Mean (S.D.)	S.D.	*t*-test, df	
Mean DUP, months (S.D.)	17.3	40.5	18.0	41.5	17.1	40.3	−0.22, 599	0.83
	Median	I.Q.R.	Median	I.Q.R.	Median	I.Q.R.	Mann–Whitney	
Median DUP, months (I.Q.R)	3.0	0–14.5	2.0	0–14.5	3.0	0.5–14.5	$Z = -0.36$	0.72
Diagnosis	%	*n*	%	*n*	%	*n*	X^2, df	
Schizophrenia-spectrum disorders							0.59, 2	0.74
Schizophreniform disorder	11.4	70	10.9	14	11.6	56		
Schizophrenia	28.1	172	29.5	38	27.7	134		
Schizoaffective disorder	1.5	9	0.8	1	1.7	8		
Delusional disorder	11.4	70	12.4	16	11.2	54		
Affective psychotic disorders								
Depression with psychosis	12.3	75	13.2	17	12.0	58		
Bipolar affective disorder	11.1	68	11.6	15	11.0	53		
Other psychotic disorders								
Substance induced psychotic disorders	12.6	77	10.9	14	13.0	63		
Brief psychotic disorder	7.4	45	8.5	11	7.0	34		
Psychosis NOS	4.2	26	2.3	3	4.8	23		
Concurrent diagnoses	%	*n*	%	*n*	%	*n*		
Substance abuse or dependence	13.4	82	14.0	18	13.3	64	0.04, 1	0.48
Functioning	Mean	S.D.	Mean	S.D.	Mean	S.D.	*t*-test, df	
GAF total, mean (S.D.)	35.3	14.1	33.9	14.0	35.8	14.1	−1.4, 597	0.18
Positive symptoms	Mean	S.D.	Mean	S.D.	Mean	S.D.	*t*-test, df	
Hallucinations	1.7	1.7	1.7	1.8	1.7	1.7	−0.16, 603	0.88
Delusions	3.4	1.3	3.6	1.1	3.4	1.3	1.4, 603	0.14
Thought disorder	1.1	1.4	1.2	1.5	1.1	1.4	0.63, 603	0.53
Bizarre behaviour	1.4	1.4	1.4	1.4	1.4	1.4	0.49, 602	0.62
Total positive symptoms	7.5	3.5	7.8	3.5	7.4	3.5	1.12, 602	0.27
Negative symptoms (0–25)	Mean	S.D.	Mean	S.D.	Mean	S.D.	*t*-test, df	
Affective flattening	0.9	1.2	0.8	1.2	0.9	1.2	−0.30, 604	0.76
Alogia	0.7	1.2	0.7	1.2	0.7	1.2	0.08, 604	0.94
Avolition	1.5	1.5	1.5	1.4	1.6	1.5	−0.28, 604	0.77

(*Continued*)

https://doi.org/10.1017/ipm.2020.132 Published online by Cambridge University Press

Table 1. (*Continued*)

	Total cohort		Migrants		Native-born			
	%	*n*	%	*n*	%	*n*	Statistical test	*p*
Anhedonia	1.5	1.5	1.5	1.4	1.6	1.5	0.07, 603	0.95
Attention	0.7	1.1	0.6	1.1	0.7	1.1	1.21, 602	0.23
Total negative symptoms	5.2	4.7	5.0	4.7	5.2	4.7	0.41, 604	0.68
Depressive symptoms	Mean	S.D.	Mean	S.D.	Mean	S.D.	*t*-test, df	
CDSS (0–27)	4.6	5.6	5.2	6.4	4.4	5.4	1.22, 592	0.23
Beck hopelessness scale	5.3	5.2	5.3	4.9	5.3	5.3	−0.03, 281	0.98
Insight	Mean	S.D.	Mean	S.D.	Mean	S.D.	*t*-test, df	
Birchwood insight scale	7.2	3.0	7.1	3.0	7.2	3.0	0.31, 439	0.76
Inpatient admission at presentation	%	*n*	%	*n*	%	*n*	X^2, df	
Yes	61.6	377	57.4	74	62.7	303	1.24, 1	0.27
No	38.4	235	42.6	55	37.3	180		
Legal status of admission	%	*n*	%	*n*	%	*n*	X^2, df	
Voluntary	60.2	222	51.4	37	62.3	185	2.87, 1	0.09
Involuntary	39.8	369	48.6	35	37.7	112		

A Bonferroni correction was applied and this resulted in a significance level of $p < 0.002$.

categorical variables. *t*-tests were used to determine if differences exist in parametric continuous variables and Mann–Whitney *U* tests were performed to determine whether there were differences in non-parametric continuous variables. This involved conducting multiple statistical tests and therefore a Bonferroni correction was applied. The statistical level was set by dividing 0.05 by the number of statistical tests conducted. Both analysis of variance (ANOVA) and linear regression were used to determine if there were differences in functioning and symptom domains according to the region of birth (which had five categories). For the linear regression, those born in Ireland were used as the reference group.

Ethical approval

This study received ethical approval from the St John of God Hospitaller services ethics committee.

Results

Demographic and clinical characteristics of participants

A total of 630 individuals presented with a FEP during the study period and there was complete data for 97.1% ($n = 612$), of whom 56.4% ($n = 345$) were male and 43.6% ($n = 267$) were female. A total of 78.9% ($n = 483$) of the cohort were born in the Republic of Ireland and 21.1% ($n = 129$) were first-generation migrants. Of those migrants, 60.5% ($n = 78$) were from other parts of Europe, 16.3% ($n = 21$) were from Asia, 12.4% ($n = 16$) were from Africa and 10.9% ($n = 14$) were from the Americas.

The median age at the time of presentation was 31.0 years [(I.Q.R. 24.0–42.0 years)] and the median age at onset was 29.0 years [(I.Q.R. 21.1–38.9)]. The majority of the cohort were single (68.6%, $n = 420$) and 63.9% ($n = 391$) were not in employment at the time of presentation. The mean GAF score at the time of presentation was 35.4 (S.D. ± 14.0). The median DUP was 3 months (I.Q.R 0–14.5) and the mean DUP was 17.2 months (S.D. ± 40).

Comparison of demographic and clinical characteristics of migrants to native-born population

There was no difference in the following demographic characteristics between migrants and the native-born populations; sex, age at onset or presentation, marital status or employment status (Table 1). Similarly, there was no difference in the clinical characteristics between migrants and native-born populations in regard to diagnoses, concurrent substance abuse or dependence, the duration of untreated psychosis, functioning and the severity of positive, negative and depressive symptoms or admission at the time of presentation (Table 1). Differences in clinical characteristics were examined at the continental level (Rest of Europe, Asia, Africa and the Americas); no differences were found in the level of functioning or positive, negative and depressive symptoms (Table 2). On linear regression, it was found that migrants from Africa presented with less insight compared to individuals born in Ireland ($\beta = -1.86$, $p = 0.02$). The mean score for delusions for migrants from Africa

https://doi.org/10.1017/ipm.2020.132 Published online by Cambridge University Press

Table 2. *Comparison of clinical characteristics between migrants (according to region of birth) and native-born population*

		Ireland	Rest of Europe	Asia	Africa	Americas	*F*	df	*p*
Functioning									
GAF total	Mean	35.76	35.99	29.21	32.69	30.14	1.67	4	0.16
	S.D.	14.10	15.58	5.62	12.57	12.96			
Positive symptoms									
Hallucinations	Mean	1.68	1.74	1.52	1.69	1.29	0.25	4	0.91
	S.D.	1.72	1.80	1.78	2.02	1.49			
Delusions	Mean	3.39	3.35	3.86	4.00	3.86	1.99	4	0.09
	S.D.	1.31	1.28	0.91	0.73	0.36			
Thought disorder	Mean	1.08	1.12	1.60	0.81	1.29	0.86	4	0.49
	S.D.	1.42	1.49	1.43	1.28	1.64			
Bizarre behaviour	Mean	1.37	1.33	1.90	1.56	1.21	0.83	4	0.51
	S.D.	1.45	1.34	1.48	1.55	1.53			
Total positive symptoms	Mean	7.41	7.54	8.81	8.06	7.43	0.93	4	0.44
	S.D.	3.46	3.69	2.71	3.73	2.74			
Negative symptoms									
Affective flattening	Mean	0.87	0.71	1.29	0.94	0.79	0.96	4	0.43
	S.D.	1.24	1.20	1.45	1.18	1.12			
Alogia	Mean	0.65	0.72	0.90	0.25	0.43	0.93	4	0.45
	S.D.	1.16	1.19	1.48	0.78	0.85			
Avolition	Mean	1.55	1.35	1.76	1.75	1.71	0.59	4	0.67
	S.D.	1.48	1.39	1.41	1.39	1.73			
Anhedonia	Mean	1.45	1.32	1.62	1.75	1.64	0.46	4	0.77
	S.D.	1.46	1.43	1.47	1.29	1.60			
Attention	Mean	0.71	0.54	0.95	0.44	0.43	1.14	4	0.34
	S.D.	1.10	1.05	1.16	0.96	0.94			
Total negative symptoms	Mean	5.19	4.56	6.52	5.13	5.00	0.76	4	0.55
	S.D.	4.70	4.78	5.26	4.16	3.86			
Depressive symptoms									
Calgary	Mean	4.41	5.23	5.20	5.31	4.50	0.50	4	0.74
	S.D.	5.42	6.43	6.10	6.64	6.69			
Beck hopelessness scale	Mean	5.30	5.74	4.56	4.20	5.36	0.22	4	0.93
	S.D.	5.30	5.29	4.69	4.02	5.16			
Insight									
Birchwood insight scale	Mean	7.22	7.46	7.00	5.36	7.90	1.62	4	0.17
	S.D.	2.95	2.99	3.07	3.36	1.47			

A Bonferroni correction was applied and this resulted in a significance level of $p < 0.003$.

was 4.0 (±0.73) compared to 3.39 (±1.08) for those born in Ireland ($F = 1.99$, $p = 0.09$). Therefore, exploratory analysis was performed at the specific symptom level; however, no differences were found between the specific delusional symptoms and place of birth (Table 3).

There was no difference in the proportion of people who were admitted to hospital at the time of presentation with their FEP according to migrant status (62.7% native-born *v.* 57.4% migrants, $X^2 = 1.24$, df = −1, $p = 0.27$). However, of those admitted, 48.6% of admissions for migrants were involuntary compared to 37.7% of the native-born population ($X^2 = 2.87$, df = 1, $p = 0.09$).

Conclusion

Summary of findings

This study demonstrated that between 2006 and 2014, in a defined catchment area in the Republic of Ireland, migrants represented at least one in five presentations of a first episode of psychosis. Broadly, the demographic and clinical characteristics of migrants presenting with a first episode of psychosis were comparable to those born in the Republic of Ireland, except that migrants from Africa presented with less insight and there was a higher proportion of involuntary admissions in migrants.

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Table 3. *Comparison of functioning and symptoms according to region of birth using Linear regression*

	Functioning (GAF)			Positive symptoms (SAPS)			Negative symptoms (SANS)			Depressive symptoms (Calgary)			Hopelessness symptoms (BHS)			Insight (Birchwood)		
	β 95% C.I.	S.E.	*p*	β 95% C.I.	S.E.	*p*	β 95% C.I.	S.E.	*p*	β 95% C.I.	S.E.	*p*	β 95% C.I.	S.E.	*p*	β 95% C.I.	S.E.	*p*
Ireland	Ref	–	–	Ref	–	–	Ref	–	–	Ref	–	–	Ref	–	–	–	–	–
Rest of Europe	0.22 (−3.2, 3.7)	1.8	0.90	0.12 (−0.7, 1.0)	0.4	0.77	−0.63 (−1.8, 0.5)	0.6	0.28	0.83 (−0.5, 2.2)	0.7	0.23	0.45 (−1.4, 2.3)	1.0	0.64	0.24 (−3.0, 3.3)	0.4	0.58
Asia	−6.55 (−13.0, −0.1)	3.3	0.05	1.40 (−0.1, 2.9)	0.8	0.07	1.33 (−0.7, 3.4)	1.1	0.20	0.79 (−1.7, 3.3)	1.3	0.54	−0.74 (−4.3, 2.8)	1.8	0.68	−0.22 (0.2, 11.5)	0.8	0.79
Africa	−3.08 (−10.1, 3.9)	3.6	0.39	0.65 (−1.1, 2.4)	0.9	0.46	−0.07 (−2.4, 2.3)	1.2	0.96	0.91 (−1.9, 3.7)	1.4	0.53	−1.10 (−4.4, 2.2)	1.7	0.52	−1.86 (−3.5, 10.0)	0.8	0.02
Americas	−5.62 (−13.1, 1.9)	3.8	0.14	0.01 (−1.8, 1.9)	0.9	0.99	−0.19 (−2.7, 2.3)	1.3	0.88	0.09 (−2.9, 3.1)	1.5	0.95	0.07 (−3.1, 3.3)	1.6	0.97	0.68 (−3.1, 9.9)	0.9	0.47

Clinical implications

This supports the replicated findings that ethnic minorities have higher rates of involuntary admission (Oduola *et al.* 2019; Morgan *et al.* 2005; Mann *et al.* 2014). In the UK, explanations for this increased risk of involuntary admission was explored in the ENRICH programme and it found that some ethnic minorities were more likely to have crisis presentations and have the police involved in their admission. It was believed that the increased rate of involuntary admission was driven by the presence of risk and low levels of social support (Singh *et al.* 2013). This is the first study to identify the high rate of involuntary admissions for migrants with a FEP in the Republic of Ireland and the reasons for this practice are not yet known, but should be the focus of future research.

Strengths and limitations

The strengths of this study are that it is a large cohort of all cases of treated FEP within a defined catchment area, thereby reducing selection bias. However, when the cohort is divided according to region of birth, some groups had small numbers. The findings of the study also need to be considered within other limitations. First, it is plausible that migrants may be less likely to seek help and access services for a first episode of psychosis and therefore the total cohort may not be fully representative and unfortunately, a leakage study was not performed. Moreover, the use of structured instruments, while providing rigour, makes it possible that migrants could present with specific psychotic symptoms outside of their remit. Furthermore, these instruments have not been validated across different cultures and this could explain the finding of a lack of difference between migrants and the native-born populations.

Conclusions

First-generation migrants now make up a significant proportion of people presenting with a FEP to an Irish EI for psychosis service. Broadly the demographic and clinical characteristics of migrants and those born in the Republic of Ireland are similar, except for less insight in African migrants and a high proportion of involuntary admissions in the total migrant group.

Conflicts of interest

Authors have no conflicts of interest in regards to this study.

Ethical standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the

https://doi.org/10.1017/ipm.2020.132 Published online by Cambridge University Press

relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008.

Financial support

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Supplementary material

To view supplementary material for this article, please visit https://doi.org/10.1017/ipm.2020.132

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