Occupation and first episode psychosis in Northern Italy : better outcomes for migrants

Ilaria Tarricone^{12 3 *}, Craig Morgan³, Jane Boydell³, Serena Panigada¹, Raffaele Morigi¹, Mauro Braca¹, Enrico Sutti¹, Pierluigi Boldri², Marta Di Forti³, Robin M Murray³ and Domenico Berardi¹²

¹ Bologna Transcultural Psychosomatic Team, Department of Medical and Surgical Science, Bologna University

² Bologna West Mental Health Department, Ausl Bologna

³ Institute of Psychiatry, Psychology & Neuroscience, King's College London

Address for correspondence: Dr Ilaria Tarricone, Department of Medical and Surgical Science, Section of Psychiatry, Bologna University, Viale Pepoli 5, 40123 Bologna, Italy. Phone + 39 051 6584292 Fax + 39 051 521030 E-mail: ilaria.tarricone@unibo.it

ABSTRACT

Aims: Many studies show that migrants have a higher incidence of psychosis compared to natives, but the influence of migration on psychosis outcomes is little investigated. We aimed to evaluate the occupational outcomes of a first episode psychosis (FEP) sample in Bologna (Northern Italy). **Methods:** An incidence cohort of FEP patients presenting at the Bologna West Community Mental Health Centers between 2002 and 2009 was assessed at the baseline and at 12th months follow-up. Return to school or work was used as occupational outcome. **Results:** Most of the patients (82.8%) were still in contact at 12 months. Migrants showed significantly higher rate of return to work compared to natives (adjusted OR 4.45, 95% CI 1.55-12.76). **Conclusions:** First generation migrants had better occupational outcomes. Further cross-cultural studies are needed to further explain these findings.

Key words First episode psychosis; psychosis course; occupational outcomes; migrants

INTRODUCTION

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: [10.1111/eip.12325](https://doi.org/10.1111/eip.12325)

Across time and place and in our own study conducted in Bologna, the risk of developing psychosis in general and schizophrenia in particular is significantly increased in several groups of migrants [1, 2, 3] . In contrast, there is little evidence about the impact of migrant status on psychosis outcomes. Most of the available evidence is about well-established ethnic minority groups and not first generation migrants: few studies found better social functioning in migrants compared to natives [4], while other evidence found worst outcomes among ethnic minorities [5, 6]. In our previous study [3], migrants showed a higher incidence rate of psychosis but a lower burden of several well known risk factors for a worse course, such as substance use, unemployment, living alone and absence of a steady relationship at the baseline. Taken together, these features may indicate personal and social functioning higher in FEP migrants compared to FEP natives. Our study aimed to evaluate the employment outcomes of an incidence sample of first episode psychosis (FEP) in Bologna (Northern Italy).

METHODS

Setting and service description

This study is part of the Bologna West First Episode Psychosis project (Bo-FEP), an incidence FEP study of all patients between 18 and 64 years, who had a contact with Bologna West Community Mental Health Centers (CMHCs) from January 2002 to December 2009 [3]. Ethical approval was obtained from the local research ethics committee and all patients given an informed consent. The Bologna West area has, according to the 2001 census, 187,685 citizens between 18 and 64 years. Migrants comprise 9.7% and the large majority are first generation migrants. The Bologna West CMHC runs the Bo-First Episode Psychosis Program, composed by 4 principal elements: 1) at risk mental state interventions; 2) early recognition and early interventions; 3) outpatients treatment of the acute phase (day-hospital interventions and family work); 4) psychosocial treatment of the post acute phase. Beside psychiatrists, nurses and psychologist, also social workers and language translators are involved in the care of migrant patients. Care is free and available to all.

Study design

We carried out a 12 months follow-up of all first episode psychosis patients identified in the study period [3]. Psychosis was defined, according to the APA 2004 criteria, as presence of delusions and/or hallucinations and/or disorganized speech and/or excited and/or catatonic behavior. Migrant status was coded along with place of birth of the patient and his/her parents. The white non-Italian (predominantly

East European) were included in migrants' group. Socio-demographic and migration history information were collected in an ad hoc schedule (the Bologna Migration History and Social Integration Interview). Case notes were used to complete the Item Group Checklist (IGC, Schedule for Clinical Assessment of Neuropsychiatry, Version 2.1) for psychiatric diagnoses [7]. As indicators of occupational functioning and outcome, we investigated: interruption of work or study activity at FEP (not working or studying for more than 2 weeks); resumption of work or study activity after the interruption due to FEP; employment status at 12th month. Full time study was considered employment. The occupational indicators were evaluated from the clinical charts and from the local computerized information system (SIT); then this information was discussed with the clinicians responsible for the patients.

Statistical Analyses

We used simple logistic regression analysis (block method) for the associations between occupational outcomes (interruption of work/study activities; return to work/ study activities; work/study at 12th months) and baseline variables (gender, age, place of birth, marital status, education, housing, occupational status, psychiatric diagnosis, DUP and substance abuse). We created a dichotomous ethnicity variable: Migrants (MI) vs Natives (NA). The small sample size limits a comprehensive examination of the effect of ethnicity on outcomes; thus we did a sensitivity analysis where the migrant group was stratified by European and non-European migrants. In the logistic multivariate regression analysis we adjusted the associations found for age, gender and migrant status (Table 2) testing the addition of each factor using the Likelihood Ratio Test. Data were analyzed using SPSS for Windows Version 14.

RESULTS

Sample description

One hundred sixty three patients were recruited. No patients denied to be involved [3]. They were more frequently male (56.4%), and showed a mean age 31 years. 96 patients (58.9%) were studying or working at the onset. Thirty nine (24%) were first generation migrants: 14 (8.6%) were European migrants, 9 Asian (5.5%), 8 (4.9%) North-African, 5 (3.1%) Sub-Saharan Africa and 3 Central-South American. All natives were Italian born from native Italian parents and grand-parents). Migrants showed a mean length of stay in Italy of 6.27 ± 5.44 years before CMHCs contact; 3 in 4 emigrated for work reason and 1 in 4 for family reunion. Significant differences were found between MI and NA at baseline (Table 1): migrants were significantly

more likely to be working, married and live outside the family of origin. Among workers, employed were more frequently migrants, while self-employed were more frequently natives. About one third of the sample (30.7%) abused substances and 23% abused cannabis; substance users were 2.8 times more likely to be native.

Table 1 (baseline characteristic of the sample)

Occupational outcome

One hundred thirty five patients (105 natives and 30 migrants) were still receiving care at 12 months. No difference were found among patients still in contact and those no more in contact with the CMHCs. Thirty six patients (37.5%) suspended their occupational activities at the onset. Seventeen patients returned to their activity and 75 patients (46% of the total sample and 53% of those still in contact at 12th month follow-up) were employed at the 12 month follow-up.

As reported in Table 2, migrants from European countries as well as migrants from non- European countries suspended work or study activity significantly more often than natives (14, 58% vs 22, 31.8%; adjusted OR 2.88, 95% CI 1.26-6.57). A significantly higher percentage of migrants returned to work compared to natives (9, 64% vs 8, 40%; adjusted OR 4.45, 95% CI 1.55-12.76). After grouping migrants into European and non-European, the odds of return to work after the onset was still significant only for the latter (data available on request). Those who had a diagnosis of schizophrenia were more frequently inactive at 12 months from the onset than patients with other psychotic disorders (34, 56% vs 32, 40%, $\chi^2=3.4$, $p=0.06$) ; the odds ratio was significant after adjusting for age and gender and migrant status (OR 2.54, 95% CI 1.05-6.13). Finally, to be occupationally active at the onset was a strong predictor of being working or studying at 12 months follow-up , with a odds of 20 time greater compared to this of people inactive at the onset (Table 2). No other socio-demographic and clinical variables were found associated with work or study suspension at the onset.

Tables 2 about here

DISCUSSION

In this study in Northern Italy, we found that migrants showed better occupational outcomes with a higher rate of return to work than non-migrants. Migrants showed better pre-morbid functioning (more often married, employed and living outside the family of origin compared to natives), and along with their better

occupational outcomes suggest a lower severity of FEP among migrants compared with natives in Bologna. To our knowledge this is one of the few follow-up studies of an incidence cohort of FEP first generation migrants. Our results are consistent with previous studies showing that higher functioning at the psychosis onset predicts better occupational outcomes in FEP [9;10; 11]. Our new finding of a better occupational functioning in migrants could depend on several factors, related to the characteristics of our migrants' sample and to the treatment program. Our migrant population is entirely first generation, and particularly burdened by social stress and adversities, as our previous study showed [12]. However, the high social functioning presented by the migrants of our sample is consistent with the evidence from US demonstrating that first generation migrants are a particularly resilient population [13,14]. The presence in Bologna of a specialized program for migrant's psychological distress (the Bologna Trans-cultural Psychosomatic Team) could have contributed to the better outcomes found in migrants [15]. Thus, we could hypothesize, along with the socio-developmental model [16], that on average, first generation migrants have a FEP only when the burden of adverse social factors reaches a higher threshold than for natives and, consequently, that psychosocial interventions are more effective on migrants. Strengths and limitations

The generalizability of our findings to the FEP migrants in Bologna is supported by the BoFEP study method: the incidence study of FEP was strengthened by a leakage study to include also possible patients who missed the prospective recruitment [3]. Moreover, the high follow-up rate (91%) allowed a careful examination of the impact of patients characteristics on FEP course. Despite the lack of some interesting information such as severity of psychopathology, we provided good quality data through clinical chart review and interviews with treating psychiatrists. The presence of language translator in clinical setting allowed us to reduce recall bias during the clinical interview.

However, we should remark on some limitation due to the small sample size: higher employment rate at 12 months were significantly only for not-European migrants compared to natives, and not for European migrants, when we grouped migrants into the 2 groups (European and not-European). Moreover, this study does not allow direct explanations of the better occupational outcomes found in migrants. Further studies such as the EUGEI Project (European gene x environment interaction project) [17] with larger sample, cross cultural comparison and adjunctive migration history and the work condition information are needed to establish whether our results generalize to the rest of Europe or reflect the situation in Northern Italy.

ACKNOWLEDGEMENTS

This project is based on Bologna First Episode Psychosis (Bo-FEP) project; it was developed in collaboration with the Bologna Mental Health Department, Local Health Service trust. We acknowledge the contribution of the entire West Bologna FEP Study team.

Financial support: None .

Declaration of Interest: None.

Ethical considerations:

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

REFERENCES

- [1] Van Os J, Kapur S. Schizophrenia. *Lancet* 2009;374:635-45.
- [2] Cantor-Graae E, Selten JP. Schizophrenia and migration: a meta-analysis and review. *Am J Psychiatry* 2005;162:12-24.
- [3] Tarricone I, Mimmi S, Paparelli A. First-episode psychosis at the West Bologna Community Mental Health Centre: results of an 8-year prospective study. *Psychol Med* 2012 a;7:1-10.
- [4] Lempesi H, Ploumpidis D, Kontaxakis VP. Clinical symptoms and social functioning among immigrant and greek patients with schizophrenia: A comparative study. *Psychiatrike* 2009;20:319-28.
- [5] Chorlton E, McKenzie K, Morgan C, Doody G. Course and outcome of psychosis in black Caribbean populations and other ethnic groups living in the UK: a systematic review. *Int J Soc Psychiatry* 2012;58:400-8.
- [6] Harrison G, Amin S, Singh SP, Croudace T, Jones P. Outcome of psychosis in people of African-Caribbean family origin. Population-based first-episode study. *Br J Psychiatry*. 1999;175:43-9. Erratum in: *Br J Psychiatry* 1999 Oct;175:394.
- [7] WHO. Schedules for Clinical Assessment in Neuropsychiatry Version 2.1 (SCAN-2.1). Division of Mental Health, World Health Organization. 1998; Geneva, Switzerland.

- [8] Bebbington P, Hurry J, Tennant C. Psychiatric disorders in selected immigrant groups in Camberwel. *Soc. Psychiatry* 1981; 16 (1):43-51
- [9] Major BS, Hinton MF, Flint A, Chalmers-Brown A, McLoughlin K, Johnson S. Evidence of the effectiveness of a specialist vocational intervention following first episode psychosis: a naturalistic prospective cohort study. *Soc Psychiatry Psychiatr Epidemiol.* 2010 Jan;45(1):1-8.
- [10] Amminger GP, Henry LP, Harrigan SM, Harris MG, Alvarez-Jimenez M, Herrman H, Jackson HJ, McGorry PD. Outcome in early-onset schizophrenia revisited: findings from the Early Psychosis Prevention and Intervention Centre long-term follow-up study. *Schizophr Res.* 2011; 131(1-3):112-9.
- [11] Turner N, O'Mahony P, Hill M, Fanning F, Larkin C, Waddington J, O'Callaghan E, Clarke M. Work life after psychosis: A detailed examination. *Work* 2015 Jun 9;51(1):143-52.
- [12] Tarricone I, Atti AR, Braca M. Migrants referring to the Bologna Transcultural Psychiatric Team: reasons for drop-out. *Int J Soc Psychiatry* 2011;57(6):627-30.
- [13] Berry JW. Immigration, acculturation and adaptation. *Appl Psychol* 1997;46:5-34.
- [14] Escobar JI, Hoyos Nervi C, Gara MA. Immigration and mental health: Mexican Americans in the United States. *Harv Rev Psychiatry* 2000;8:64-72.
- [15] Tarricone I, Stivanello E, Ferrari S. Migrant pathways to community mental health centres in Italy. *Int J Soc Psychiatry* 2012;58:505-11.
- [16] Morgan C, Charalambides M, Hutchinson G, Murray RM. Migration, ethnicity, and psychosis: toward a sociodevelopmental model. *Schizophr Bull* 2010;36:655-64.
- [17] EU-GEI Project: European Network of National Schizophrenia Networks Studying Gene-Environment Interaction. European Community's Seventh Framework Program, grant agreement No. HEALTH-F2-2009-241909.

Table 1 Baseline characteristics of the sample		
	Natives	Migrants
Male	70 (56.5%)	22 (56.4%)
Age at first contact with CMHC	30.80 ± 9.93	31.90 ± 7.58
Work status before the onset*		
• Employed	• 45 (37.3%)	• 24 (61.6%)
• Students	• 25(20.3%)	• 2(5.1%)
• Retired	• 14 (11.4%)	• 2(5.1%)
• Unemployed	• 39 (31.7%)	• 11(28.2%)
Single *	106 (85.5%)	21 (53.8%)
Living status*		
• Alone	• 13 (10.6%)	• 3 (7.7%)
• With family of origin	• 76 (61.8%)	• 12 (30.8%)
• With step family	• 17 (13.8%)	• 14 (35.9%)

• Other	• 17(13.8%)	• 10 (15,6%)
Education ≤ 8 years	44 (36.1%)	18 (50%)
Substance use *	44 (35.5%)	6 (15.4%)
Schizophrenia	48 (38.7%)	19 (48.7%)
DUP ≤ 1 year	100 (84.7%)	30 (81.1%)
*P ≤ 0.05		

Table 2. Predictors of occupational outcomes: suspension of work, return to work, work status at 12th month

Predictor	Suspension of work (Y vs N)		Return to work (Y vs N)		Not Working at 12th months(Y vs N)	
	OR (95% CI)	OR adj* (95% CI)	OR (95% CI)	OR adj* (95% CI)	OR (95% CI)	OR adj** (95% CI)
Socio-demographic						
Male		0.955	0.882	0.886	0.791	1.188

	0.985 (0.465-2.087)	(0.434-2.103)	(0.320-2.427)	(0.303-2.593)	(0.407-1.538)	(0.601-2.350)
Age	0.991 (0.951-1.033)	0.984 (0.940-1.030)	1.000 (0.948-1.056)	0.990 (0.929-1.055)	0.983 (0.948-1.018)	0.984 (0.949-1.021)
Migrants	2.777 (1.230-6.271)	2.879 (1.262-6.568)	4.375 (1.543-12.403)	4.452 (1.553-12.758)	0.997 (0.452-2.195) 18.735 (7.891-44.481)	1.018 (0.460-2.250) 20.398 (8.309-50.075)
Worker/student	na	na	na	na		
Single	0.699 (0.298-1.639)	0.905 (0.323-2.535)	0.956 (0.290-3.149)	1.989 (0.495-7.985)	2.283 (1.015-5.133)	<i>2.414</i> <i>(0.946-6.163)</i>
Live alone	1.800 (0.572-5.669)	2.135 (0.637-7.153)	0.522 (0.064-4.244)	0.564 (0.066-4.818)	0.733 (0.251-2.146)	0.799 (0.269-2.377)
Education (≤8 vs >8)	0.833 (0.421-2.008)	1.177 (0.527-2.633)	0.948 (0.324-2.770)	1.195 (0.394-3.630)	0.818 (0.410-1.629)	1.214 (0.607-2.427)
Substance abuse	1.551 (0.604-3.982)	1.551 (0.604-3.982)	0.708 (0.217-2.304)	1.033 (0.263-4.050)	0.889 (0.434-1.824)	0.684 (0.303-1.542)
Schizophrenia	0.824 (0.384-1.767)	0.732 (0.330-1.622)	0.666 (0.232-1.907)	0.567 (0.187-1.721)	<i>1.889</i> <i>(0.962-3.709)</i>	2.034 (1.019-4.060)
DUP (<1 vs >1)	1.181 (0.407-3.454)	1.181 (0.394-3.543)	1.481 (0.314-6.986)	1.562 (0.309-7.891)	1.283 (0.522-3.154)	1.273 (0.514-3.153)

DUP, Duration of Untreated Psychosis; Y, Yes; N, No; OR, Odd Ratio; CI, Confidence Interval Na not applicable

OR adj*: Adjusted for age, gender

OR adj**: Adjusted for age, gender and migrant status

na: not applicable

Minerva Access is the Institutional Repository of The University of Melbourne

Author/s:

Tarricone, I;Morgan, C;Boydell, J;Panigada, S;Morigi, R;Braca, M;Sutti, E;Boldri, P;Di Forti, M;Murray, RM;Berardi, D

Title:

Occupation and first episode psychosis in Northern Italy: better outcomes for migrants.

Date:

2017-12

Citation:

Tarricone, I., Morgan, C., Boydell, J., Panigada, S., Morigi, R., Braca, M., Sutti, E., Boldri, P., Di Forti, M., Murray, R. M. & Berardi, D. (2017). Occupation and first episode psychosis in Northern Italy: better outcomes for migrants.. Early Interv Psychiatry, 11 (6), pp.522-525. <https://doi.org/10.1111/eip.12325>.

Persistent Link:

<http://hdl.handle.net/11343/291079>