Migration in patients with early psychosis: A 3-year prospective follow-up study

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A B S T R A C T

Early psychosis programs treat high ratios of migrants, given they display higher rates of psychosis. Studies on this topic are limited and less is known about outcomes. The aim of this study was to compare the premorbid, baseline and outcome profile of patients according to migration (M) and migration in psychosocial adversity (MA) in order to explore if there were differences suggesting particular needs in terms of treatment. 257 early psychosis patients aged 18–35 years old were followed-up over 36 months. MA (29.6%) and M (17.9%) were compared to patients who were born in Switzerland (NM). At entry to the program, MA patients had poorer functional levels and higher symptom intensity. MA patients were more likely to report past exposure to trauma. While M patients have similar outcome compared to NM patients, MA patients were less likely to reach symptom remission, displayed lower functioning and were more likely to relapse. Results suggests that migration in adversity is a potential determinant of functional impairment in early psychosis. While patients who migrated in other contexts have a better outcome, patients who experienced migration in adversity have specific needs considering they are less integrated and more likely to have been exposed to trauma.

1. Introduction

Many studies from different countries have demonstrated a higher prevalence and incidence of psychosis in migrants than in the host population. Migration is therefore considered as a potential determinant for the emergence of psychosis (Abdel-Baki et al., 2015), meta-analyses suggesting a multiplication by 2.5 of the relative risk to develop psychotic symptoms in migrants of first and second generation (Bourque et al., 2011; Cantor-Graae and Selten, 2005).

The term "migrant" is unfortunately used in many different ways (Tortelli et al., 2009) and it can refer to very distinct profiles based on ethnicity, country of origin or reasons motivating people to move from their country. This is a limitation to the generalisability of findings, considering for example that migration occurring in a very adverse political or financial context is likely to have a different impact than a freely "chosen migration". A further complexity is related to the concept of refugee which is defined by Amnesty International as "a person who has fled their own country because they are at risk of serious human rights violations and persecution there. The risks to their safety and life were so great that they felt they had no choice but to leave and seek safety outside their country because their own government cannot or will not protect them from those dangers" (Amnesty International), which often implies

exposure to additional trauma, blurring the study of the impact of migration itself. Indeed, in their recent review, Dapunt et al. (2017) showed that refugee migrants have an increased risk of psychotic disorders compared to non-refugee migrants and host population, providing additional support to the hypothesis that adversity is an important factor that should always be taken into account when studying the impact of migration.

Another important aspect of this question relates to the potential impact of migration status on the outcome of a particular disorder. Research on this topic in early psychosis programs is limited (Tarricone et al., 2016). Available data suggests that migrant patients are less likely to engage in treatment (Abdel-Baki et al., 2015). In addition, they appear to experience less favourable outcome than patients of the host population (Bhugra et al., 1997), although this is not supported by all studies (Cantor-Graae and Selten, 2005). As mentioned above, when considering patients' outcome it is often very difficult to disentangle the impact of migration itself from the impact of psychosocial adversity that is often linked to it. Considering we are currently facing the largest movement of population since World War II, a better understanding of the possible implications of migration on mental health issues is urgent (Abbott, 2016; Katona, 2016; Kirkbride, 2017). It is also very important to explore if a migrant status defines a sub-group

of early psychosis patients with particular needs, in order to know if the development of specific approaches is justified.

With this in mind, we investigate in this study the correlates of the migration status of a cohort of patients going through the early phase of a psychotic disorder with their premorbid, baseline and outcome characteristics.

2. Material and methods

2.1. Procedure and participants

Launched in 2004 at the Department of Psychiatry in Lausanne University Hospital, Switzerland, the Treatment and early Intervention in Psychosis Program (TIPP) is a specialized early psychosis program providing treatment for a three years period (Baumann et al., 2013). Patients are accepted in the program if they are aged 18 to 35, live in the catchment area of about 300′000 inhabitants (Lausanne and surroundings) and meet criteria for psychosis, as defined by the 'psychosis threshold' subscale of the Comprehensive Assessment of At Risk Mental States scale (CAARMS; Yung et al., 2005). Patients with psychosis related to intoxication or organic brain disease, an IQ below 70 or exposure to treatment with antipsychotic medication for more than six months, are referred to other programs. Patients can be referred in several ways. General practitioners, families, private psychiatrists, psychiatric institutions and other services from Lausanne University Hospital (e.g. emergencies, psychiatric hospital) can contact the TIPP team and an initial assessment by phone is conducted. Authorization to access clinical data for research purposes was granted by the Local Ethics Committee and consequently all patients who received treatment within this program were included in this study. Considering the complexity of care of the early psychosis phase, all patients with a first psychotic episode are likely to be referred to our program. The fact that we recruit 50 new patients per year for a catchment area of 300′000, which corresponds to a treated incidence is 1.7, supports this idea. The additional fact that the local Ethics committee authorized the access to clinical data for research purposes guaranties that all TIPP patients were included in this research. Consequently, the sample studied in this paper is highly representative of early psychosis patients treated in our region. 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.

2.2. Measures

Case managers (CM) fill in an *ad hoc* questionnaire, developed specifically to assess patients involved in the program, over the 36 months of treatment. CM (psychiatric nurses or social workers) are experienced clinicians who provide direct treatment while guarantying continuity of care through assertive outpatient case management in the frame of a close collaboration with a psychiatrist. CM are available for up to 2 home visits per week and have on average 100 contacts with each patient over the three years treatment period. Detailed evaluation of past medical history, demographic characteristics, exposure to adverse life events as well as functioning is performed using this structured questionnaire. It is completed on the basis of information gathered from both patients and family during the beginning of treatment. Should new information emerge, it can be updated at any time during follow up. At baseline and after 2, 6, 12, 18, 24, 30 and 36 months of treatment, a series of assessments focused on the evolution of symptoms and functional level (based on scales described below) are conducted by a trained psychologist who is not involved directly in the treatment. Data for the current study stem from the prospective follow-up of the first 257 patients treated at TIPP.

2.3. Diagnostic and migration status assessment

Diagnosis is the result of an expert consensus and is based on the following elements: (1) Diagnosis reported by treating psychiatrist in any medical documents and at the end of any hospitalization over the entire treatment phase; (2) Longitudinal assessment by clinical case manager over the 3 years of treatment. The consensus diagnostic procedure is realized by a senior psychiatrist and the senior psychologist in charge of scale based assessment over the treatment period. They both review the entire file once after 18 months and again after 36 months, or at the end of treatment, and conduct a diagnostic process based on DSM-IV criteria(American Psychiatric Association, 1994), discussing any unclear issue with the clinical case manager. Patients were considered as "non-migrant" (NM) if they were born in Switzerland. They were considered as "migrant in adversity" (MA) if migration occurred in adverse contexts such as seeking protection for political reasons, threat of death, or exposure to war or extreme poverty. Finally, they were considered as "migrants" (M) if migration did not occurred in such adverse contexts.

2.4. Socio-demographic, clinical and functional data at baseline

Duration of untreated psychosis (DUP) was defined as the time between onset of psychotic symptoms defined by CAARMS and admission to TIPP. Socio-economic status (SES) was subdivided between low, intermediate and high (Chandola and Jenkinson, 2000). Functional characteristics at baseline were assessed according to both the Modified Vocational Status Index and the Modified Location Code Index Independent living (MVSI & MLCI; Tohen et al., 2000). Premorbid functional level was evaluated with the Premorbid Adjustment Scale (PAS; Cannon-Spoor et al., 1982). Academic and social sub-scores were computed as well as childhood and early adolescence sub-scores (MacBeth and Gumley, 2008). Past history of trauma was evaluated by CM over the entire treatment phase and more specifically when a sufficiently trusting relationship was developed (Alameda et al., 2016a). Patients were considered as exposed to trauma if they had faced at least one experience of sexual, emotional and/or physical abuse prior the age of 16. Sexual abuse refers to sexual molestation and/or rape. Physical abuse refers to physical attack or assault or being repetitively beaten by parents, relatives, or caregivers. Emotional abuse was defined as verbal assaults on a child's sense of worth or well-being or any humiliating or demeaning behavior directed toward a child by an adult or older person. This definition encompassed events that would undoubtedly be considered as highly traumatizing and ensured trauma occurred in the premorbid phase. Past diagnosis of substance abuse was rated according to DSM-IV criteria by CM. The Global Assessment of Functioning (GAF; American Psychiatric Association, 1994) and the Social and Occupational Functioning Assessment Scale (SOFAS; American Psychiatric Association, 1994) were used in order to assess the functional level at baseline. While GAF also includes the intensity of symptoms, SOFAS only takes social and occupational level into account. The lifetime lowest SOFAS and GAF score was also estimated. Insight into illness was scored as complete, partial or absent (Conus et al., 2007). Severity of illness at baseline was assessed with the Clinical global impression scale (CGI; Guy, 1976). Maximal severity of illness during psychosis was also estimated, and scored on the CGI.

2.5. *Outcome measures after 2, 6, 12, 24, 30 and 36 months of follow-up*

Psychopathology and functional characteristics were scored at each assessment, with SOFAS, GAF, the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987) and the Montgomery-Asberg Depression Rating Scale (MADRS; Montgomery and Asberg, 1979). A psychologist who was independent of patients' treatment and had received standardized training prior to the study conducted symptoms assessment.

For the PANSS, Interrater agreement standards (Kay et al., 1991) were confirmed through training with videotaped interviews and consensus reference ratings.

2.6. Outcomes definitions at discharge (3 years follow-up)

Symptomatic remission at discharge, based on the last PANSS assessment of the last year in the program, was defined following Andreasen's Criteria (mild or lower (≤ 3) score on the following items: delusion, unusual thought content, hallucinatory behaviour, conceptual disorganization, mannerisms, blunted affect, social withdrawal & lack of spontaneity; Andreasen et al., 2005). Five items of the PAS scale were scored according to the situation of the patient at discharge. Functional recovery was defined as a final PAS score equal or lower to the premorbid rating on four of the five PAS general scale's items (Strakowski et al., 1998). Items on education and abruptness in the change in work were ignored, considering they could not have changed during the period of interest. Functional recovery was also operationalised as a GAF score of 60 or above after three years of follow-up. Patients were considered as "living independently" on the basis of the MLCI (head of household / living alone, with partner, or with peers / living with family with minimal supervision). Patients were considered as "working" at discharge on the basis of the MVSI (paid or unpaid full- or part-time employment / being an active student in school or university / head of household with employed partner (homemaker) /full or part-time volunteer).

2.7. Statistical analysis

The NM group was considered as the reference category and was compared to both M and MA groups. Analyses between groups were performed with planned contrasts for One-Way independent ANOVA for continuous variables and Chi-Square test (or Fisher's exact test when appropriate) for categorical variables.

Mixed effects models repeated measures analysis of variance (MMRM) was used to determine group differences over time on the different measures. Time was introduced as a within-group factor and migration status as a between-groups factor. All statistical analyses were performed with IBM-SPSS 23. All statistical tests were two-tailed and significance was determined at the 0.05 level.

3. Results

3.1. Sociodemographic and clinical data according to migration

The sample was composed of 52.5% NM patients, 29.6% MA patients and 17.9% M patients. M and MA patients were younger than NM patients ($p < .001$; $p = .011$). Duration of untreated psychosis and gender were not significantly different. MA had lower socio-economical level ($p < .001$) but still had similar level of education than NM patients. M and MA patients were more likely to be married ($p < .001$; $p < .001$). MA patients were more likely to be unemployed ($p < .001$). M and MA patients were more likely to live independently ($p < .001$; <0.001). M patients had a better premorbid functioning overall ($p = .012$) and in all specific domains (childhood $p = .046$; early adolescence $p = .006$, social $p = .034$, academic $p = 0.042$). MA patients had higher rates of exposure to trauma ($p = .008$). MA patients had more frequent history of offenses against property ($p = 0.032$) but offences in other domains and during the program were similar. Psychiatric history and lifetime substance abuse were similar across groups but familial psychiatric history was lower in the MA group ($p = .004$). M patients had greater insight at presentation than NM patients ($p = .042$). Functional level at baseline measured by the SOFAS was lower for MA patients ($p = .024$). CGI scores for MA patients were higher at baseline ($p = .047$) and at the worst point during psychosis ($p = .041$). Diagnostic repartition was similar across groups (Table 1).

3.2. Clinical and functional outcomes during the three years of follow up

Disengagement rate was similar in each group. Symptomatic and functional outcomes were similar, except that MA patients were less likely to experience symptomatic remission at discharge ($p = 0.022$). The number of admissions during treatment was also higher ($p = .004$) in the MA group.

Results of the longitudinal analyses revealed that the MA group scored significantly lower on the GAF than the NM group over the three year of the program ($t(250.460) = 2.0859$, $p = .038$) (see Fig. 1). There were no significant differences between MA and NM groups, neither on SOFAS, nor on positive, negative or depressive symptoms. M group did not differ from NM on any variable (Table 2).

4. Discussion

The purpose of this study was to investigate the premorbid, baseline and outcome characteristics of patients according to their migration profile, in order to explore if there were differences suggesting particular needs for treatment. Five main findings stem from the analysis of our data. First, the prevalence of migrants, and especially of migrants in adversity, is much higher in our early psychosis sample than in the normal population according to official census. Second, MA patients are significantly more likely to report past exposure to major traumatic events. Third, at entry to the program, MA patients have poorer functional levels and higher symptom intensity. Fourth, while M patients have similar outcome compared to NM patients, MA patients are less likely to reach symptom remission and they display lower functional levels. Fifth, MA patients are more likely to relapse after discharge, as suggested by a higher rate of admission during treatment.

In our sample, 47.5% of the subjects were migrants, while according to data published in 2015 by the Federal Statistical Office only 34% of the population in canton de Vaud was born abroad. This major over representation of migrants among psychosis patients is in line with previous publications in other western countries (Cantor-Graae and Selten, 2005; Cooper et al., 2008; Hutchinson and Haasen, 2004; Smith et al., 2006; Zolkowska et al., 2001). This excess in migrants' prevalence in our sample is mainly composed of MA patients, which again is in line with the hypothesis that migration in adversity is an important factor of increased vulnerability to psychosis. Several studies have previously shown higher rates of psychosis among refugees (Hollander et al., 2016). The observation that on average migrant patients are younger at entry to the program suggest an earlier onset, which may also be due to the impact of this characteristic as a risk factor. The observation of both a higher rate of past exposure to trauma and a lower rate of family history of psychiatric disorder in MA patients compared to NM patients suggests that combination of various trauma experiences may play a more important role in the emergence of psychosis in these patients than susceptibility linked to genetic elements.

This higher likelihood to have been exposed to physical trauma in MA patients suggests this should be assessed and addressed as early as possible. Indeed, it has been shown that exposure to trauma increases the risk of poor outcome and development of depressive symptoms as well as poorer functional outcome (Alameda et al., 2015, 2016b). Specific psychological treatment should be offered as well, and clinicians should make sure that the risk of exposure to further trauma of this nature is minimised. Indeed, the very unfavourable situation in which such patients usually live puts them at higher risk of maltreatment and they should therefore be protected in this regard.

The observation that at entry to the program these patients have higher levels of symptoms, lower functional level and lower level of insight shows that they will pose a clinical challenge. For this reason, teams should be adapted and trained to face the specific social issues that usually come along with this complex clinical picture, in order to

Table 1

Sociodemographic and clinical data according to migration (*N* = 257).

	No migration N = 135	Migration N = 46	Migration in adversity N = 76	No Migration vs Migration (P-value)	No Migration vs Migration in adversity (P-value)
Gender, male,% (*N*)	67.4 (91)	65.2 (30)	61.8 (47)	.785	.415
Age in year, M (SD)	23.50 (4.52)	26.57 (4.84)	25.22 (4.92)	<.001	.011
Duration of untreated psychosis in days, Mdn (IQR)[a]	75.0 (433.0)	93.5 (531.5)	121.5 (476.3)	.731	.146
Socio-economical level,% (*N*)				.160	<.001
Low	8.1 (11)	17.4 (8)	36.8 (28)		
Intermediate	52.6 (71)	41.3 (19)	36.8 (28)		
High	39.3 (53)	41.3 (19)	26.3 (20)		
Education in year, M (SD)	9.78 (2.41)	10.78 (2.92)	9.28 (3.47)	.057	.252
Marital status,% (*N*)					
Single	93.3 (125)	64.4 (29)	75.0 (54)	<.001	<.001
Maried	1.5 (2)	22.2 (10)	15.3 (11)		
Divorced	1.5 (2)	4.4 (2)	5.6 (4)		
Cohabitation	3.7 (5)	8.9 (4)	4.2 (3)		
Professional activity,% (*N*)					
Full time job	17.2 (23)	9.1 (4)	6.8 (5)	.237	<.001
Student/Traineeship	20.9 (9)	20.5 (9)	8.2 (6)		
Part time job	2.2 (3)	4.5 (2)	1.4 (1)		
Disability annuity	6.7 (9)	0.0 (0)	0.0 (0)		
On Sickness leave	16.4 (22)	15.9 (7)	23.3 (17)		
Unemployed	36.6 (49)	50.0 (22)	60.3 (44)		
Lifestyle,% (*N*)					
Family	52.6 (70)	25.6 (11)	26.8 (19)	.001	.001
Independent household	19.5 (26)	39.5 (17)	32.4 (23)		
With friends	22.6 (30)	23.3 (10)	23.9 (17)		
Pension / care home	0.8 (1)	9.3 (4)	7.0 (5)		
Unsettled (hotel, shelter homeless)	4.5 (6)	2.3 (1)	9.9 (7)		
Premorbid Adj. (PAS) M (SD)					
Childhood	0.31 (0.17)	0.24 (0.18)	0.34 (0.22)	.046	.298
Early adolescence	0.34 (0.17)	0.25 (0.14)	0.33 (0.18)	.006	.815
Social	0.31 (0.20)	0.22 (0.18)	0.29 (0.24)	.034	.677
Academic	0.36 (0.20)	0.28 (0.20)	0.38 (0.19)	.042	.505
Total	0.33 (0.16)	0.24 (0.15)	0.33 (0.19)	.012	.970
Past suicide attempt,% (*N*)	13.7 (18)	14.0 (6)	13.0 (9)	.972	.891
History of trauma[b],% (*N*)	23.0 (31)	22.2 (10)	40.8 (31)	.918	.008
Forensic history,% (*N*)	10.7 (13)	15.0 (6)	20.0 (12)	.571	.085
Drug offense	7.4 (9)	7.5 (3)	3.3 (2)	1.000	.344
Against property	4.1 (5)	5.0 (2)	13.3 (8)	1.000	.032
Against person	3.3 (4)	7.5 (3)	5.0 (3)	.365	.686
Offences during program,% (*N*)	12.5 (8)	5.3 (1)	17.2 (5)	.677	.535
Psychiatric history,% (*N*)	62.4 (83)	56.8 (25)	61.8 (47)	.510	.936
Familial psychiatric history,% (*N*)	70.5 (93)	56.4 (22)	.49.2 (31)	.101	.004
Familial schizophrenia history,% (*N*)	26.1 (30)	21.9 (7)	20.4 (10)	.627	.438
Lifetime substance abuse (DSM),% (*N*)					
Alcohol	28.1 (36)	23.3 (10)	23.6 (17)	.533	.488
Cannabis	42.6 (55)	43.2 (19)	33.8 (24)	.950	.221
Other substances	16.4 (22)	9.1 (4)	12.3 (9)	.232	.431
Insight at presentation,% (*N*)					
Absent	37.9 (50)	17.1 (7)	46.6 (34)	.042	.405
Partial	46.2 (61)	58.5 (24)	37.0 (27)		
Complete	15.9 (21)	24.4 (10)	16.4 (12)		
GAF, M (SD)					
Baseline	37.92 (16.58)	41.53 (17.97)	33.70 (14.18)	.228	.079
Worst during psychosis	25.23 (10.68)	28.95 (11.53)	24.07 (10.84)	.067	.484
SOFAS, M (SD) Baseline	40.36 (15.72)	42.27 (15.83)	35.36 (13.73)	.483	.024
Worst during psychosis	28.62 (12.29)	31.32 (12.33)	26.99 (10.86)	.224	.361
CGI, M (SD)					
Baseline	4.77 (1.39)	4.54 (1.42)	5.19 (1.37)	.408	.047
Higher during psychosis	5.82 (0.73)	5.57 (0.70)	6.06 (0.84)	.091	.041
Diagnostic,% (*N*)					
Schizophrenia	61.5 (83)	52.2 (24)	60.5 (46)	.364	.077
Schizophreniform/brief	8.1 (11)	19.6 (9)	7.9 (6)		
Schizo-affective	6.7 (9)	8.7 (4)	15.8 (12)		
Major depression[c]	2.2 (3)	0.0 (0)	5.3 (4)		
Bipolar disorder	10.4 (14)	8.7 (4)	2.6 (2)		
Other	11.1 (15)	10.9 (5)	7.9 (6)		

Note. Analyses between groups were performed with planned contrasts for One-Way independent ANOVA for continuous variables and Chi-Square test (or Fisher's exact test when appropriate) for categorical variables. Mdn = Median. IQR = Interquartile range. Ref.cat = reference category. *a* = Because DUP values were highly skewed comparisons were performed using Mann–Whitney *U* tests; [b] physical, emotional or sexual abuse [c] with psychotic features.
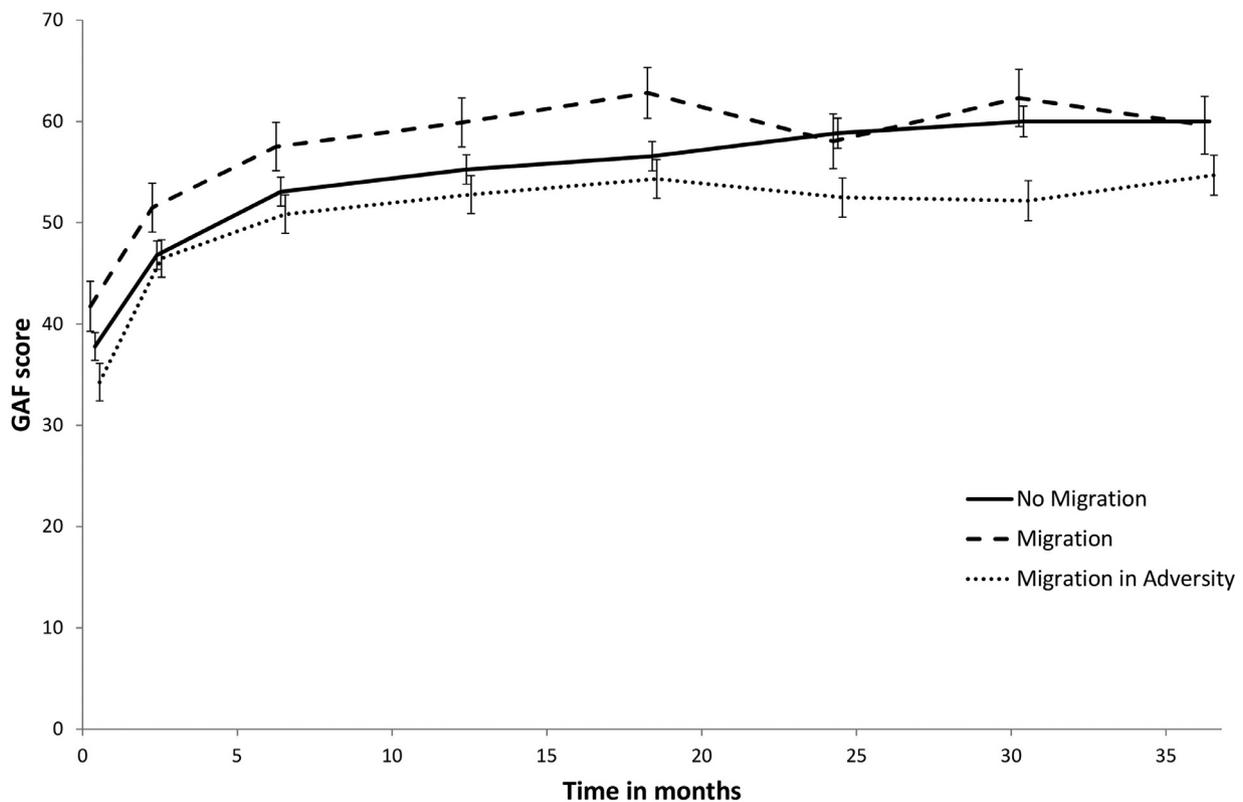
Fig. 1. Global Assessment of Functioning (GAF) scores over 36 months. The MA group scored significantly lower on the GAF than the NM group over the three year of the program (t(250.460) = 2.0859, *p* = .038).

Table 2
Outcomes according to migration.

	No migration N = 135	Migration N = 46	Migration in adversity N = 76	No Migration vs Migration (P-value)	No Migration vs Migration in adversity (P-value)
Program commitment,% (*N*)					
Interruption > 2 months	24.5 (24)	20.7 (6)	25.5	.672	.895
Lost from sight	13.4 (13)	17.2 (5)	9.1 (5)	.560	.429
Number of admissions during program,% (*N*)					
None	23.3 (27)	21.9 (7)	4.5 (3)	.983	.004
One	34.5 (40)	34.4 (11)	38.8 (26)		
Several	42.2 (49)	43.8 (14)	56.7 (38)		
Follow-up after program,% (*N*)					
Specialized ambulatory care	43.2 (41)	48.3 (14)	61.8 (34)	.554	.234
Other ambulatory care	14.7 (14)	10.3 (3)	12.7 (7)		
Private practice psychiatrist/psychologist	23.2 (22)	31.0 (9)	16.4 (9)		
General practitioner	9.5 (9)	0.0 (0)	1.8 (1)		
No follow-up needed	4.2 (4)	3.4 (1)	1.8 (1)		
Other	5.3 (5)	6.9 (2)	5.5 (3)		
Symptomatic remission at the last assessment of the last year of the program (Andreassen),% (*N*)	56.8 (46)	65.0 (13)	35.6 (16)	.505	.022
Functional recovery (PAS) at the last assessment of the last year of the program,% (*N*)	48.4 (44)	33.3 (8)	44.0 (22)	.189	.620
Functional recovery (GAF ≥ 60) after three years,% (*N*)	51.1 (48)	50.0 (14)	45.9 (28)	.921	.530
Functional recovery – independent work,% (*N*)	29.8 (31)	19.4 (6)	17.7 (11)	.252	.084
Functional recovery – independent living,% (*N*)	54.8 (57)	61.3 (19)	57.4 (35)	.523	.748
Combined functional recovery (indep. work & living), % (*N*)	25.0 (26)	19.4 (6)	13.1 (8)	.517	.068

Note. Analyses between groups were performed with Chi-Square test (or Fisher's exact test when appropriate).

help and stabilise the social context as soon as possible, which may contribute to decrease stress and promote recovery. The hypothesis that their unfavourable social situation contributes to their problem is also illustrated by their higher likelihood to have committed offences against property, a characteristic that may improve if their situation was better.

Finally, MA patients are significantly less likely to have reached symptom remission at the time of leaving the program. As suggested by a higher rate of admission during treatment, they are also more likely to relapse after discharge. Although this is difficult to show based on our data, our observation is that MA patients respond well to acute treatment, but that, unfortunately, despite being offered clinical follow-up

as outpatients, their return to unstable, promiscuous and often over-crowded accommodations after discharge may contributes greatly to a higher relapse rate and to the loss of the benefit of treatment.

Patients who migrated in the absence of extreme adversity will display completely different characteristics. First, they seem to be under-represented in our sample compared to the normal population. This is in line with studies suggesting that individuals who migrate more by free choice tend to belong to higher functioning groups and have a better health (Chiswick, 1999). This hypothesis is supported by the observation that they had better premorbid adjustment than NM patients and that they were more likely to be married and to live independently. They also are more likely to have partial or full insight that non migrant patients. It has been suggested that some migrants may be favourably self-selected and economic migrants have been described as "*tending on average to be more able, ambitious, aggressive, entrepreneurial, or otherwise more favourably selected than similar individuals who choose to remain in their place of origin*" (Chiswick, 1999). Similarly, it has been shown that first-generation immigrants were healthier than people of similar ethnic backgrounds who were born in the United States. This phenomenon has been denoted as the "healthy migrant effect" (Fennelly, 2007). Migrants driven by their own economic opportunities may thus have a very different profile than people who migrated to find a safe harbour. This is in line with the hypothesis that migrants who did not migrate in adversity could represent a better functioning subgroup, with increased resilience and with facilitated international mobility. Results are also in line with a recent study that showed that even if immigrants are known to be at greater risk of developing psychosis, their symptomatic and functional outcomes, once engaged in treatment, are similar to or sometimes better than non-immigrants' outcomes (Abdel-Baki et al., 2015).

The lack of difference with regards to DUP between NM and both M and MA groups is in line with other publications (Morgan et al., 2006) and suggests that migrant status in our region doesn't imply poorer access to care.

This study has some limitations. First, while the migration status was recorded, we had no data regarding ethnic origin or location of birth when not born in Switzerland, which excluded a finer analysis of the impact of social context of migration. Second, the patients who were included in this study did migrate to Switzerland and not to somewhere else. Although difficult to evaluate, this could play a role on the generalizability of our results. Third, we did not have data regarding the timing at which patients migrated. This may be a confounding factor given that some patients may have had a psychotic illness before migrating. Nevertheless, given the entry criteria of the TIPP program and that psychosis may be an obstacle to migration, it seems unlikely that this was frequently the case in the current EP population. However, integrating information regarding the age of migration may be an important factor, given that several studies showed that early life migration confers higher risk of psychosis (Anderson et al., 2015; Kirkbride et al., 2017; Veling et al., 2011).

5. Conclusion

Taken together, our results suggest that rather than migration in general, it is more precisely migration in a context of adversity that should receive attention in populations of early psychosis patients. While our data provide some collateral support to the hypothesis that such migration increases the risk to develop psychosis, they very clearly indicate that MA patients display a more complex clinical picture and that they are less likely to recover. Besides paying specific attention to them and offering adapted treatment to help them face the consequences of previous exposure to physical trauma, there is also a need for political action in order to offer them a better social situation in order to maintain benefits of treatment and prevent risk of relapse. Considering the increasing number of refugees that will stem either from political instability around the world or in consequences of

climate change, these are issues that urgently need to be tackled.

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